

**USE AND MANAGEMENT OF ELECTRONIC MAIL IN THE CENTRAL
GOVERNMENT OF ZIMBABWE**

by

SAMSON MUTSAGONDO

Submitted in accordance with the requirements for the degree of

Doctor of Philosophy

in the subject

Information Science

at the

UNIVERSITY OF SOUTH AFRICA

PROMOTER: PROFESSOR PATRICK NGULUBE

CO-PROMOTER: PROFESSOR MABEL MINISHI-MAJANJA

January 2021

SUMMARY

This study investigated the use and management of electronic mail (email) in Zimbabwe's central government. Employing a mixed method research approach, the study used a pluralist ontological paradigm and a pragmatic epistemological paradigm within the convergent mixed methods research design. Quantitative responses from questionnaires were corroborated by qualitative findings from semi-structured interviews, personal observation and document reviews. The study was restricted to Zimbabwe's central government, focusing on head offices of 22 government ministries situated in Zimbabwe's capital city of Harare. The population of the study was 670. The Corona Virus Disease 2019 (COVID-19) lockdown imposed in Zimbabwe as from 30 March 2020 negatively affected data collection as some targeted respondents could not be accessed as the researcher had initially planned, leading to an overall response rate of 37.3%. Nonetheless, 12 out of 22 government ministries participated in the study. Quantitative data were analysed using Microsoft Excel 2010® and descriptive statistics while qualitative data were analysed thematically using Atlas.ti®. The study conformed to ethical standards of research as espoused in the University of South Africa's ethical review guidelines.

The study revealed that due to the adoption of electronic government and the inherent relative advantages of email, among other factors, there was increase in use of email as an official record in Zimbabwe's central government. Nonetheless, management of email was still in its nascent stages and was largely poorly articulated. Poor email classification, filing, appraisal, security, preservation and disposal were largely traceable to deficiencies in legal, policy and procedural frameworks as well as skills and information and communication technology infrastructural challenges. These in turn triggered email retrieval, access, preservation and authenticity challenges. This study was a first local research to address both the use and management of email in a single study and one which proposed a framework for the effective use and management of email where a call was made to match increase in use of email with increase in professional management of the same. The proposed framework may go a long way in influencing proper and professional use and management of email in Zimbabwe's central government and similar organisations.

Key terms: Electronic records; Electronic records management; Email; Email management; Email management framework; Email usage; Official email; Public service; Records management; Zimbabwe's central government.

ACKNOWLEDGEMENTS

The journey to a doctoral qualification is arduous, long and winding. It is filled with loneliness and sometimes uncertainty and at times unsolicited regrets. It is an experience many would wish they land at the destination without trudging through to get to the destination. Nonetheless, with the right company and support from various organisations, I was able to get to the finishing line.

I want to thank profoundly my promoters Professor Patrick Ngulube and Professor Mabel Minishi-Majanja for their unwavering support, guidance, patience, constructive criticism, thoroughness and above all encouragement throughout my research journey. Without them, I could not have accomplished this fate. I also want to thank my study colleagues at the University of South Africa, the “*Warthogs*”, with whom I trudged the marshy waters of doctoral study. Furthermore, I want to thank the University of South Africa’s Department of Student Funding for the financial support rendered throughout the course of my study.

I would like to further acknowledge with deep hearted appreciation, the support I got from the Director of the National Archives of Zimbabwe, Mr. Ivan Murambiwa and the Deputy Director in the Records and Technical Services Division, Mr. Danmore Maboreke. I am also indebted to my workmates at the National Archives of Zimbabwe for the tremendous support rendered during the course of my studies. I want to further salute my questionnaire respondents and interviewees for their invaluable responses without which this study could have stalled. Thank you ladies and gentlemen for delivering even during the dreaded Level 5 of the COVID-19 national lockdown in Zimbabwe when life looked uncertain, hopeless and unbearable. I also want to acknowledge the role played by my wife, Jenipher Makanga-Mutsagondo and the rest of the family. Thank you for the moral, emotional and financial support during the seemingly unending research journey. Today, the journey has ended. It has been done. I give all the glory to the Almighty God.

DEDICATION

This doctoral thesis is dedicated to all men and women who believe in the sanctity of records as a weapon to foster accountability, transparency and informed decision-making in an endeavor to transform humanity into a just and better world in which all can live and pursue their potentialities to the fullest.

DECLARATION

Name: Samson Mutsagondo

Student number: 57649308

Degree: Doctor of Philosophy in Information Science

USE AND MANAGEMENT OF ELECTRONIC MAIL IN THE CENTRAL GOVERNMENT OF ZIMBABWE

I declare that the above thesis is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

I further declare that I submitted the thesis to originality checking software and that it falls within the accepted requirements for originality.

I further declare that I have not previously submitted this work, or part of it, for examination at UNISA for another qualification or at any other higher education institution.



SIGNATURE

21 January 2021

DATE

TABLE OF CONTENTS

SUMMARY	i
ACKNOWLEDGEMENTS	iii
DEDICATION	iv
DECLARATION	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES	xiii
LIST OF FIGURES	xiv
LIST OF ACRONYMS AND ABBREVIATIONS	xvi
LIST OF APPENDICES.....	xviii
CHAPTER ONE.....	1
INTRODUCTION AND BACKGROUND TO THE STUDY	1
1.1 Introduction.....	1
1.2 Discussion of key terms and concepts	2
1.2.1 Electronic government	2
1.2.2 Mobile government.....	3
1.2.3 Record	3
1.2.4 Electronic record.....	3
1.2.5 Email	4
1.2.6 Records management.....	5
1.2.7 Electronic records management.....	5
1.2.8 Email management.....	6
1.2.9 Email system.....	6
1.2.10 Official email	7
1.2.11 Non-official email.....	7
1.2.12 Electronic documents and records management system.....	8
1.2.13 Information and communication technologies.....	8
1.3 Background to the study	8
1.4 Contextual setting of the study	11
1.4.1 Structure of Zimbabwe’s Public Service	11
1.4.2 Public sector records and the records management system in Zimbabwe.....	14
1.4.3 Records regulatory framework in Zimbabwe	15

1.4.4 Electronic government, electronic readiness and electronic records readiness	16
1.5 Research problem.....	20
1.6 Aim, objectives and research questions of the study	21
1.6.1 Aim of the study.....	21
1.6.2 Objectives of the study.....	21
1.6.3 Research questions.....	21
1.7 Justification for the study	26
1.8 Originality of the study	27
1.9 Assumptions of the study.....	28
1.10 Scope and delimitations of the study	28
1.11 Limitations of the study	28
1.12 Conceptual framework.....	29
1.13 Methodological overview	30
1.14 Ethical considerations	31
1.15 Organisation of the thesis.....	31
1.16 Summary	33
CHAPTER TWO	35
CONCEPTUAL PERSPECTIVES AND LITERATURE REVIEW	35
2.1 Introduction.....	35
2.2 Conceptual framework of the study	35
2.2.1 Conceptual perspectives from the innovation diffusion theory	36
2.2.2 Conceptual perspectives from the records continuum theory.....	39
2.3 Literature review	42
2.4 Literature review map.....	44
2.5 Prevalence of use of email in the world.....	46
2.6 Motivation for using email in the public sector	48
2.6.1 Electronic Government (e-government)	48
2.6.2 Mobile Government (M-Government)	49
2.6.3 Regulatory framework for electronic records	51
2.6.4 Policy framework for electronic records.....	52
2.6.5 ICT policy	52
2.6.6 ICT infrastructure.....	53
2.6.7 Skills and capacity development.....	55
2.6.8 Generic advantages and limitations of email	55

2.7 Management of email in the world	56
2.7.1 What managing email entails.....	57
2.7.2 Reasons for managing email.....	57
2.7.3 Officers responsible for managing email.....	58
2.7.4 Email management strategies	60
2.7.5 Role of national archival institutions in public sector email management	87
2.8 Generic email management challenges.....	90
2.8.1 Difficulties in identifying email records and non-records	90
2.8.2 Lack of a clear and representative legal framework	91
2.8.3 Lack of email policy and procedural guidelines	91
2.8.4 Lack of email management skills by users	92
2.8.5 ICT infrastructural challenges.....	92
2.8.6 Appraisal challenges	93
2.8.7 Dispersal of email records within the organisation.....	93
2.8.8 Relegation of electronic records management to ICT staff rather than record management staff	94
2.9 Summary	94
CHAPTER THREE	95
RESEARCH METHODOLOGY	95
3.1 Introduction.....	95
3.2 Research paradigm.....	95
3.2.1 Ontology	96
3.2.2 Epistemology	97
3.3 Research approach	98
3.3.1 Quantitative research approach.....	99
3.3.2 Qualitative research approach.....	99
3.3.3 Mixed methods research approach and justification for its use.....	100
3.4 The convergent mixed methods research design	104
3.5 Population of the study	105
3.6 Sampling techniques	106
3.6.1 Sampling of interviewees in this study	106
3.6.2 Sampling of questionnaire respondents in this study.....	107
3.7 Data collection techniques	108
3.7.1 Closed-ended questionnaires	108
3.7.2 Semi-structured interviews	111

3.7.3 Observation technique	112
3.7.4 Documents review	114
3.8 Reliability and validity in the quantitative domain of the mixed methods research.....	115
3.8.1 Reliability.....	115
3.8.2 Validity	117
3.9 Establishing rigour in the qualitative domain	118
3.9.1 Transferability.....	119
3.9.2 Credibility	119
3.9.3 Dependability.....	120
3.9.4 Confirmability.....	120
3.10 Data collection procedures.....	121
3.11 Data analysis plan	122
3.12 Data integration.....	124
3.13 Ethical considerations	125
3.13.1 Professionalism and honesty.....	125
3.13.2 Respect for participants.....	125
3.13.3 Principle of non-maleficence	126
3.13.4 Principle of beneficence.....	127
3.13.5 Conforming to dictates of the University Ethics Review Committee.....	127
3.14 Evaluation of the research methodology.....	127
3.15 Summary.....	129
CHAPTER FOUR.....	130
PRESENTATION AND ANALYSIS OF RESEARCH FINDINGS.....	130
4.1 Introduction.....	130
4.1.1 Response rate	130
4.1.2 Profile of respondents and participants.....	131
4.1.3 Data presentation format.....	136
4.2 Prevalence of use of email in the central government of Zimbabwe.....	136
4.2.1 Electronic records as replacing paper records in Zimbabwe’s central government ..	136
4.2.2 Types of records sent and received using email in Zimbabwe’s central government	138
4.2.3 Frequency of using email in Zimbabwe’s central government.....	139
4.2.4 Average volume of email received and sent per day	140
4.3 Motivation for using email in the central government of Zimbabwe	144
4.3.1 ICTs as promoting use of email in Zimbabwe’s central government.....	145

4.3.2 Regulatory, policy and procedural frameworks promoting the use of email.....	151
4.3.3 Generic advantages of email that promote the rise in use of email	157
4.3.4 Generic limitations of email as discouraging the use of email	159
4.4 Management of email in Zimbabwe’s central government	161
4.4.1 Reasons for managing email in Zimbabwe’s central government.....	161
4.4.2 Officers managing email in the central government of Zimbabwe	163
4.4.3 Email management strategies	165
4.4.4 NAZ involvement in email management in Zimbabwe’s central government.....	182
4.5 Email management challenges in Zimbabwe’s central government.....	187
4.6 Summary	191
CHAPTER FIVE	192
DISCUSSION AND INTERPRETATION OF RESEARCH FINDINGS.....	192
5.1 Introduction.....	192
5.2 Prevalence of use of email in the central government of Zimbabwe.....	192
5.3 Motivation for using email in the central government of Zimbabwe	195
5.4 Reasons for managing email in the central government of Zimbabwe	203
5.5 Officers managing email in the central government of Zimbabwe	206
5.6 Email management strategies	208
5.6.1 Use of official email accounts.....	208
5.6.2 In-box management	209
5.6.3 Classification and filing of email.....	210
5.6.4 Managing email metadata	211
5.6.5 Email security and privacy.....	212
5.6.6 Appraising email.....	213
5.6.7 Disposal of email	213
5.6.8 Managing email whilst out of office.....	214
5.6.9 Managing email of officers who leave the organisation.....	215
5.7 NAZ involvement in email management.....	215
5.8 Email management challenges and their impact on the professional management of email	217
5.8.1 Poor legal framework for email management in Zimbabwe’s central government...	217
5.8.2 Lack of email policy in Zimbabwe central government	218
5.8.3 Lack of email procedures manual	219
5.8.4 Email management skills challenges	219
5.8.5 Dispersal of email within the organisation	220

5.8.6 High costs of infrastructure.....	221
5.8.7 Lack of senior management support	221
5.8.8 Records management function is looked down upon	222
5.8.9 Lack of a budget for records management work	222
5.8.10 Failure to regard email as official records	223
5.9 Summary	223
CHAPTER SIX.....	225
SUMMARY, CONCLUSION, RECOMMENDATIONS AND FRAMEWORK FOR USE AND MANAGEMENT OF EMAIL IN ZIMBABWE’S CENTRAL GOVERNMENT	225
6.1 Introduction.....	225
6.2 Summary of findings of the study.....	225
6.3 Conclusions of the study.....	227
6.3.1 Conclusions on whether or not electronic records are replacing paper records in the central government of Zimbabwe	228
6.3.2 Conclusions regarding types of records normally sent and received through email in the central government of Zimbabwe	228
6.3.3 Conclusions regarding whether or not email was the most frequently-used ICT for sending and receiving information.....	228
6.3.4 Conclusions about the average volume of email sent and received in a day	229
6.3.5 Conclusions on factors that motivated Zimbabwe’s central government in using email in official business	229
6.3.6 Conclusions regarding factors that discourage use of email in Zimbabwe’s central government	230
6.3.7 Conclusions on reasons why email should be managed professionally	230
6.3.8 Conclusions on personnel responsible for managing email in central government...	231
6.3.9 Conclusions on email management strategies in the central government of Zimbabwe	231
6.3.10 Conclusions on the role played by NAZ in email management within central government	232
6.3.11 Conclusions on challenges facing Zimbabwe’s central government in managing email.....	232
6.3.12 General conclusion regarding the research problem of the study	232
6.4 Recommendations.....	233
6.4.1 Use email responsibly and in an accountable manner	233
6.4.2 Improve email use and management skills	233
6.4.3 Upgrade, update and invest in ICT infrastructure.....	234
6.4.4 Embrace m-government holistically to complement e-government.....	234

6.4.5 Use and manage email in line with prior set guidelines	234
6.4.6 Revise the NAZ Act in the best interest of electronic records management	235
6.4.7 Devise a national email policy framework	235
6.4.8 Devise national email procedures manual	235
6.4.9 Manage email of officers who leave the organisation	236
6.4.10 Central government to increase contact with NAZ and NAZ to increase its presence	236
6.4.11 Empower personnel responsible for managing email	236
6.4.12 Deal with negative human attitude that does harm to the records management function	237
6.5 Proposed framework to improve the use and management of email	237
6.5.1 The proposed framework	238
6.5.2 Justification for the proposed framework	244
6.6 Implication for theory, policy and practice.....	246
6.7 Suggestions for further research	246
6.8 Final conclusion	247
REFERENCES	249

LIST OF TABLES

Table 1.1: Tiers of the Zimbabwe Public Service.....	12
Table 1.2: Government ministries in Zimbabwe	13
Table 1.3: The research dashboard	24
Table 2.1: Statistics on email received and sent in the world between 2015 and 2019.....	47
Table 2.2: Evolution of electronic records management systems.....	79
Table 3.1: Quantitative and qualitative elements mixed in this study	101
Table 3.2: Officers making up the population of the study	105
Table 3.3: Distribution of questionnaire respondents	107
Table 4.1: Gender, qualifications and experience of interviewees	135
Table 4.2: Electronic records are replacing paper records in Zimbabwe’s central government.	137
Table 4.3: Types of records normally sent and received through email.....	138
Table 4.4: Email is the most popular ICT tool for sending and receiving information.....	139
Table 4.5: Emails received by ROs, AOs and ITOs per day	141
Table 4.6: Computation of the average number of emails received by ROs, AOs and ITOs per day.....	142
Table 4.7: Emails sent by ROs, AOs and ITOs per day	143
Table 4.8: Computation of the average number of email sent by ROs, AOs and ITOs per day.	143
Table 4.9: ICTs found in different government ministries	150
Table 4.10: NAZ Act (1986) promotes use of email in central government	151
Table 4.11: Existence of ICT policies in central government	153
Table 4.12: Existence of email policies in central government	154
Table 4.13: Reasons why email should be properly and professionally managed	162
Table 4.14: Officers who possessed official email accounts	166
Table 4.15: Size of email in-boxes maintained by ROs; AOs and ITOs	168
Table 4.16: Computation of average size of each officer’s email in-box.....	169
Table 4.17: Responses to management of email metadata	172
Table 4.18: Email management challenges faced in Zimbabwe’s central government.....	187
Table 4.19: How challenges cited affected email as a record.....	190

LIST OF FIGURES

Fig. 2.1 The innovation diffusion theory; showing how it speaks to two of the objectives of the study	37
Fig. 2.2: The four continua of the records continuum theory (Adapted from Afshar and Ahmad 2015:490)	40
Fig. 2.3: Literature review map (synthesised by the researcher)	45
Fig. 2.4: M-government as a subset of e-government and government (synthesised by the researcher).....	50
Fig. 4.1: Gender of questionnaire respondents	132
Fig. 4.2: Consolidated educational qualifications of ROs, AOs and ITOs in Zimbabwe’s central government	133
Fig. 4.3: Work experience of ROs, AOs and ITOs.....	134
Fig. 4.4: E-government promotes rise in use of email in Zimbabwe’s central government.....	145
Fig. 4.5: Interviewees’ reasons why e-government boosted rise in use of email	146
Fig. 4.6: M-government promotes rise in use of email in Zimbabwe’s central government.....	148
Fig. 4.7: NAZ archivists’ views why the NAZ Act (1986) did not enhance use of email in central government	152
Fig. 4.8: Existence of email procedures manual versus its use in government ministries.....	156
Fig. 4.9: Generic factors promoting use of email in Zimbabwe’s central government	157
Fig. 4.10: Generic factors discouraging use of email in Zimbabwe’s central government	159
Fig. 4.11: Officers responsible for managing email in Zimbabwe’s central government	163
Fig. 4.12: Email inbox checking times	167
Fig. 4.13: Frequency of filing email by ROs and ITOs	171
Fig. 4.14: Email security measures used in Zimbabwe’s central government.....	174
Fig. 4.15: Reasons why appraisal of email was not normally conducted in central government	177
Fig. 4.16: What guides officers in destroying and preserving email in Zimbabwe’s central government	178
Fig. 4.17: Email preservation methods used in Zimbabwe’s central government.....	179
Fig. 4.18: NAZ archivists’ responses on NAZ assistance to central government in managing email.....	183

Fig. 6.1: The Integrated Email Professionalism, Use and Management (IEPGUM) Framework

..... 239

LIST OF ACRONYMS AND ABBREVIATIONS

BNARS	Botswana National Archives and Records Service
COVID-19	Corona Virus Disease 2019
DARPA	Defense Advanced Research Projects Agency
ECM	Enterprise Content Management
EDMS	Electronic Document Management System
EDRMS	Electronic Documents and Records Management System
E-government	Electronic Government
Email	Electronic Mail
ERMS	Electronic Records Management System
ESARBICA	East and Southern Africa Regional Branch of the International Council on Archives
G2B	Government to Business
G2C	Government to Consumer
G2E	Government to Employees
G2G	Government to Government
GoZ	Government of Zimbabwe
ICA	International Council on Archives
ICT	Information and Communication Technology
IT	Information Technology
IRMT	International Records Management Trust
ISO	International Organisation for Standardisation
M-government	Mobile Government
MICT	Ministry of Information and Communication Technology
Moreq	Model Requirements for the Management of Electronic Records
NAA	National Archives of Australia
NAN	National Archives of Namibia
NARA	National Archives and Records Administration
NARSSA	National Archives and Records Service of South Africa
NAZ	National Archives of Zimbabwe

POTRAZ	Post and Telecommunications Regulatory Authority of Zimbabwe
PSC	Public Service Commission
TDR	Trusted Digital Repository
UNISA	University of South Africa
WHO	World Health Organisation

LIST OF APPENDICES

Appendix I: Letter seeking permission to conduct research in Zimbabwe’s central government	269
Appendix II: Letter seeking permission to conduct research from the NAZ director	270
Appendix III: Authorisation to conduct research at NAZ	271
Appendix IV: Ethical clearance from the University of South Africa.....	272
Appendix V: Questionnaire for Records Officers in Zimbabwe’s central government	273
Appendix VI: Questionnaire for Administration Officers	279
Appendix VII: Questionnaire for Information Technology officers.....	284
Appendix VIII: Interview guide for NAZ archivists	290
Appendix IX: Interview guide for the NAZ Director	292
Appendix X: Interview guide for the Administration Director in central government	293
Appendix XI: Interview guide for the IT Deputy Director in central government.....	294
Appendix XII: Observation checklist	295
Appendix XIII: Documents reviewed in this study	296
Appendix XIV: Respondent consent form.....	297
Appendix XV: Word cloud formed out of Atlas.ti open coding	298
Appendix XVI: Screenshot showing some of the Atlas.ti code and all the code groups	299
Appendix XVII: New records survey worksheet used by the NAZ	300

CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

Information is the life-blood of any business or organisation (Vella 2017:1). Ideally, such information is captured on records, which business organisations generate and receive in a variety of formats, among them being paper, audio-visual and electronic formats. Electronic mail (email) which is extensively discussed in this study, is one type of electronic records (Nengomasha 2009:68). This study focuses on two issues. Firstly, it interrogates the use of email, focusing on why email had emerged as an important and widely used information and communication technology (ICT) in Zimbabwe's central government. The conceptual framework derived from the innovation diffusion theory was used to explain why email had come to be widely adopted and used within Zimbabwe's central government. Secondly, the study examines the management of email, paying particular attention to how email is generated, received, used, maintained, preserved and disposed. It also addresses skills, infrastructural, legal, policy and procedural issues for proper management of email. The management of email is examined in line with the conceptual perspectives derived from the records continuum theory which calls for proper management of electronic records starting from the point of creation right up to their professional disposal.

The public sector, particularly in developing countries like Zimbabwe, used to heavily rely on paper records (Bhebhe 2015:108; Matangira 2016:31). The shift to the use of electronic records (Bhebhe 2015:108; Nkala, Ngulube and Mangena 2012:94), which includes records generated and received on the email system, has triggered a number of challenges due to poor records management strategies, lack of policies, procedures, skills and infrastructure. This makes it necessary to conduct this in-depth study on use and management of email in order to unravel email management opportunities and challenges and so proffer customised guidelines for the benefit of Zimbabwe's public sector in general and central government in particular.

Increase in use of email has been widely recorded regionally by Mutsagondo and Tsvuura (2017:190); Rakemane and Serema (2018:156) and by Sigauke, Nengomasha and Chabikwa (2016:21). Overseas, the rise in use of email has been recorded by Desai, Hart and Richards (2015:320) and Perry (2017:25) who argue that generally, the use of electronic records, of which email is a subset, has remarkably increased in the world. This makes it important for Zimbabwe's central government to closely monitor both the use and management of email, a feat which this study pursued, for failure to do so may result in "digital amnesia and the dark age" (Ngulube 2012:114). This refers to a situation where records generated in electronic environments will either be non-existent or inaccessible in the future. If this happens, central government would be affected in the areas of public administration, public service delivery and institutionalisation of national memory.

1.2 Discussion of key terms and concepts

It is necessary, from the onset, to define key terms and concepts in the study. This helps one to understand them contextually as some terms and concepts may have different meanings in different contexts. The following terms and concepts are contextually defined; electronic government, record, electronic record, email, records management, electronic records management, email management, email system, official email, non-official email and electronic documents and records management system.

1.2.1 Electronic government

Ministry of Information and Communication Technology (MICT) (2014:4) defines electronic government (e-government) as the use of ICTs to deliver and improve public services, dealings and collaborations with citizens, businesses and other branches of government. Nkohkwo and Islam (2013:1) hold that e-government is the provision of improved government services to its people thorough use of ICTs. Examples of such technologies include telephones, radios, televisions, computers, the Internet, intranets and facsimile machines. These technologies greatly help in collecting, processing, storing, packaging and disseminating information which in turn improve the manner in which the government reaches out and services its various clients, for example, citizens, businesses and other governments or government-related agencies. E-government was adopted in Zimbabwe as a government policy in 2011 as the government sought to increase and improve service

delivery with its clients (Jumira 2011:1; Mambo 2011:1). This has resulted in computerisation of many public sector organisations in Zimbabwe, which include among other things, the installation of the Internet and increased use of email in communication.

1.2.2 Mobile government

Mobile government (m-government) refers to the use of mobile technologies in accessing, providing and accessing government services (Mtingwi and Van Belle 2013:2). M-government is a subset of e-government. It does not make use of fixed ICTs as e-government does but makes use of mobile technologies, for example, cell phones and lap tops to access, send, receive, disseminate and share information. This is why scholars such as Okae and Gyasi (2013:26) claim that m-government is prominent in Sub-Saharan Africa where there is poor fixed ICT infrastructure like telephones, optic fibre and radio stations.

1.2.3 Record

The International Organisation for Standardisation (ISO 15489-1 2016:14) states that a record is information generated, received and retained as proof by an institution or an individual in quest of legal requirements or in the conduct of business. The British Standard for records management views a record as documentation, for example, books, maps, photographs, letters, documents, artifacts and machine readable materials like films, tapes, sound recordings and electronic records (Giffin nd:2). When information is captured on devices like paper or in digital form, a record is thus created. Orman (2015:4) views a record as anything on which there is some writing, braille, map, plan, diagram, graph, drawing, picture, graphic work, photograph and anything on which there are figures, marks, symbols, perforations, images and sound. There have been various formats of records in history, namely; clay tablets, leather, papyrus, wood parchment, silk, bamboo slips and stone tablets, paper and of recent, electronic records of which email is a subset. Whenever something is inscribed or attached to these records formats, a record is created.

1.2.4 Electronic record

The National Archives and Records Service of South Africa (NARSSA) (2006:9) defines an

electronic record as information that is generated by electronic means and which is stored electronically by computer technology. An electronic record is a record that is “born digital” or that has been “digitised”. Born digital records are records that are originally created or received on a computer or computerised system, for example, through use of Microsoft Word or Microsoft Excel. Digitised records are records that were originally physically-created, for example, on paper, but later transformed into electronic form by digitisation or scanning. Both born digital and digitised records are in the context of this study regarded as “electronic records”. Chikomba (2018:16) notes that the term “electronic record” and “digital record” are many times used interchangeably. This study makes no distinction between an “electronic record” and “digital record”. Examples of electronic records are email, databases, spreadsheets, Internet content, digital recorded messages and word-processed documents. All these types of electronic records cannot be created, processed or accessed independent of computer or computer-related technology. Unlike their paper records counterparts, electronic records are intangible, but they still carry with or on them information which is created or received in transacting business or created and received as evidence of business transactions. Electronic records should be managed just as paper records are managed. Without such management, electronic records that are created or received may get lost, misfiled, prematurely deleted or remain inaccessible, resulting in such records failing to serve the purpose for which they are created or for which they are intended to serve.

1.2.5 Email

Email can simply be defined as digital mail or as the electronic version of paper mail or a method of exchanging digital messages (Nightingale, Song, Michelson and Field (2012:17). McMurtry (2014:31) defines email as documents that are created and received through computer-mediated communication. Nengomasha (2009:68) claims email is mail sent or received electronically. Definitions by McMurtry (2014:31) and Nengomasha (2009:68) focus on creation and receipt, leaving out other important aspects of a mail system like use, maintenance and disposal. A more encompassing definition of email is one advanced by Nightingale, Song, Michelson and Field (2012:9) that “email is a system of interlocking parts designed electronically to emulate the functionality of interoffice and inter-organisational paper-based mail system”. They further postulate that this system comprises of the inbox, outbox, folders, drafts, attachments, memos and address books. Like its paper

mail counterpart, email has an addressee, a subject, main message and metadata, for example, date and time the message was sent and name and address of sender. Email consists of the characteristics of all other records in other formats, namely, integrity, reliability, completeness, accessibility and usability (ICA 2004:45). Official emails are created and received in undertaking business transactions. They facilitate the organisation's business and thus they are business organisation's public records which should be retained for administrative, legal and fiscal purposes (Sejane 2004:100).

1.2.6 Records management

ISO 15489-1:2016 (3.15) defines records management as a field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use and disposition of records, including processes for capturing and maintaining evidence of and information about business activities and transactions in the form of records. Issues like training, skills, infrastructure, standards, policies and procedures can hardly be ignored when one talks of managing records. One can also view records management as an exercise or practice of efficiently and effectively controlling and overseeing records within an organisation. Records that are created on different formats have to be managed so that they truly and wholesomely serve the purpose for which they are created. Such management may border on creation, receipt, preservation, maintenance, use, destruction and transfer. There has to be guidelines or policies, protocols and procedures on how records are managed.

1.2.7 Electronic records management

There should be systematic generation, receipt, use, maintenance, preservation and disposal of electronic records. The process has to be planned, controlled and monitored so that organisational goals are realised. This constitutes what management of electronic records entails. According to ISO (15489-1: 2016), electronic records management is the field of management which deals with the efficient and systematic control of how electronic records are created, received, maintained, used and disposed inclusive of the processes of electronic capturing and maintenance of such evidence and transactions. Electronic records management can also be viewed as the process encompassing planning, controlling, organising, training, directing and promoting activities to do with how records generated or received in electronic environments are created, maintained, used and disposed (Kalusopa 2011:80). In simpler terms and in line with the definition of paper records management,

one can define electronic records management as the practice of efficiently and systematically controlling the creation, receipt, maintenance, use and disposition of digital records.

1.2.8 Email management

The process of creating, receiving and transmitting messages on the email system must be managed if it has to be meaningful or if it has to achieve desired results. There is need for policies or guidelines, protocols, procedures and standards that an organisation adopts and abides by so that it gets the best out of the use of email as a communication technique as well as a records management device. Overseeing and controlling the way email is created, received, maintained, appraised, preserved and disposed are some of the most important aspects of managing email. Scholars such as Kavanaugh (2016:4) and Sigauke, Nengomasha and Chabikwa (2016:14) argue that email should be managed as a matter of both priority and urgency. They claim email management involves ensuring that records on email are secure, accurate, readily available when needed and appropriately disposed when no longer needed. SRO Guideline (2009:6) regards email management as the process of ensuring that policies and procedures are put in place to control how records on the email system are created, edited, captured, maintained, stored, preserved and appropriately disposed.

1.2.9 Email system

Generally, one can view a “system” as an interconnected set of things or parts working together for a common cause. A paper mail system would comprise of an envelope, writing pad, the written word, the postal system and post office personnel. The email system is an automated version of the paper mail system, where instead of there being physical people and papers, there are electronic processes that facilitate creation, receipt and distribution of mail. Orman (2015:4) defines the email system as a network that supports how emails are created, received and transmitted through a computer system. He argues that the system enables email to be sent online to general and private directories or electronic mail boxes using a unique system of email addresses. The email system can also be viewed as “a system of interlocking parts consisting of inbox, outbox, drafts, folders, memos, attachments and address books which emulate the inter-office and inter-organisational paper-based mail system” as Shiva Ayyadurai described his (email) invention in 1978 (Nightingale, Song, Michelson and Field 2012:2).

1.2.10 Official email

Sejane (2004:100) holds that official email is also called “business email” or “corporate email”. Official email is digital mail created or received in doing the official business of the organisation (Mutsagondo and Tsvuura 2017:191). Orman (2015:3) holds that official email is correspondence that is created and received in transacting business. This includes valuable mail which may need to be preserved for long periods as well as ephemeral mail which may have to be destroyed in a relatively short period of time. Examples of valuable official email are policies, directives, correspondence, agendas, work schedules, reports and minutes which are sent or received, used, maintained, preserved and disposed on an electronic mail system (NARSSA 2006:9). Examples of ephemeral email records within business organisations are internal documents received by carbon copy, or by blind copy, copies of minutes and copies of reports (Sejane 2004:100). Unlike non-official email, official email should be captured into the records management system of the organisation, just as related paper records are captured. Thus, it is prudent to use business email addresses rather than personal email addresses so that all official email can be easily captured, processed and accessed. The legal basis of electronic records as being “official” in Zimbabwe can be traced to Section 12 of the Civil Evidence Act (2001) which defines a public record as “official” if it is made by a public officer in pursuance of his or her duties. Thus, in this regard, email that is generated, received and processed by a confirmed public official during the course of conducting his or her duties is regarded as being “official”.

1.2.11 Non-official email

These are non-records, for example, personal messages and junk mail (Mutsagondo and Tsvuura 2017:191). Sejane (2004:100) who also refers to non-official email as “personal”, “home”, “family” or “non-work” email argues that non-official email records are ephemeral records which are not important to warrant preservation. Non-official email has to do with private, social and personal matters which have little or no relevance to the business of an organisation. Examples of non-official emails are personal messages, spam, announcements of social events and junk mail (NARSSA 2006:9).

1.2.12 Electronic documents and records management system

Orman (2015:4) defines an electronic documents and records management system (EDRMS) as an automated system which is used in creating, using, managing and disposing physically and electronically-generated documents and records in order to support their management, as well as to improve an organisation's workflow and provide evidence of business activities. National Archives of Australia (2011:5) defines EDRMS as a system designed to improve business processes through the automation of workflow and efficient documents and records management. An email system cannot be reliably used to manage email records as it is not a records management application (Commonwealth of Virginia 2009:1; University of Regina 2013:4). Thus, an EDRMS is needed for more organised and advanced management of records and documents generated or received on the email system of an organisation.

1.2.13 Information and communication technologies

According to MICT (2014:5), information and communication technologies (ICTs) refer to gadgets like computers, telecommunications and office systems which are used in the collection, storage, processing, packaging and dissemination of information. Another scholar, Kamatula (2010:153) defines ICTs as devices or applications used in creating, sending, receiving or sharing information. He gives computers, hardware, software, satellite systems, radios, televisions and cell phones as examples of ICTs. The advent of modern ICTs has greatly enhanced the rise and usage of electronic records including email.

1.3 Background to the study

Records management, like any other management function, has evolved through time and through stages. It has evolved from pre-historical times where clay tablets, stone, papyrus and leather were used as records format, to modern times, where paper has been the dominant records format and finally to the technological era, where the electronic format is increasingly gaining popularity. Walsham (2016:24) opines that the discipline of records management has existed for 5000 to 7000 years, although it has risen to prominence in the last century. The discipline has evolved through the following prehistoric and historic civilisations; the Sumerian, Egyptian, Babylonian, Greek and Chinese civilisations. Records media during these times have also evolved from clay tablets,

parchment, wood, leather, papyrus, bamboo slips, silk, stone and paper. Paper, hitherto, has been the commonest records format, having originated in China in the second century AD (Muller 2013:29). This means paper has been in use for more than 2000 years and this has rather made it the conventional records format. Nevertheless, with the rise of e-government and ICTs in the world, electronic records are catching up with paper as a records format of choice and convenience.

A study by Matangira (2016:6) shows that from pre-colonial to post-colonial times, records in Zimbabwe have largely been managed in paper format. This covers the period from 1890, when Zimbabwe was colonised by Britain, to this day where the paper-based records system of the colonial era is still rather intact. Matangira (2016: ii) further argues that many archival institutions in the developing world “were still overwhelmed with traditional manual records systems and were slow in incorporating ICTs in the management of records and archives”. This does not mean the records management system in Zimbabwe is purely paper-based. With the adoption of e-government in 2011 (Jumira 2011:1), there has been a constant rise in generation of electronic records as attested to by Bhebhe (2015:108) as well as Nkala, Ngulube and Mangena (2012:94). Bhebhe (2015:108) further expresses that the Government of Zimbabwe (GoZ) is computerising, although he admits the process is “very slow”. He argues that some government departments are computerized while others are not. This points to the existence of a hybrid records management system, comprising of a paper-based records management system to a larger extent and an electronic-based records management system to a smaller extent. The piecemeal approach to managing electronic records has resulted in use of email in the generation and receipt of electronic records. It is worthwhile to trace the origins of email for one to have a clear appreciation of how email came about and how the technology evolved and diffused to be adopted and used in Zimbabwe’s public service in general and central government in particular.

There has been debate about who founded email. Three schools of thought stand out. Firstly, email is attributed to a 14-year Indian immigrant, V.A. Shiva Ayyadurai, who lived in Newark, New Jersey in the United States of America (Aamothe 2013:1; Nightingale, Song, Michelson and Field 2012:2). Shiva Ayyadurai is said to have developed “a system of interlocking parts consisting of inbox, outbox, drafts, folders, memos, attachments and address books which emulated the inter-office and inter-organisational paper-based mail system” which he named EMAIL in 1978. The Shiva Ayyadurai

argument maintains that word “email” in different formats, for example in upper case (EMAIL) or with a hyphen (e-mail) or in lower case without a hyphen (email) did not exist before Shiva Ayyadurai so named his invention in 1978 (Nightingale, Song, Michelson and Field 2012:2). It further advances that the naming of this invention by Shiva Ayyadurai in upper case, that is, “EMAIL” as well as with five characters (or letters) was in line with FORTRAN IV programming language which required electronic programmes to be in upper case and with no more than six characters. It also conformed to Hewlett Packard’s RTE-IVB operating system which had a five character limit for programme names (Nightingale, Song, Michelson and Field 2012:2). The fact that the word “email” did not exist before Shiva Ayyadurai’s naming of his invention has been used by many to show that the teenager was the originator of email technology.

Secondly, email is attributed to the American Defense Advanced Research Projects Agency (DARPA) in the 1980s. The DARPA argument states that the United States army invented email to support military battlefield communication from one location to another (Nightingale, Song, Michelson and Field 2012:12). Some scholars like Nightingale, Song, Michelson and Field (2012:19) have dismissed the DARPA argument as they argue that DARPA’S focus was developing a method for reliable communication of simple text messages from one location to another, not “a full scale replication of the paper-based mail system” like what Shiva Ayyadurai did.

Thirdly, scholars such as Pignata, Lushington, Sloan and Buchanan (2015:160) attribute the invention of email to Ray Tomlinson, an ARPANET contractor, who in 1972 developed the “SNDMSG command programme” on the Internet. The Tomlinson-ARPANET argument has also been dismissed as not being the origins of email as critics argue that what Tomlinson invented, that is, the “SNDMSG command programme”, is what in present-day language known as “texting”, “sms chatting” or “twitting” and not “email” (Nightingale, Song, Michelson and Field (2012:17). It is beyond the scope of this research to dwell much on the email origins argument, but it is important to realise that all three arguments point to a 1970s to 1980s’ origins date, implying email is relatively a “new form” of record relative to paper, the conventional format, which originated in the second century AD.

Being “new” type of electronic record, a number of management challenges have been attributed to email. Some of these challenges are lack of a legal and regulatory framework for email records

(Mutsagondo and Tsvuura 2017:190; Sigauke, Nengomasha and Chabikwa 2016:17), lack of email management skills (Harvard Records Management Services 2012:5; Sigauke, Nengomasha and Chabikwa 2016:16), lack of adequate and necessary ICT infrastructure (Munter, Rogers and Rymer 2003:29) and difficulties in actively differentiating between email records and email non-records (Sigauke, Nengomasha and Chabikwa 2016:16), among other challenges. These shortcomings helped the researcher to formulate the research problem of this study. In the public sector domain, where literally thousands of emails are exchanged, many of them containing important communication, the importance of email management cannot be overemphasised. Thus, this study examines the use and management of email records within the Zimbabwe focusing on the central government tier of the public sector.

1.4 Contextual setting of the study

Every study is conducted within a certain context. There are factors and forces that surround a study and it is necessary to interrogate these factors in order to enhance better appreciation of phenomenon under scrutiny. This section looks at the structure of Zimbabwe's public service, public sector records and records systems in Zimbabwe, the records regulatory framework as well as e-government, electronic readiness and electronic records readiness in Zimbabwe.

1.4.1 Structure of Zimbabwe's Public Service

This study was carried out in the context of the Zimbabwe Public Service, but with particular focus on Zimbabwe's central government. The public service exists to serve the public. According to Chapter 10 of the Constitution of Zimbabwe (2013), the Zimbabwe public service comprises of persons employed by the State (Zimbabwe) as well as of ministries (for example, the Ministry of Home Affairs and Cultural Heritage; Ministry of Health and Child Care), departments (for example, National Archives of Zimbabwe), sections (for example, the Records and Information Management Section) and units (for example, the Audio-Visual Unit) which were created to serve the general public. The public service is responsible for administering public affairs in the country and operates through the Public Service Commission to undertake and implement the policies of the government (Public Service Commission 2017).

According to Chapter 1 Section 5 of the Constitution of Zimbabwe (2013), the Zimbabwe Public Service is divided into three categories as shown in Table 1.1.

Table 1.1: Tiers of the Zimbabwe Public Service

Central government	Local government	Subsidiary Bodies
(i) Government ministries	(i) Urban councils	(i) Parastatals
(ii) Government departments	(ii) Rural councils	(ii) Commissions

Central government comprises of government ministries and government departments. There are 22 government ministries and each one exists to serve a particular purpose, for example, health, education or sports. Some ministries are further split into departments. For example, the Ministry of Home Affairs and Cultural Heritage is divided into the departments of Immigration, Registrar-General, National Archives and Police. Local authorities are divided into urban and rural councils. Local authorities are tasked with representing and managing the affairs both the urban and rural populace (Constitution of Zimbabwe 2013). Subsidiary bodies, which consist of parastatals and commissions are created by Acts of Parliament (Constitution of Zimbabwe 2013). Examples of parastatals include Environmental Management Authority and National Museums and Monuments of Zimbabwe, while examples of commissions include Zimbabwe Electoral Commission and Zimbabwe Lands Commission.

This study focused on the first tier, that is, central government, with special reference to government ministries. Only head offices of government ministries that are based in the capital city of Harare were investigated. It was the researcher’s contention that a study on central government and on head offices of government ministries produced interesting findings since it is mostly from central government that policy issues are coordinated and directed in the entire public sector. It should be noted that government ministries are headed by permanent secretaries who happen to be accounting officers of their ministries Both local authorities and subsidiary bodies ultimately report to respective

permanent secretaries. Thus, policy and direction regarding email use and management in the entire public sector owes a lot to the situation prevailing within central government. Since the study focused on central government, only the central government tier was further analysed. Government ministries in Zimbabwe are displayed in Table 1.2.

Table 1.2: Government ministries in Zimbabwe

No.	Name of government ministry
1	Defence, Security and War Veterans
2	Energy and Power Development
3	Environment, Water and Climate
4	Finance and Economic Development
5	Foreign Affairs and International Trade
6	Health and Child Care
7	Higher Education, Science and Technology Development
8	Home Affairs and Cultural Heritage
9	Industry and Commerce
10	Information Communication Technology and Cyber Security
11	Information, Media and Broadcasting Services
12	Justice, Legal and Parliamentary Affairs
13	Lands, Agriculture and Rural Resettlement
14	Local Government and Public Works
15	Mines and Mining Development
16	National Housing and Social Amenities
17	Primary and Secondary Education
18	Public Service, Labour and Social Welfare
19	Tourism and Hospitality Industry
20	Transport and Infrastructure Development
21	Women Affairs and Enterprise Development
22	Youth, Sport, Arts and Recreation

Source: Parliamentary Debates, Zimbabwe (February 2020)

1.4.2 Public sector records and the records management system in Zimbabwe

Zimbabwe's public service generates and receives records in conducting business. These records are in different formats, for example, paper, electronic and audio-visual. In a study on electronic records preservation in Masvingo province of Zimbabwe, Magama (2017:67) holds that the Zimbabwe public service generates the following paper records; financial reports, correspondences, policy, minutes of meetings, memoranda, assets registers, contracts and agreements, reports, staff, performance appraisal and leave applications. He also noted that of late, many ministries in Masvingo province were generating and receiving these records in electronic format, although their proper recordkeeping was still done manually. Magama (2017:68) notes that commonest electronic records generated in the public sector in Zimbabwe were email, spreadsheets, word- processed documents, presentations and web pages. In a study focusing on digital records management in financial institutions in Zimbabwe, Chikomba (2018:78) notes that the commonest digital records produced within Zimbabwe's public sector were emails, minutes, reports, social media posts (Facebook, Twitter and You Tube), website content, instructions, pension files, statistics, tax and custom records, memoranda and investment projects. Email is one example of electronic records and it has emerged as the commonest and most popular type of electronic record (DeKay 2010:109; Kupritz and Cowell 2011:55). Thus, this study examines the use and management of email inclusive of how email records are created, received, used, maintained, appraised, stored, preserved and disposed.

The records management system in Zimbabwe is divided into three, in line with the stages in the lifecycle of records. Firstly, records are managed at current records level. Matangira (2016:32) notes that current records are managed within the creating agencies by the Records and Information Section, which falls under the Human Resource and Administration departments of different government ministries. At head office level, the Records and Information Section is headed by a Records and Information Supervisor, who normally holds a Diploma in Records Management or equivalent. The supervisor is assisted by an average of 10 Records and Information Assistants (Public Service Commission 2017). Secondly, records are managed at the semi-current records stage. Once records are semi-current, they are transferred to records centres. Murambiwa, Ngulube, Masuku and Sigauke (2012:10) supported by Mutsagondo, Maduyu and Tsvuura (2017:3) hold that Zimbabwe has six provincial records centres, namely, Harare, Mutare, Gweru, Chinhoyi, Bulawayo and Masvingo. These records centres are tasked with the management of semi-current records. Records centres are

manned by Records Management Officers and Archivists. Lastly, records are managed at the non-current records or archival stage. While ephemeral and time-expired records are destroyed in records centres, records of enduring value are transferred to the public archives section, where they are accessed by the researching public (Chaterera 2017:14). Public archives are manned by archivists. Currently, Zimbabwe has two public archival facilities in Harare and Bulawayo (Murambiwa, Ngulube, Masuku and Sigauke 2012:10).

1.4.3 Records regulatory framework in Zimbabwe

Records are managed in Zimbabwe in accordance with the provisions of the National Archives Act (1986), and amended in 2001. Section 6 of NAZ Act (1986) is used to regulate records and information management systems, processes and activities in central government. Section 7 focuses on records management in local authorities and subsidiary bodies. The NAZ Act has evolved over decades since the NAZ was founded on 1 September 1935. The first archival law in Zimbabwe was known as the Archives Act of 1935 (Matangira 2016:32; Murambiwa, Ngulube, Masuku and Sigauke 2012:2). Thereafter came the Archives Amendment Act of 1946, followed by the National Archives Act of 1964. The current archival law, the NAZ Act, was promulgated in 1986 and has remained in force to this day (Dube 2010:279). The NAZ Act (1986) is rather too archaic to deal with records in electronic form, including email. This has resulted in confusion and uncertainty on how such records should be professionally managed. Such a drawback of the NAZ Act (1986) provides justification for conducting a study of this nature and scope.

There is also related legislation that provides for the management of records and information in Zimbabwe. The first related legislation is the Freedom of Information Act (2020) which provides for access to public information by members of the public. It also caters for the protection of information in which case, refusal of access to information can be made on grounds of protecting personal, commercial and confidential information of third parties. The Act also denies members of the public from accessing defense, security and international relations information which is prejudicially important to the state. The second related legislation that governs information management is the Criminal Law (Codification and Reform) Act (2007). Section 162 of the Act guards against the commission of computer crimes, for example, unauthorised access to a computer or computer

network, destruction or alteration of computerised information, unauthorised use of passwords and the spreading of computer crimes. Lastly, like Section 162 of the Criminal Law (Codification and Reform) Act (2007), the Cyber Security Bill (2019) deals with cybercrimes and provides for the security and protection of data as well as the admissibility of electronic records as evidence in a court of law. It is unfortunate that this is still a bill and until such a time it becomes an Act, the position of electronic records, including email, remains clumsy and shrouded in mystery.

In the absence of a records policy and records procedural manual, Zimbabwe is heavily dependent upon the NAZ Act of 1986 (Mutsagondo 2017:106). However, as Bhebhe (2015:107) and Dube (2010:279) argue, the NAZ Act (1986) is not very representative of records generated in electronic environments. Concurring with Bhebhe and Dube is Matangira (2016:32) who holds that the current archival law (NAZ Act of 1986) was passed before electronic records came into prominence, thus, it focuses more on the management of paper records than on the management of electronic records. This has complicated efforts at managing electronic records, inclusive of email, which is the object of this study.

1.4.4 Electronic government, electronic readiness and electronic records readiness

Email and email management can also be interrogated in the context of e-government, electronic readiness (e-readiness) and electronic records readiness (e-records readiness). Bhebhe (2015:108) notes that although many government departments in Zimbabwe still create paper records, generation of electronic records is steadily rising following computerisation in government which has been championed by the e-government programme. Similar sentiments have also been expressed by Nkala, Ngulube and Mangena (2012:94) who opine that the generation of electronic records in sizeable quantities in Zimbabwe owe much to the e-government programme. One such type of electronic records is email, which is the focus of this study. Electronic records make use of ICT hardware and software. For example, one needs a computer to create or receive an email message as well as an Electronic Documents and Records Management System (EDRMS) to archive email messages.

For one to fully appreciate the context of electronic records inclusive of email, one needs to look at

ICT developments in Zimbabwe which among other things include the procurement, mobilisation and use of ICT gadgets as well as the development of ICT policies, guidelines and protocols. MICT (2014:4) defines e-government as a public sector endeavour where ICTs are used to provide and mobilise government services to citizens, businesses and other arms of government. Although computers, the Internet, intranets and scanners feature prominently as the backbone of e-government in the present study, it is important to note that e-government infrastructure also involves gadgets like telephones, radios, televisions, facsimile machines and photocopiers.

According to Hafkin (2009:3), ICTs have been used in Africa since the early 20th century but e-government was adopted in Africa in 1996 after the Africa Information Society Initiative resolved that African countries were supposed to adopt the use ICTs to effectively and efficiently improve public service delivery. Zimbabwe adopted e-government in 2011 and resolved that by 2015, all government offices were supposed to use ICTs to enhance public service delivery (Mambo 2011:1). Even though e-government was adopted as a national policy in 2011, a number of ICT developments occurred in the country even before the country attained political independence in 1980. Zimbabwe established the Central Services Computing department in 1972, an entity that was earmarked to offer and enhance central computer services (Nkala, Ngulube and Mangena 2012:96). This set the stage for the creation, receipt, use and management of electronic records. E-government was also greatly boosted by the deregulation of the telecommunications sector in 2002, the crafting of the National ICT Policy in 2012, among other technical and technological developments like the coming in of Internet Service Providers such as Econet, Telecel and Net One. Mutsagondo (2017:4) holds that this development promoted e-government in Zimbabwe.

ICT strides in Zimbabwe led to the following developments;

- (i) In 2002, there were only 338 402 mobile cell phone subscribers in Zimbabwe. Ten years later, the number skyrocketed to 9 864 308 (MICT 2014:4).
- (ii) In 2009, there were only 142 000 mobile Internet subscribers. Three years later, the figure rose to 2 225 895, an increase of 1460% (National ICT Policy 2012).
- (iii) The number of Postal and Telecommunications Regulatory Authority of Zimbabwe-registered Internet Service Providers in Zimbabwe increased from one in 2000 to nine by 2016 (MICT 2014:4).
- (iv) The country's incoming bandwidth was increased to 6 208 Megabits per second (Mbps)

in 2011 (MICT 2014:4; National ICT Policy 2012).

ICT policy and strategic issues have also resulted in the growth of e-government in Zimbabwe and in turn promoting the rise and use of electronic records, including email. According to the Ministry of ICT and Cyber Security (2016:11), the first ICT policy in Zimbabwe was crafted in 2007 while the second policy came into force in 2016. In 2010, an ICT strategy was devised. Both the ICT policy and ICT strategy aimed at providing and maintaining ICT infrastructure as well as undertaking ICT capacity building and training and providing technologically skilled human resources in all areas of socio-economic life (Ministry of ICT and Cyber Security 2016:11). For the first time in the history of Zimbabwe, the Ministry of ICT (now Ministry of ICT and Cyber Security) was established in 2009. The ministry is tasked with co-ordinating ICT programmes which used to fall under various ministries and departments (Jumira 2011:1; Mambo 2011:1) as well as promoting ICTs to enhance national competitiveness and socio-economic growth. The ministry uses the United Nations e-government measurement criteria to assess how different government entities are e-ready (Nkala, Ngulube and Mangena 2012:97). Among other things, the Ministry of ICT has so far managed to do the following:

- (i) Removed duty on ICT hardware and software.
- (ii) Increased Internet penetration in the country.
- (iii) Increased the number of government ministries and departments which are computerised.
- (iv) Widened the scope of the Zimbabwe Government Internet Service Provider, that is, “www.zim.gov.zw”
- (v) Improved ICT infrastructure, which among other things, include, computer hardware and software, satellite and access network, optic fibre, electricity and base stations, (Chaterera 2012:79).

These landmark ICT developments have revolutionised e-government in Zimbabwe and in turn, they have made it possible for electronic records and email to thrive in the country:

- (i) 1972 - Establishment of Central Services Computing Department.
- (ii) 1997 - Establishment of the Government Internet Service Provider (GISP).
- (iii) 2002 - Deregulation of the ICT sector.
- (iv) 2007 - First ICT Policy.

- (v) 2009 - Establishment of the Ministry of ICT.
- (vi) 2010 - ICT strategy.
- (vii) 2011 - Adoption of e-government.
- (viii) 2016 – Second ICT policy.

The availability of ICT infrastructure alone is not enough to guarantee success in electronic records management. Two other factors are of importance and these are e-readiness and e-records readiness. Nkala, Ngulube and Mangena (2012:96) hold that e-readiness is a measure of the extent to which society is positioned to benefit from opportunities brought about by ICTs. Crucial elements of e-readiness include ICT infrastructure, human capital, regulations, policies and internet penetration (Kalusopa and Ngulube 2012:10; Nkala, Ngulube and Mangena 2012:97). E-readiness in the East and Southern Africa Regional Branch of the International Council on Archives (ESARBICA) has been assessed by Wato (2006:1); in Zimbabwe by Nkala, Ngulube and Mangena (2012:97) and in Botswana by Kalusopa (2010:8). In 2005, Zimbabwe had an e-readiness index ranking of 0.3312 and in 2016, she was lowly positioned as number 122 out of 139 countries (Techzim 2016:1). This was rather a poor ranking, implying a lot needs to be done for the country to reap from the benefits of modern ICT technology. Nevertheless, Nkala, Ngulube and Mangena (2012:96) argue that judging from the status of the national website, that is, <http://www.gta.gov.zw>, Zimbabwe has made tremendous improvement towards e-readiness.

The other element of interest in e-government is e-records readiness. E-readiness differs from e-records readiness in that while e-readiness measures society's ability to participate electronically in general, e-records readiness measures the extent to which society has e-records management systems which make it possible to use and manage records in a digital environment (Kalusopa and Ngulube 2012:10). According to the Digital Transition Framework (2018:3), some government departments in Zimbabwe, for example, the Central Vehicle Registry, Zimbabwe Revenue Authority and the Zimbabwe National Road Authority are e-records ready while the Ministries of Industry and Commerce, Ministry of Finance and Economic Development and the Ministry of Health and Child Care have made in-roads in attaining similar status. This contrasts sharply with the NAZ which Magama and Nduna (2020:92) claim was far from being e-records ready, as by 2020, the NAZ was

not able to ingest electronic records into archival custody. ICT developments in Zimbabwe, though welcome, are rather vague when it comes to professional use and management of email in official business. It would rather seem email features mostly as an unofficial ICT posing challenges to central government which is currently inundated with an influx of official and/ or business email. This in part provides justification for the current study.

1.5 Research problem

Like any other form of records, email should be used and managed in an efficient, economic, proper and professional manner for it to remain authentic and reliable (Nengomasha 2009:70; Sejane 2004:104). However, due to a number of challenges, for example, lack of legislative and policy frameworks, inappropriate skills and inadequate ICT infrastructure, use and management of email is in disarray as seen in developing countries like Lesotho (Sejane 2004:101), Namibia (Nengomasha 2009:219; Nengomasha 2012a:87) and Zimbabwe (Mutsagondo and Tsvuura 2017; Sigauke, Nengomasha and Chabikwa 2016:14). Preliminary investigation into the study also revealed a number of deficiencies in the manner records are managed in central government. Amongst these are lack of appraisal of email; lack of preservation of important emails and lack of classification of email records, issues which have motivated the researcher to conduct this study. While increase in the use of email is evident across many organisations, there is no matching increase in the management of the same (Kalman and Ravid 2015:2040; Nengomasha 2012a:87; Pignata, Lushington, Sloan and Buchanan 2015:159). Whilst these scholars applaud the increase in governments' generation of records using modern ICT applications such as email, they bemoan neglect and inability to manage such records in an organised way that maintains their integrity, authenticity, admissibility and trustworthiness as records.

The situation where there is increased use of email and poor management of the same may result in loss, misfiling, inaccessibility, premature and wanton destruction and lack of archiving of email. Ngoepe and van der Walt (2009:1) warn that if organisations fail to properly manage electronic records, inclusive of email, this could result in them failing to access large quantities of important public records in future. Sharing the same view are scholars like Ngulube (2012:114) who warn of a possible

future digital amnesia and digital dark-age as well as Mutsagondo and Ngulube (2017:1) who warn of an electronic records’ “ticking time-bomb”. This makes this study important in records management discourse as it seeks to pursue and promote the proper and professional use and management of email for the good of Zimbabwe’s public sector in general and the central government in particular.

1.6 Aim, objectives and research questions of the study

This study has five research objectives, five research questions and sixteen sub-research questions.

1.6.1 Aim of the study

The aim of the study was to investigate the use and management of email in the central government of Zimbabwe with a view to improve email’s trust-worthiness as a record.

1.6.2 Objectives of the study

The following were the objectives of this study:

1.6.2.1 Assessing the prevalence of use of email in Zimbabwe’s central government.

1.6.2.2 Examining motivation for using email as an official ICT application in Zimbabwe’s central government.

1.6.2.3 Establishing how email is managed in Zimbabwe’s central government.

1.6.2.4 Determining challenges faced in managing email in Zimbabwe’s central government.

1.6.2.5 Proposing a framework for effective use and management of email in Zimbabwe’s central government.

1.6.3 Research questions

The study tackled the following research questions, and sub-research questions, as derived from the objectives of the study:

1.6.3.1 What is the prevalence of use of email in Zimbabwe’s central government? The sub-research

questions are:

- (i) Are electronic records replacing paper records in the central government of Zimbabwe?
- (ii) Which types of records are sent and received using email in the central government of Zimbabwe?
- (iii) How often is email used in official communication in Zimbabwe's central government?
- (iv) On average, how many e-mails are sent and received per day in the central government of Zimbabwe?

1.6.3.2 What motivates Zimbabwe's central government officers in using email as an official ICT application? The sub-research questions are:

- (i) What ICTs promote the use and management of email?
- (ii) Does the regulatory, policy and procedural framework motivate the use and management of email in Zimbabwe's central government?
- (iii) Do generic advantages of email promote use of email in Zimbabwe's central government?
- (iv) Do generic limitations of email discourage Zimbabwe's central government from using email?

1.6.3.3 How is email managed in Zimbabwe's central government? The sub-research questions are:

- (i) Is it important to manage official email?
- (ii) Who manages official email in government ministries in Zimbabwe?
- (iii) What strategies are used in managing official email in Zimbabwe's central government?
- (iv) What role does NAZ play in helping Zimbabwe's central government properly and professionally manage email?

1.6.3.4 What challenges are faced by Zimbabwe's central government in managing email? The sub-research questions are:

- (i) What challenges militate against the management of email in Zimbabwe's central government?

- (ii) How do these challenges adversely affect email as an authentic and reliable record?

1.6.3.5 What framework can be proposed to improve the use and management of email in Zimbabwe's central government? The sub-research questions are:

- (i) What framework can be proposed for the effective use and management of email in Zimbabwe's central government?
- (ii) What is the justification for the proposed framework?

Table 1.3 shows the relationship between research objectives, research questions, research methods and the theoretical framework that informed the study.

Table 1.3: The research dashboard

Research objectives	Research question and sub-research questions	Research methods	Conceptual framework
1. To assess prevalence of use of email in Zimbabwe's central government.	<p>What is the prevalence of use of email in Zimbabwe's central government?</p> <p>(i) Are electronic records replacing paper records in the central government of Zimbabwe?</p> <p>(ii) Which types of records are sent and received using email in the central government of Zimbabwe?</p> <p>(ii) How often is email used in official communication in Zimbabwe's central government?</p> <p>(iii) On average, how many e-mails are sent and received per day in the central government of Zimbabwe?</p>	<p>Structured questionnaires</p> <p>Personal observation</p> <p>Semi-structured interviews</p>	<p>Innovation Diffusion Theory</p> <p>- Complexity</p> <p>- Relative advantage</p>
2. To examine motivation for using email as an official ICT application in Zimbabwe's central government.	<p>What motivates Zimbabwe's central government in using email as an official ICT application?</p> <p>(i) What ICTs promote the use and management of email?</p> <p>(ii) Does the regulatory, policy and procedural framework motivate the use and management of email in Zimbabwe's central government?</p> <p>(iii) Do generic advantages of email</p>	<p>Structured questionnaires</p> <p>Semi-structured interviews</p> <p>Personal observation</p> <p>Document reviews</p>	<p>Innovation Diffusion Theory</p> <p>- Compatibility</p> <p>- Complexity</p> <p>- Relative advantage</p>

	<p>promote use of email in Zimbabwe's central government?</p> <p>(iv) Do generic limitations of email discourage Zimbabwe's central government from using email?</p>		
<p>3. To establish how official email is managed in Zimbabwe's central government.</p>	<p>How is email managed in Zimbabwe's central government?</p> <p>(i) Is it important to manage official email in Zimbabwe's central government?</p> <p>(ii) Who manages official email in government ministries in Zimbabwe?</p> <p>(iii) What strategies are used in managing official email in Zimbabwe's central government?</p> <p>(iv) What role does NAZ play in helping Zimbabwe's central government properly and professionally manage email?</p>	<p>Structured questionnaires</p> <p>Structured interviews</p> <p>Personal observation</p> <p>Document reviews</p>	<p>Records continuum theory</p> <ul style="list-style-type: none"> - Create - Capture - Organise - Pluralise
<p>4. To determine email management challenges faced by Zimbabwe's central government.</p>	<p>What challenges are faced by Zimbabwe's central government in managing email?</p> <p>(i) What challenges militate against the management of email in Zimbabwe's central government?</p> <p>(ii) How do these challenges adversely affect email as an authentic and reliable record?</p>	<p>Structured questionnaires</p> <p>Semi-structured interviews</p> <p>Personal observation</p>	<p>Innovation diffusion theory</p> <ul style="list-style-type: none"> - Complexity - Compatibility - Relative advantage <p>Records continuum theory</p> <ul style="list-style-type: none"> - Create - Capture - Organise

		Document reviews	- Pluralise
5. To propose a framework for the effective use and management of emails in Zimbabwe's central government.	<p>What framework can be proposed to improve the use and management of email in Zimbabwe's central government?</p> <p>(i) What framework can be proposed for the effective use and management of email in Zimbabwe's central government?</p> <p>(ii) What is the justification for the proposed framework?</p>	<p>Structured questionnaires</p> <p>Structured interviews</p> <p>Personal observation</p>	<p>Innovation diffusion theory</p> <p>- Complexity</p> <p>- Compatibility</p> <p>- Relative advantage</p> <p>Records continuum theory</p> <p>- Create</p> <p>- Capture</p> <p>- Organise</p> <p>- Pluralise</p>

1.7 Justification for the study

It is necessary to conduct a scientific study on email use and management as this will help to promote the responsible use and proper management of email in official business in Zimbabwe's central government. This in turn will foster improved public service administration and public service delivery. Extant literature, for example, by Keakopa (2008:78); Mutsagondo and Tsvuura (2017:192); Nengomasha (2012a:87) and Sigauke, Nengomasha and Chabikwa (2016:14) show a relaxed and uncoordinated approach to managing email in the public sector of developing countries despite email's substantive use. Thus, the study is a wake-up call to make the public sector realise that increase in use of email also calls for increase in efforts to manage email in a proper, professional, economic, efficient and effective manner that makes email an authentic and reliable record. Without intervention strategies like a study of this nature, email records of legal, fiscal, administrative and research value may continue to be lost, misfiled, exposed to security threats and/ or wantonly destroyed.

1.8 Originality of the study

Guetzkow, Lamont and Mallard (2004:191) define originality in research as the contribution of research towards new insight that advances scientific knowledge in an area. Phillips and Pugh (2005) also hold that originality in a study can be shown by the following:

- (i) A research coming up with new data that has never been advanced before.
- (ii) A research making new interpretations and conclusions.
- (iii) A research using new research methodologies to address a research problem.
- (iv) A researcher working on an under-explored area.
- (v) A researcher coming up with original results.

Originality of this study is dual faceted. Firstly, the study is original in the sense that use and management of email in Zimbabwe's central government is an understudied area. In fact, there are very few related studies which focus on email management in Zimbabwe, three of which are as outlined below. Case number one is a study by Nengomasha (2012a:87) who through a qualitative research approach, conducted a study on email management in Zimbabwe's public sector from where she drew parallels with Namibia. The present study differs from Nengomasha's (2012a:87) study in that it is an in-depth mixed methods study focusing on Zimbabwe with regards to both use and management of email. Case number two is a quantitative study by Mutsagondo and Tsvuura (2017:190) on disposal of email in government ministries in Zimbabwe's Midlands Province. The present research differs from Mutsagondo and Tsvuura's (2017:190) study in that it focuses at national level and encompasses all phases of email management namely, creation, receipt, appraisal, use, maintenance, preservation and disposal, not just the disposal phase. The last case is a study by Sigauke, Nengomasha and Chabikwa (2016:14) on management of email in government-owned universities in Zimbabwe. The present study differs from Sigauke, Nengomasha and Chabikwa's (2016:14) study in that it dwells on government ministries, which by their mandate, infrastructure and financial capacity differ from state universities which legally are statutory bodies while government ministries fall under central government as earlier depicted in Table 1.1.

Secondly, originality in this study comes from the fact that the research is an original attempt to come up with a framework for the use and management of email in Zimbabwe's central government. This framework is discussed in Section 6.5.1 and illustrated in Figure 6.1 and has been coined the "Integrated

Email Professionalism, Use and Management framework” (IEPUM). The framework is an attempt to link and integrate the use of official email with the management of official email. It outlines key features that help promote the integrity, authenticity and reliability of email as an official record, something that hitherto has not been done in Zimbabwe as well as at regional and international levels. The email framework is set to improve the professional management of email as a record as well as to influence the formulation of a national email management policy in the country which hitherto does not exist.

1.9 Assumptions of the study

According to Latief (2009:2), assumptions of a study are presuppositions or beliefs that are most likely to be true even though they may be outside the researcher’s control. Thus, even though a researcher outlines them in his or her study, they may not all turn out to be true. This study was conducted under the assumption that the GoZ created, received, used, disposed and managed email in conducting its official business. The researcher also assumed that respondents answered questions truthfully and honestly in such a manner that helped to establish rigour of the study as well as to enhance validity and reliability of research findings.

1.10 Scope and delimitations of the study

To delimit a study is to demarcate the breadth of a study or to mark the boundaries of a study (Simon 2011:2). This study was restricted to use and management of official email in Zimbabwe’s central government, with special focus on head offices of government ministries in Zimbabwe. A list of such ministries is shown in Table 1.2. The study excluded use and management of unofficial or personal email. It also excluded use and management of email in provincial and district offices of government ministries in Zimbabwe as well as of other public service organisations like statutory bodies and local authorities.

1.11 Limitations of the study

The researcher faced some challenges in conducting this research. Firstly, due to fear of divulging ministries’ work processes, some respondents were reluctant to take part in the study. Many of them

voluntarily agreed to take part in the study after the researcher assured them of anonymity and confidentiality where their names and leading titles would not be divulged. Secondly, some respondents may not have answered some questions truthfully and objectively. The researcher tried to reduce the impact of the second limitation by outlining the importance of the study to central government which in turn would improve respondents' work processes both as individuals and collectively as ministries. Lastly, COVID-19 affected data collection as some targeted respondents could not be located because they were tied to their homes as Zimbabwe imposed a national lockdown on 30 March 2020 in order to try and reduce the spread of the deadly corona virus epidemic. The low respondent response rate of 37.3% was covered up by a fairly high ministerial response rate of 54.5% where 12 out of 22 ministries participated in the study. This helped to produce more credible results which could be generalisable.

1.12 Conceptual framework

A conceptual framework is an integral part of empirical research, which like the theoretical framework, is used to explain, describe, predict as well as to guide a study (Ngulube 2020a:18). Lederman and Lederman (2015:597) hold that every type of research, that is, quantitative, qualitative and mixed methods should have a conceptual framework or theoretical framework. Towing the same line is Ngulube (2018:1) who holds that a conceptual framework or theoretical framework helps to explain issues in a study and refine research questions. The present study used conceptual frameworks derived from the innovation diffusion theory and the records continuum theory. The study used three constructs of the innovation diffusion theory, namely, complexity, compatibility and relative advantage. These constructs were used to unpack Objectives 1 and 2 which centered on prevalence of use of email and motivation for using email in the central government of Zimbabwe. All the four constructs of the records continuum theory, namely; create, capture, organise and pluralise, were used to unpack Objectives 3 and 4 which centered on management of email and challenges affecting the management of email. The issue of conceptual framework is dealt with in detail in Chapter 2 of this study.

1.13 Methodological overview

This study used the mixed methods research approach, which stands in between the quantitative and qualitative research approaches. Ngulube (2020b:425) defines mixed methods research as a study which integrates quantitative and qualitative research approaches in many or all phases of a study. In the context of this study, prevalence of use of email, the volume of email sent and received, the frequencies of motivational factors influencing use of email and the average amount of email sent and received by officers in a single day are quantitative in essence. The description of email management strategies and challenges are qualitative. In this research, quantitative and qualitative strands were mixed in many phases, namely, data collection, research questions, research design, sampling methods, data analysis, reporting of findings and interpretation of findings. The study subscribed to the pluralist ontological paradigm and the pragmatist epistemological paradigm. May, Hunter and Jason (2017:1) opine that with pluralism, no research method is inherently superior to another and that pluralism does not seek to discredit the quantitative ontology of realism nor the qualitative ontology of nominalism, but comes in as a practical means to solving research problems. On the other hand, pragmatism is more of a problem-oriented practical solution to a problem than a philosophy and it emphasises that there should be many sources of knowledge rather than positivism (of quantitative studies) or interpretivism (of qualitative studies) (Creswell and Plano Clark 2018:51). Due to its middle-of-the road orientation, the pragmatic epistemological approach makes it possible for researchers to employ various methods of enquiry in a single study, amongst them being use of questionnaires, interviews, personal observation and document reviews, which were used in this study.

The convergent mixed method research design was used in this study. Quantitative and qualitative data were collected simultaneously from different data sources. The two data sets were used to corroborate each other, thus enabling the study to be more valid, reliable, credible and dependable. Questionnaire responses were collected from Records Officers (ROs), Administration Officers (AOs) and Information Technology Officers (ITOs) while qualitative responses were collected from interviews with seven NAZ archivists, the NAZ director and two directors in Zimbabwe's central government. The population of the study was 670 officers, comprising of 660 Records ROs, AOs and ITOs in the central government of Zimbabwe and 10 interviewees. While the 10 interviewees were selected by purposive sampling, the 660 ROs, AOs and ITOs were selected using the census approach.

Quantitative data were analysed using Microsoft Excel 2010® as well as through descriptive statistics. Qualitative data were analysed thematically using Atlas.ti®. Research methodology is handled in detail in Chapter 3.

1.14 Ethical considerations

The study conformed to the ethical principles expected in modern research which *inter alia* includes respect for participants, maleficence, beneficence and compliance with the University of South Africa's ethical research policy. There is need to respect participants in a study by regarding them as subjects and not objects (Bless, Higson-Smith and Sithole 2013:31). This was done by seeking participants' consent after explaining to them the purpose and significance of the study. Participants were also given the right to withdraw from the study any time they felt like, without the need to explain or defend their action. Cohen, Manion and Morrison (2018:471) argue that an ethical research should conform to the "cause-no-harm dictum" or the non-maleficence principle, implying a research should not harm participants in any way. The principles of anonymity and confidentiality were used in this research. Names of ministries, respondents and participants were not mentioned as a means to protect the ministries, respondents and participants from harm or reprisals that could inadvertently occur. The study also maintained the principle of beneficence, the notion that a study should benefit wider society. This study was not conducted just for the sake of it. It was conducted to reveal shortcomings in the manner email was used and managed so that due corrective action to be instituted to make email an authentic and reliable official record that Zimbabwe's central government could rely upon. The researcher was a signatory to the University of South Africa's (UNISA) Ethics Committee for ethical research. As a result, the researcher complied with the University of South Africa's Policy on Research Ethics (2013) which places emphasis on respect for participants' autonomy, privacy, anonymity and confidentiality, beneficence and justice. A copy of the signed research ethics form is attached on Appendix IV. The issue of ethical considerations is dealt with in detail in Chapter 3.

1.15 Organisation of the thesis

This thesis comprises of six chapters. Below is a summary of what each chapter is all about.

Chapter One: Introduction and background to the study

This chapter introduces the study. It spells out the background to the study, outlining among other issues, the concept of email and email management. It also discusses the contextual setting of the study where it outlines the structure of Zimbabwe's public service, the records management system in the country, the records regulatory framework as well as e-government developments which have influenced the direction and scope of email management in Zimbabwe. The context of the study helped to place the study into perspective, making it possible for one to appreciate the background in which email management thrives in Zimbabwe. The chapter also looks at the research problem, aim and objectives, among other preliminary aspects that helped to set the tone for the whole thesis.

Chapter Two: Conceptual perspective and literature review

The chapter firstly addresses the theoretical perspective that informed the study. The innovation diffusion theory is used to explain why email had become the commonest and most widely used form of electronic records. The records continuum theory is used to explain how email was managed in line with records management policies and procedures. The chapter secondly reviews literature on and surrounding the issues of email and email management. Literature review is based upon the objectives of the study. Literature review opens avenues for further examination of the aspect of email management, as it built on the work of earlier researchers and scholars. It also exposes gaps in earlier literature thereby showing the uniqueness and significance of the present study.

Chapter Three: Research methodology

The chapter examines the research methodology for the study. It outlines the research paradigm of the study, the research approach, research design, sampling and data analysis techniques used in the study. The chapter shows the suitability of research methods in a bid to address the research question of the study which borders on the use and management of email in Zimbabwe's central government. The population of the study as well as the sample and sampling techniques are outlined. Data collection methods which are in sync with the mixed methods research, namely, structured questionnaires, semi-structured interviews, personal observation and documents review are examined.

Chapter Four: Presentation and analysis of research findings

The chapter presents and analyses research findings in tandem with four of the five research questions of the study. (The fifth research question, that is, “proposing a framework for use and management of email” is dealt with later in Chapter 5). Chapter 4 firstly outlines the biographical details of respondents before it addresses in turn the four research questions and several sub-research questions. In line with mixed methods research, findings are presented as quantities and in the form of tables, graphs and pie charts as well as qualitatively in prose and descriptive form. In addition to data presentation, the chapter also analyses data to make it more comprehensive and comprehensible to readers.

Chapter Five: Interpretation and discussion of research findings

Findings outlined in Chapter 4 are interpreted and discussed in this chapter. In interpreting and discussing research findings, the chapter makes use of literature review from earlier researchers as well as the two conceptual frameworks used in the study. This helped to corroborate or refute notable, recurring or significant patterns in the manner email is used and managed in Zimbabwe’s central government against regional and international trends.

Chapter Six: Summary of findings, conclusions, recommendations and framework for use and management of email

This is the terminal chapter. A summary of the study is given, touching on the research problem, concept and context of the study, aim, objectives and significance of the study as well as the research methodology and the major findings. Whilst a general conclusion of the study is given, research question-specific conclusions are also provided. Recommendations pertaining to the use and management of email in Zimbabwe’s central government are given. The fifth objective of the study, which deals with proposing a framework for use and management of email in Zimbabwe’s central government, is also outlined.

1.16 Summary

This chapter sets the tone for the whole study. It traced the development of the records management discipline from a paper-based records management system to an electronic records management

system, where email features prominently. The chapter revealed that ICT developments in Zimbabwe had made it possible for electronic records and email to flourish. However, as indicated in the research problem, absence of a truly representative legislative and policy framework, inappropriate skills and outdated ICT infrastructure posed challenges that raised questions about the authenticity and reliability of email as a record. The chapter also showed how this rather virgin area of study was central to the discourse of records management in the era of e-government where electronic records have become the in-thing. The research methodology and ethical considerations were stated in brief as they are dealt with in greater detail in Chapter 3. The successive chapter, that is, Chapter 2, addresses the conceptual perspective as well as the literature review of the study.

CHAPTER TWO

CONCEPTUAL PERSPECTIVES AND LITERATURE REVIEW

2.1 Introduction

The purpose of this chapter is two-fold. It unpacks the conceptual framework of the study and reviews literature on and related to email management. The conceptual perspectives derived from the innovation diffusion theory explain why email is now prevalently used and why many organisations are motivated to use email ahead of alternative ICTs. The conceptual framework derived from the records continuum theory helps to explain how email should be managed properly and professionally as an official record. Literature review as defined by Fry (2016:1) is a summary of secondary source-based scholarship about a particular topic. It involves what other people have already written on a subject and as such it is a prelude to further research and a digest of scholarly opinion. The chapter begins by examining the conceptual framework of the study.

2.2 Conceptual framework of the study

Lederman and Lederman (2015:597) supported by Ngulube (2018:1) aver that an empirical study should either have a conceptual or theoretical framework. This includes studies of a quantitative, qualitative and mixed methods nature. Ngulube (2018:3) notes that many times conceptual and theoretical frameworks are confused and interchangeably used. He propounds that a conceptual framework is part of the theoretical framework, not vice versa, because a concept is an “ingredient” or “building block” of a theory. As such, he advises that a study should clearly choose between using a theoretical framework or a conceptual framework and thus provide a glue that keeps the study intact and that makes informed predictions in line with the variables, definitions and propositions provided for in the theory or concept in question.

A conceptual or theoretical framework should be used where it is valid and relevant to a particular study (Lederman and Lederman 2015:597). Holding the same view is Ngulube (2018:1) who opines that a study should have a conceptual or theoretical framework, a critical part of the research process which explains issues under study and refines research questions. He further views the conceptual or

theoretical framework as something that enriches a study and an element that gives direction and meaning to the study, inclusive of the major components of the study, namely, the literature review, the findings of the study and analysis of research findings. The present study made use of conceptual frameworks derived from the records continuum theory and the innovation diffusion theory.

Niemand and Bwalya (2020:40) and Ngulube (2020a:18) aver that disciplines like information science have very few theories of their own. This has resulted in many researchers in the information science field borrowing theories from other disciplines like sociology, psychology, management and information systems to predict and guide their studies. This study borrowed from the information systems discipline the innovation diffusion theory and used it to explain why there was an astronomic rise in use of email in Zimbabwe's central government. While Niemand and Bwalya (2020:48) view use of borrowed theories as a solution due to a deficit of home-grown theories in the information science discipline, they hasten to warn that such a practice should not be overdone as it diminishes the importance of information science as a full-fledged and independent discipline. Ngulube (2020a:26) who is more in favour of discipline-generated theories argues that theory borrowing should be avoided, where possible, and researchers should strive to generate their discipline-based theories which may "culminate in the maturity and enrichment of the discipline" while theory borrowing is "inimical to the development and maturity of a discipline". Nevertheless, regardless of the warning against borrowed theories, this study still used a borrowed theory, that is, the innovation diffusion theory, because of its unrestrained application and applicability to the issue of email, which squarely falls both into the information systems and records management disciplines.

2.2.1 Conceptual perspectives from the innovation diffusion theory

Scott and McGuire (2017:120) define diffusion as the spread of ideas and products. Ali (2016:10) defines diffusion of innovation as the process by which new ideas or new technology pass from the innovator to members of a social system through some channel of communication. The innovation diffusion theory was introduced by Everett Rogers in 1962 in his publication "Diffusion of Innovations" where he demonstrated how new ideas spread and got adopted within society (Ali 2016:10; Dearing and Cox 2018:183). The innovation diffusion theory comprises of five constructs, namely, complexity, compatibility, observability, trial-ability, and relative advantage. Nonetheless, this study uses three constructs of the innovation diffusion theory to help explain why email was now

commonly used in the central government as an ICT application. The three constructs are complexity, compatibility and relative advantage and are illustrated in Figure 2.1 below.

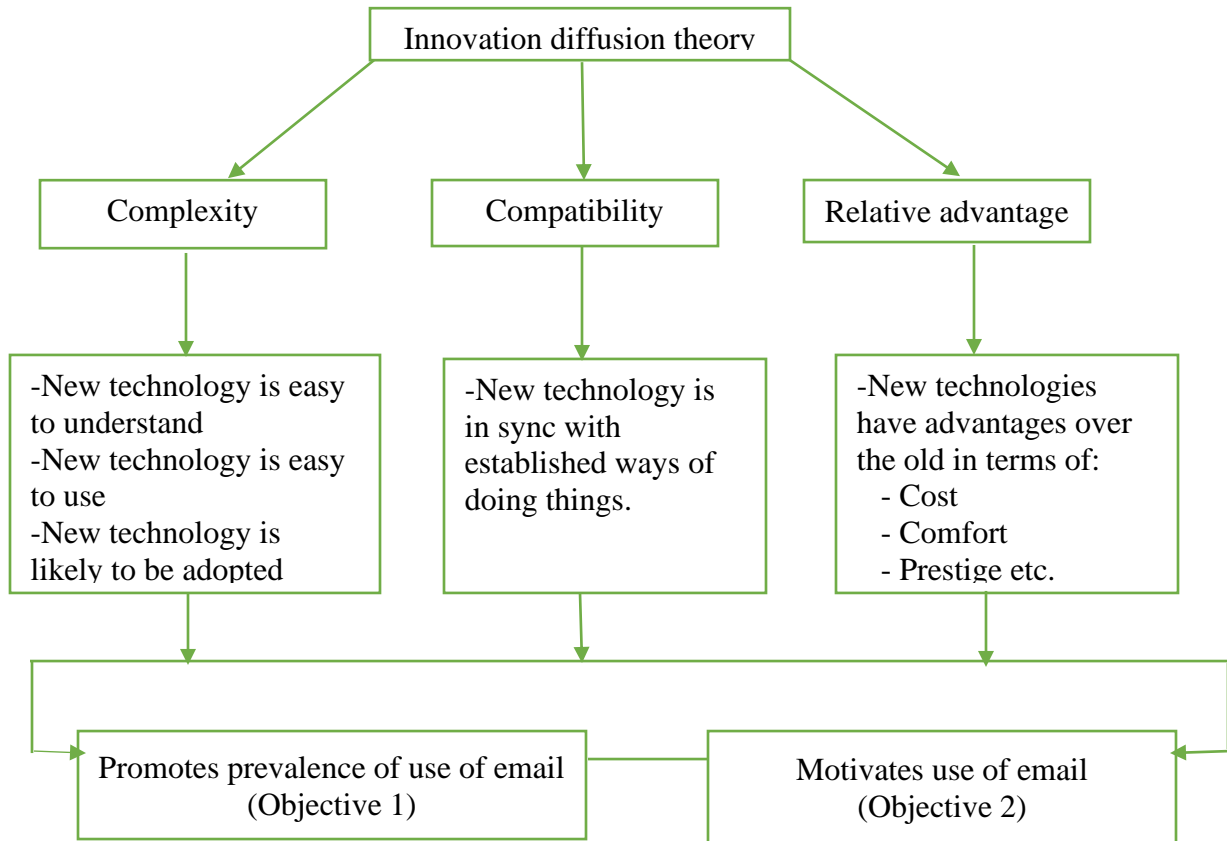


Fig. 2.1: The innovation diffusion theory; showing how it speaks to two of the objectives of the study (synthesised by the researcher)

The first construct, that is, complexity, refers to the degree to which new technology is easy to understand and use (Dearing and Cox 2018:185). New technology is compared to the old and a decision is made whether to adopt it or not. Dibra (2015:1457) avers that if new technology is simpler to understand and use, it is quickly adopted. Similarly, if new technology is very complex and difficult to understand and use, it will take more time for it to be adopted, if at all it will be adopted. Towing the same line is Ali (2016:12) who opines that if an innovation is complex, it requires new and advanced skills and time to learn, understand and operate, which might be frustrating and thus prohibiting or delaying adoption. This conceptual perspective was relevant to this study as it helped

to show that email was simple to use and as such had been widely adopted in the central government of Zimbabwe to send and receive information.

The second construct is compatibility. Scott and McGuire (2017:121) hold that compatibility refers to how well an innovation fits with established ways of accomplishing the same goal. Dearing and Cox (2018:185) point out that the higher the degree of compatibility, the more likely the innovation is easily and quickly adopted. The new technology should be consistent with existing values, past experiences and needs of potential adapters for it to be worth trying. Those that are not compatible with people's values may not be adopted or they may be adopted very slowly. This conceptual perspective was relevant to the study as it helped to show that email had become an ICT of choice because it was compatible with the manner in which the GoZ conducted its business.

The third and last construct is relative advantage. It involves people considering advantages of new technology over the old in terms of cost, monetary and other resource expenses (Dearing and Cox 2018:185). Dibra (2015:1457) adds to the above advantages economic edge, social prestige, comfort, convenience and satisfaction. The new technology should have an advantage over current practice (Scott and McGuire 2017:121). The guiding principle is the higher the perceived advantage, the faster the rate of adoption (Dibra 2015:1457). The GoZ enjoyed many benefits from use of email, amongst them being low cost, speed in transmitting information, convenience and efficiency and as such, the ICT was widely adopted and used. This demonstrated the relevance of the theory in general and the dimension in particular. Ngulube (2020a:20) argues that a useful theory is one that is relevant to the research problem where it has the ability to predict and explain necessary constructs and propositions. The innovation diffusion theory is suitable in the proposed study as constructs from the theory helped the researcher to comprehend why there was a high prevalence of use of email in Zimbabwe's central government as well as why users were motivated to use email as an ICT application.

Minishi-Majanja (2004:35) argues that from humble beginnings, the innovation diffusion theory came to be widely used in a variety of fields like education, health, communication, business, general sociology and economics. In the field of information sciences, the theory has been used by Minishi-Majanja (2004:35) in her study on adoption and use of ICTs in libraries in Sub-Saharan Africa as well as by Bwalya (2011:111) in his study on electronic government adoption and synthesis in

Zambia. In both cases, the researchers noted that modern ICTs easily diffused into libraries in Sub-Saharan Africa and in government services in Zambia, respectively, due to their attractiveness in line with the constructs of the innovation diffusion theory.

2.2.2 Conceptual perspectives from the records continuum theory

The records continuum theory was developed in the mid-1990s by Upward and was later reworked by Reed and Schauder (Huvila, Eriksen, Hausner and Jansso 2014:4). The theory rose to prominence following revelations that the records lifecycle theory developed in the 1930s was not suitable in providing a framework for the management of records in the electronic environment (Svard 2013:165). The theory challenges the traditional view that separates records and archives as distinct entities and advances that records and archives should be managed in a continuum and without separating the roles of records managers and archivists (Svard 2013:165). Records continuum theorists like Upward, Reed, Maclean and Atherton hold that it is difficult to separate records and archives in the digital environment as well as to separate the responsibilities of staff managing the records (Joanne, McKemmish and Rolan 2017:6). Afshar and Ahmad (2015:490) advance that there should be no boundaries between the duties of a records manager and those of an archivist. In fact, there should be collaboration, integration and a unified approach to managing records by the different professionals. Central to this study are the four dimensions of the records continuum theory, namely, create, capture, organise and pluralise. These dimensions are shown in Figure 2.1.

Figure 1

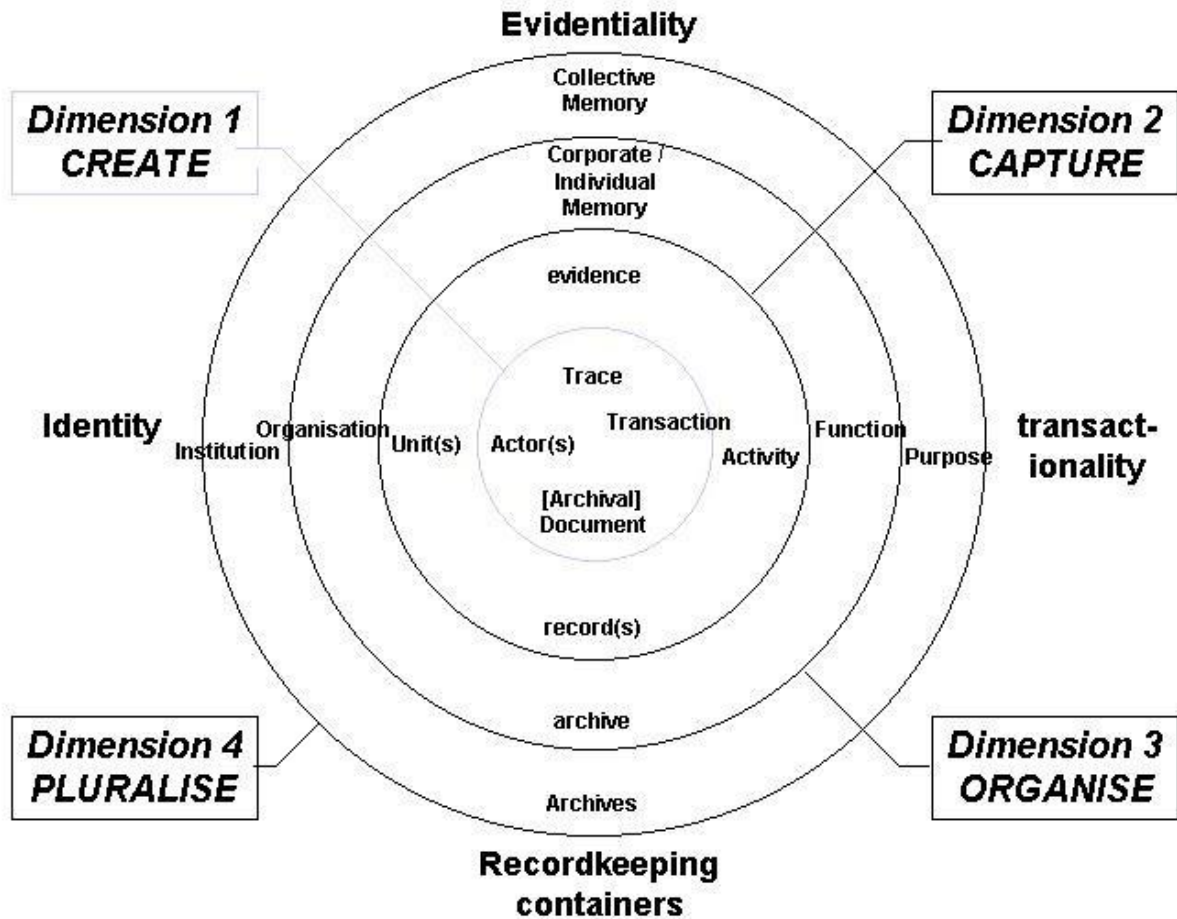


Fig. 2.2: The four continua of the records continuum theory (Adapted from Afshar and Ahmad 2015:490)

In the “create” dimension, which Afshar and Ahmad (2015:490) also refer to as “creation and receipt”, an organisation generates records for administrative purposes and in support of its day-to-day work (Huvila, Eriksen, Hausner and Jansso 2014:4). A record generated can also qualify to be an archive given that electronic records management systems evolve and become obsolete in the short-run, unlike a paper record which matures into an archive after 20 or so years. Both the records manager and the archivist ought to manage records at this stage, depending on circumstances and there should not be a separation of the roles of the records manager and the archivist. When applied

to the present study, constructs from the theory help to support the fact that managing email is collaborative effort of many officers within central government, since many of these officers actively engage in generating, receiving and using email.

In the “capture” dimension, also referred to as “capture and classification” (Griffin, Herzinger and Sesser 2013:632), an organisation enters records into its record-keeping system where they are kept as evidence of some transaction that took place during its creation (Joanne, McKemmish and Rolan 2017:6). Records need to be categorised or classified as well as indexed in order to enhance their location, access and retrieval. A records manager or an archivist ought to capture records at this stage. The “capture” construct is relevant to the study as it places an obligation on officers to make sure email of value is captured into the record-keeping system of central government for administrative, evidential and future purposes.

In the “organise” dimension, also called the “organise, use and maintain” dimension (Afshar and Ahmad 2015:490), an organisation ensures that records are given the necessary elements such as metadata so that they will be available over time (Svard 2013:165). Records are placed in the corporate contextual framework so that they can be understood in the light of overall corporate activities (Joanne, McKemmish and Rolan 2017:6). Issues of safe storage, controlled use and preservation come in under this dimension. All records and non-records professionals should collaborate to make the management of records possible. The “organise” dimension is relevant to the present study as it implores upon officers in central government to arrange, use and maintain email of value contextually in a manner that makes it relevant and comprehensible in wider government business.

In the last dimension, a record created by an organisation as part of an individual transaction becomes evidence of broader societal trends, as the record, or the archive, is used by wider society and by different stakeholders (Huvila, Eriksen, Hausner and Jansso 2014:4). The record moves from being individual or corporate memory to become collective societal memory and thus becomes pluralised as collective archives (Huvila, Eriksen, Hausner and Jansso 2014:5; Joanne, McKemmish and Rolan 2017:6; Svard 2013:165). This construct is relevant to the study as some email ends up as archival material, which would be of value to wider society. Thus, the “pluralise” dimension implores upon

officers in central government to manage email professionally for the benefit of central government presently and the country at large in future.

The records continuum theory has been used by many other scholars to explain the management of electronic records. One of these scholars is Chaterera (2013:20) who in her study on records surveys in Zimbabwe advocated for collaboration between records managers and archivists in managing records in a continuous manner. The other scholar is Ndenje-Sichalwe (2010:58) who in her study on the role of records in fostering public sector reform in Tanzania revealed the need for records and non-records officers to work together for the efficient and effective management of records. Lastly, the theory was used by Mutsagondo (2017:17) in his study on electronic records management in public departments in the Midlands province of Zimbabwe. He revealed the inadequacies of the records lifecycle theory and advocated for the adoption of the records continuum theory in managing electronic records since this rather new records format was becoming commonplace and in need of proper management.

2.3 Literature review

Literature review refers to a description of literary works relevant to a particular area of study (Ramdhani, Ramdhani and Amin 2014:48). It is an integration of views, theories, hypotheses, methods and methodologies used by earlier writers in their studies or researches. Literature review is also defined by Fry (2016:1) as a summary of secondary source-based scholarship about a particular topic. It involves what other people have already written on a subject and as such it is a prelude to further research and a digest of scholarly opinion. Ramdhani, Ramdhani and Amin (2014:48) opine that good literature review should have the following qualities; “objectivity”; “thoroughness” and “criticality”. These qualities enable a researcher to gather up-to-date current literature in an area and thus increase his or her knowledge around his or her area as well as to justify the need for research around that area. O’Gorman and MacIntosh (2015:33) hold that good literature review summarises, evaluates, synthesises and compares research studies in an area of study. However, the applicability of these characteristics largely depend upon the type of literature review and the type of research that one is undertaking.

There are many types of literature reviews. Dudovskiy (2019:10) hold that the most popular ones are the narrative, systematic, meta-analysis and meta-synthesis literature reviews. O’Gorman and MacIntosh (2015:33) hold that the narrative literature review, also called the “traditional”, “standard” or “overview” literature review, is the commonest type. The primary purpose of a narrative literature review is to analyse and summarise a body of literature, to highlight new research streams, make historical narratives of issues, identify inconsistencies and gaps in the body of available knowledge (Dudovskiy 2019:10). The major weakness of this type of literature review is that it heaps literature upon literature without systematic synthesis and integration of data in an informed manner.

The second type of literature review is meta-analysis literature review. This type of literature review is usually highly standardised and thus mostly used in quantitative studies (O’Gorman and MacIntosh 2015:33). As such, Rhoades (2011:64) also refers to them as quantitative systematic reviews. Literature review in meta-analysis usually comprise of numbers, frequencies and statistical figures. This type of literature review was not used in this study since the study was not highly structured. The third type of literature review is the meta-synthesis. As this type of literature review is non-statistical, it is suitable for pure qualitative studies (Dudovskiy 2019:11). O’Gorman and MacIntosh (2015:33) opine that meta-synthesis literature review integrates, evaluates and interprets findings of many qualitative studies and the focus is to have inductively-rich literature.

The last type of literature review is systematic literature review, also called “best-evidence syntheses” or “practice-based research syntheses” (Rhoades 2011:63). Review of literature in this regard is thorough, comprehensive, transparent and above all systematic in line with pre-set criteria like reviewing literature in line with set objectives and research questions (O’Gorman and MacIntosh, 2015:33; Ramdhani, Ramdhani and Amin 2014:47). It is more rigorous than the narrative literature review and not just a summary of sources consulted but spells out the time-frame from which the literature was selected and is highly organised. The present study made use of systematic literature review.

In pursuance of literature review, this study made use of secondary sources like journal articles, textbooks and book chapters. It also made use of grey literature, namely, unpublished seminar and conference papers, technical reports, theses and dissertations. Online sources were also used.

Literature was reviewed from the global stage, sub-Saharan Africa and on the local Zimbabwean stage, thus supporting the notion that good literature review moves from the general to the specific (O’Gorman and MacIntosh 2015:32). Literature review revealed that most literature focus either on use of email as an ICT application alone or on management of email as a records management aspect. Except for a recent study by Adeyinka and Onyancha (2020:91) there is no available literature in a single study that focuses on use and management of email. ICT and electronic records management issues are fast-evolving and as such the researcher mostly focused on the most recent literature published in the post-2000 period.

2.4 Literature review map

Chaterera (2017:52) advances that a literature review map, also called a “concept map”, “concept diagram”, “graphic organiser”, “knowledge map” or “spider map” is an illustration which shows how concepts of a research are related or linked to the literature review. Carnot (2006:2) argues that the purpose of a literature review map is to organise knowledge, concepts and ideas to be expressed in a study around literature review. In day to day life, a map is used to show direction and location. Thus, as CASCA (2012:1) advances, a literature review map helps the researcher as well as readers to locate and understand the relationship of literature review and other aspects of a study, especially in complex topics or studies. This study adopted the use of a literature review map in a bid to show the centrality of literature review in research as well as to show the relationship between the aspect and the objectives of the study as a thematic approach to literature review was adopted in this study. Figure 2.2 succinctly shows the connectedness between literature review as well as the conceptual framework and the objectives of the study.

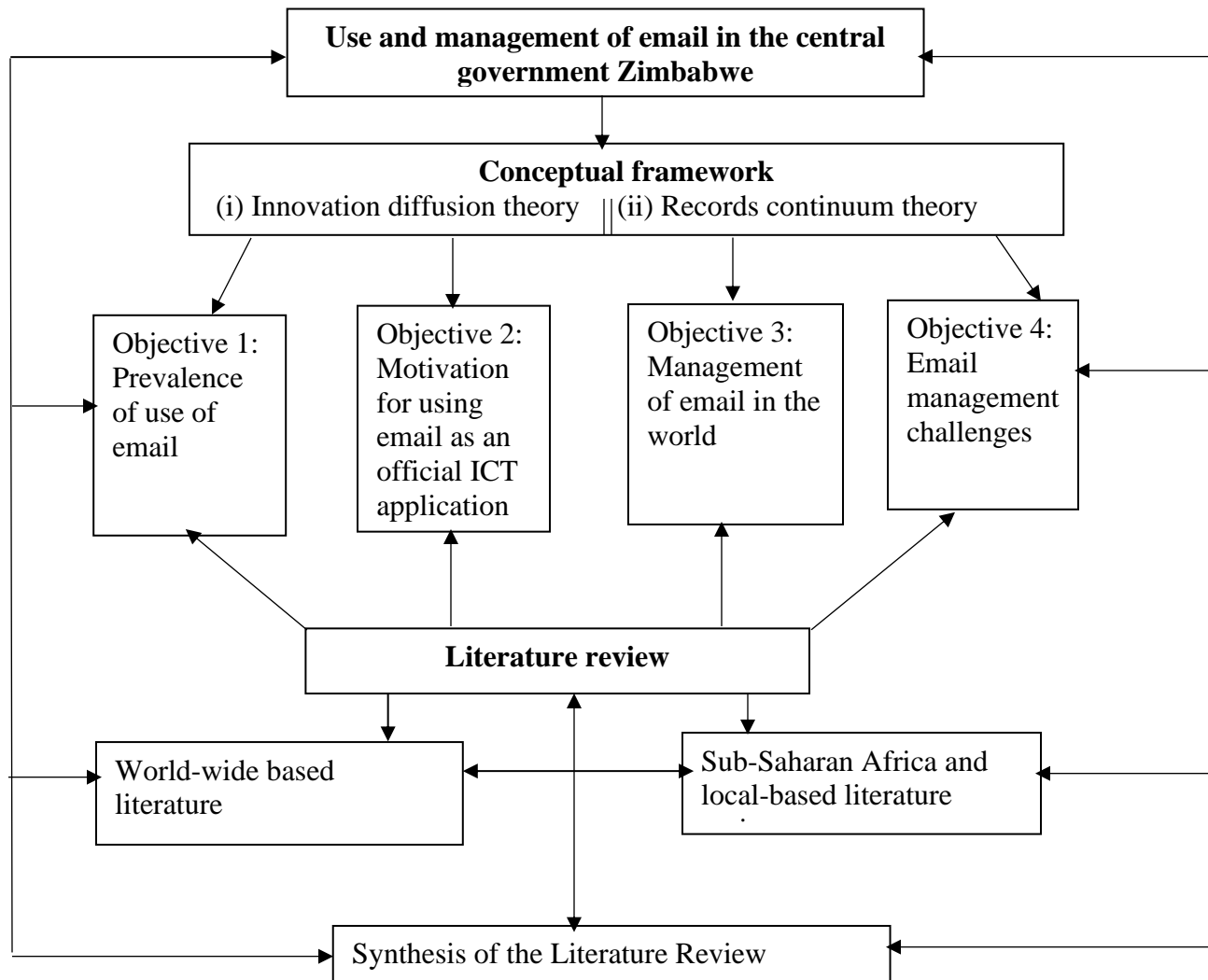


Fig. 2.3: Literature review map (synthesised by the researcher)

The literature review map shows how literature pertaining to the two aspects, that is, “use” and “management” of email were reviewed. A thematic based approach to literature review was used where four objectives were treated as the major sub-topics for literature review. The map shows that extant literature was reviewed from an international scene, where cases from overseas were referred to as well as those from the Sub-Saharan African region. This supports the notion that in outlining the flow of events, good literature review moves from the general to the specific (Fry 2016:1).

The two conceptual frameworks of the study address the four objectives of the study. Conceptual perspectives from the innovation diffusion theory focuses on the first two objectives, that is,

prevalence of use of email as well as motivation for using email. Conceptual perspectives from the records continuum theory focus on how email is managed inclusive of challenges faced in managing email. At the bottom of the map is “synthesis of literature review”. Literature review as well as the conceptual perspectives derived from the two theoretical frameworks are combined and coalesced with the study objectives to form a flowing, harmonious and congruent review of literature.

Following a thematic approach to literature review, this section explored extant literature from published and unpublished sources under the following major themes as derived from the four objectives of the study:

- (i) Prevalence of use of email
- (ii) Motivation for using email
- (iii) Email management strategies
- (iv) Email management challenges

2.5 Prevalence of use of email in the world

Scholars like Cloy (2007:3), Kupritz and Cowell (2011:55) and Sejane (2004: 100) hold that there is generally a marked increase in use of email in the corporate world today. Cloy (2007:3) maintains that the use of email has grown to the extent that many transactions and decisions that were previously recorded on paper, for example, letters and memoranda, are now solely communicated through email. Kupritz and Cowell (2011:55) claim that the development of the Internet has made email the most-widely-used communication technology over the past decade. Pignata, Lushington, Sloan and Buchanan (2015:159) opine that email has drastically changed the nature of communication and has supplanted other modes of communication like telephones and telegrams. DeKay (2010:109) avers that email is the commonest used form of written communication in the corporate world during the first 12 years of the 21st century. A study by Rakemane and Serema (2018:156) shows that email is the commonest and most popular electronic record in Botswana where its frequency of use relative to other electronic records stands at 38.6% while that of word-processed documents is 25%, databases 22.7%, electronic spreadsheets 4.5%, power point 4.5% and workflow systems 4.5%. Another study by Keakopa (2009:4) showed that in Botswana, email was the commonest and easiest way of communicating between public institutions and their stakeholders.

Statistical figures also show that there is a marked increase in email usage in business organisations. For example, in 2015, the typical business email user handled more than 122 emails daily, receiving 88 emails and sending 34 and was set to send and receive 126 emails by 2019. According to The Radicarti Group (2019:1) email usage estimates from 2015 to 2019 show that in 2015 there were nearly 2.6 billion email users in the world and the figure was likely to grow to 2.9 billion users, about one-third of the world population, by 2019. In 2015, the number of emails sent and received per day totaled over 205 billion (making an average of 122 emails per user per day) and the Radicarti Group (2019:1) estimated that the figure was likely to grow to 246 billion by the end of 2019. These statistics and others are shown in Table 2.1.

Table 2.1: Statistics on email received and sent in the world between 2015 and 2019

Statistic	2015	2016	2017	2018	2019
Average emails sent per person per day	34	33	32	31	30
Average emails received per person per day	88	90	92	94	96
Average number of legitimate emails received	76	76	76	76	77
Average number of spam emails received	12	14	16	18	19

(Adapted from: The Radicarti Group 2019)

Information Management (2016:17) also reveals that email now makes about 5% to 50% of organisations’ business records in the world today. Zimbabwe’s public sector is increasingly reliant on the use of email for official communication as part of their conduct of business and related official affairs (Sigauke, Nengomasha and Chabikwa (2016:14). A total of 74% of respondents in a study by Sigauke, Nengomasha and Chabikwa (2016:21) on email management in state universities in Zimbabwe revealed that at least 50% of all their emails were business records. This confirms Middaugh’s (2015:277) assertion that email is the reality of day-to-day business as well as Desai, Hart and Richards’ (2015:167) assertion that “email is a mandatory business tool for any organisation that wants to make it in the 21st century”. Middaugh (2015:277) in the Pew Internet and American Life Project Tracking Surveys of 2004 reveals that 93% of all Internet users have email. Similarly, Capra, Khanova and Ramdeen (2013:1029) hold that 94% of all online adults use email. These statistics help to show how email has become a common and an important ICT application in the world today.

2.6 Motivation for using email in the public sector

A number of studies, for example, by Desai, Hart and Richards (2015:320); Katuu and Ngoepe (2015:37); ISO 15489 (2016:8); MICT (2016:11); Okae and Gyasi (2013:26); Olatokun and Opesade (2008:19) and Sethunya (2015:11) show that use of email is motivated by many factors, amongst them being the rise of e-government and m-government, availability of ICT and records policies, a sound records regulatory policy and availability of adequate and modern infrastructure. These motivational factors are reviewed in turn below.

2.6.1 Electronic Government (e-government)

E-government is a programme that avails and makes use of ICTs in public service delivery to bring about effectiveness and efficiency amongst businesses, citizens, government agencies and employees (Sethunya 2015:11). E-government, with its variations e-governance, digital government and i-government reportedly originated in the 1990s. As Lennieux (2016:5) argues, e-government was introduced to improve government efficiency, service delivery and accountability. In the words of Richard Heeks, “if electronic government means anything, it means the use of IT to help deliver the goals of public sector reform” (Lennieux 2016:5).

E-government has four dimensions. The first one is Government to Citizens (G2C). Sethunya (2015:12) maintains that G2C is the main goal of e-government, where government strives to service its citizens through mobilisation of ICTs, for example, in booking air flights, applying for passports and in paying taxes. The second dimension is Government to Business (G2B). As Nkwe (2012:40) argues, G2B is whereby government uses ICTs to enhance business processes like sales and procurement of goods and services. The third dimension, Government to Government (G2G) involves sharing data and conducting electronic exchanges between government agencies at different levels (Nkwe 2012:40). The last dimension is Government to Employees (G2E) which involves government’s mobilisation of ICTs in servicing employees, for example, on issues of conditions of service (Mtingwi and Van Belle 2013:3).

E-government has spread tremendously because it offers the following benefits:

- (i) It narrows the digital divide between rural and urban areas (Mtingwi and Van Belle 2013:2).

- (ii) It improves access to information (Mtingwi and Van Belle 2013:2).
- (iii) It promotes transparency and accountability (Mtingwi and Van Belle 2013:2).
- (iv) It ensures quality service delivery to citizens, businesses, government agencies and employees (Nkwe 2012:41).
- (v) It enables citizens and businesses to get reliable and timely information and thus promoting effectiveness and efficiency within the public sector (Sethunya 2015:13).
- (vi) It fosters economic development at both local and national levels (Sethunya 2015:13).

As all the four dimensions are implemented, there is a high usage of email, supporting the idea that e-government has greatly boosted the rise of email within the public sector.

2.6.2 Mobile Government (M-Government)

M-government is the use of mobile technologies, for example, cellular phones, smart phones, tablets and laptops, to provide information to citizens, businesses, government agencies and employees (Mtingwi and Van Belle 2013:2). M-government is a variation of e-government, but it does not make use of fixed ICTs as e-government does. At the same time, m-government is a subset of e-government, which in turn is a subset of government as illustrated in Figure 2.3.

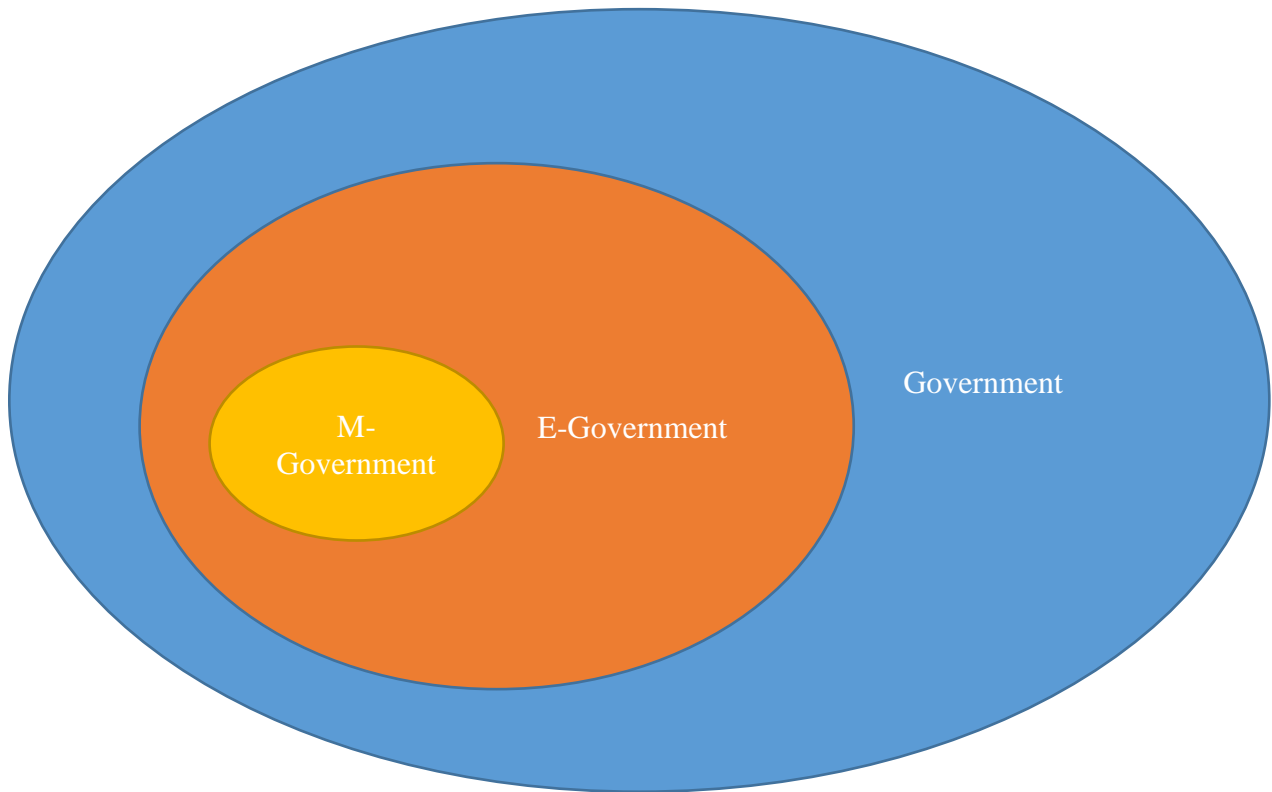


Fig. 2.4: M-government as a subset of e-government and government (synthesised by the researcher)

M-government has risen to prominence in Sub-Saharan Africa where there is poor fixed ICT infrastructure like telephones, optic fibre and radio stations. This is supported by scholars like Okae and Gyasi (2013:26) who opine that m-government has become popular in Africa since the greater part of the population in the continent lives in rural areas where there are fewer fixed ICTs. They further express that m-government is very popular in countries like Nigeria, Ghana and Cote d' Ivorie where mobile subscriptions have doubled between 2007 and 2011. Many people are able to access the Internet using mobile phones. Okae and Gyasi (2013:26) hold that by 2013, Africa had over 600 million mobile phones, making such gadgets the principal means of going online. This means many people can send and receive email via mobile technologies and thus greatly boost use of email even in remote places of the continent where there are fewer fixed ICTs.

The following are advantages of m-government as advanced by Mtingwi and Van Belle (2013:2):

- (i) Mobile technologies are relatively cheaper than fixed technologies, making it possible for many to afford owning such gadgets.
- (ii) This in turn makes it possible for many people to be able to access the Internet.
- (iii) It empowers rural and remote communities to access government information, thus improving livelihoods.

2.6.3 Regulatory framework for electronic records

The presence of an information regulatory body as well as a records legal framework also help to enhance use of email within the public sector. This can be seen by reference to the two cases of Malawi and Zimbabwe. In Malawi, Mtingwi and Van Belle (2013:9) note that IT issues are regulated by the Department of Information Systems and Technology Management Services. At the same time, e-government issues in the country are overseen by the Office of the President and Cabinet, while communication is regulated by the Malawi Communication Regulatory Authority. In Zimbabwe, IT issues fall under the Ministry of ICT and Cyber Security while e-government issues fall under the Department of Modernisation in the Office of the President and Cabinet. Communication issues in Zimbabwe are regulated by the Post and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ). The mere presence of communication and IT regulatory bodies in these countries point to some organised way in which ICT issues, including email, are handled.

Some countries like South Africa have in their national archival legislation clauses which cater for the management of electronic records. As Katuu and Ngoepe (2015:37) observe, the National Archives and Records Service Act (1996) of South Africa covers the management of electronic records, which includes email. The regulatory framework for the management of electronic records is rather weak in many countries in Sub-Saharan Africa. Notable examples are the National Archives Act (1986) in Zimbabwe (Mutsagondo and Chaterera 2016:254), the National Archives and Records Service Act in Botswana (Keakopa 2009:9) and the National Archives Act of Namibia (Nengomasha 2009:201). In the three cases referred to above, the national archival laws seem to be more skewed in favour of paper records than electronic records. In such scenarios, the use and management of email is restricted and rather in disarray.

Some countries in Sub-Saharan Africa have also moved to make electronic records admissible as evidence in courts of law. One of them is Botswana, where electronic records are admissible in legal proceedings in line with the provisions of the Electronic Records (Evidence) Act of 2014 (Rakemane and Serema 2018:152). The Act also deals with issues of cybercrime, electronic commerce and electronic signatures. In South Africa too, electronic records, including email, are admissible as evidence in a court of law. This is catered for by the Electronic Communications and Transactions Act which deals with, among other issues;

- (i) Official use of electronic records
- (ii) Use of digital signatures for authentication and confidentiality
- (iii) Promoting legal certainty of electronic records (Katuu and Ngoepe 2015:137; Keakopa 2009:6).

2.6.4 Policy framework for electronic records

According to ISO 15489 (2016:8), there is need for the development and implementation of records policies regardless of their format. Where electronic records policies exist, the management of email is greatly promoted. For example, in South Africa (Katuu and Ngoepe 2015:137); Britain (Keakopa 2009:9); the United States of America (Florance, Gulbranson and Sayre 2013:1) and Australia (Katuu 2012:463), electronic records policies exist and they have helped a lot to enhance the management of electronic records, including email. Many countries in Sub-Saharan Africa do not have national electronic records policies, implying there is little or no guidance on how such records should be managed. Some of these countries are Zimbabwe (Mutsagondo 2017:131); Uganda (Rakemane and Serema 2018:159); Namibia (Keakopa 2009:5) and Botswana (Keakopa 2009:4).

2.6.5 ICT policy

MICT (2016:11) advances that “ICT” is a term that loosely refers to a number of communication applications like telephones, computers, computer software, computer hardware and audio-visual systems which are used to access, store, transmit and manipulate information. “Policy” refers to guidelines on how something should be done. Thus, ICT policy is a guide on how elements that comprise ICT applications should be processed or operated in a bid to achieve economy, efficiency

and effectiveness. The availability of ICT policies in different African countries has boosted the use of email since the issue of email is one aspect that can hardly be left out in any viable ICT policy.

Botswana and Zimbabwe are some of the countries in Sub-Saharan Africa which have ICT policies that also cater for the management of email. Sethunya (2015:13) notes that in Botswana, the ICT policy, better known as “Maitlamo” was devised in 2007. The policy outlined 100 programmes and projects that were supposed to be embarked upon for the benefit of all segments of the Botswana society through the deployment of ICTs in government. Zimbabwe had her first ICT policy in 2007 and the second one in 2016 (MICT 2016:11). Both policies, which are rather complementary, have greatly shaped the ICT environment as they have provided guidelines on the following;

- (i) Use and sharing of ICT infrastructure
- (ii) Human capital requirements and opportunities
- (iii) E-government issues (National ICT policy 2012:21).

These and other guidelines do promote, in varying degrees, the use of email within the public sector.

2.6.6 ICT infrastructure

For email to thrive in any country, there is need for proper and widely-distributed ICT infrastructure. MICT (2016:21) defines ICT infrastructure as the physical structures, hardware and software, bandwidth, networks and fibre optic cabling which enable connectivity and usage of information and communication. MICT (2016:21) further equates ICT infrastructure to “the artery upon which all information is communicated”. Due to different levels of industrialisation, African countries differ in levels of ICT infrastructure. Olatokun and Opesade (2008:19) ranks African countries into three categories in terms of ICT infrastructure. These are:

- (i) Category I: Low ICT- infrastructure countries, for example, Togo and Cote d’Ivoire.
- (ii) Category II: Fairly good ICT infrastructure, for example, Kenya and Zimbabwe.
- (iii) Category III: Very good ICT infrastructure, for example, Nigeria and South Africa.

The following ICT infrastructure is reviewed in some detail below; that is, computers, the Internet, and mobile devices.

2.6.6.1 Computers

Email has been greatly boosted by the proliferation of computers on the African continent. As observed by Mutsagndo (2017:83), it is rather a norm that officers who have online computers or access to them create electronic records as they please. Email is one such type of electronic records. Olatokun and Opesade (2008:20) hold that there has been a massive penetration of computers into Africa and they have come up with three categories of such penetration as given below:

- (i) Low- medium level personal computer penetration: Includes countries like Namibia, Togo and Senegal.
- (ii) Medium level: Includes countries like Botswana and South Africa.
- (iii) Medium- high level: Includes Mauritius, Nigeria and Egypt.

2.6.6.2 The Internet

Okae and Gyasi (2013:24) note that Africa is one of the fastest growing markets for telecommunications and Internet connectivity. The growth of the Internet in Africa can be seen by a sharp rise in the number of *netizens* (Internet users). In 2012, Africa had 167 million *netizens* (up from 4.5 million in 2001), in a continent with a population of 1 073 380 925 (Okae and Gyasi 2013:24). This means 15.6% of the African population used the Internet then.

Increasing online connectivity implied increasing usage of Internet applications including email. Remarkable cases of Internet connectivity in Africa includes Morocco, Egypt and Nigeria (Okae and Gyasi 2013:28). Commenting on such developments, Okae and Gyasi (2013:28) had this to say;

The growth of the Internet in Africa shows no sign of slowing down. Africa is a virgin territory much as the information super highway is concerned, and one can only see a major technological revolution overwhelming the continent in the next 10 years.

2.6.6.3 Mobile devices

Mobile technology has drastically grown due to inadequacies in fixed technologies, especially in remote and rural areas of developing countries. One such mobile technology which has greatly promoted access to the Internet and Internet applications like email, is mobile or cellular phones (Okae and Gyasi 2013:26). Statistics show that in 2008, there were four billion cellular phones in a world with 6.7 billion people, representing a 78% subscription rate (Mtingwi and Van Belle 2013:8). They

further hold that with such a subscription rate, a quarter of the world could possibly access the Internet. A high penetration of mobile devices has been recorded in African countries like Ghana, Nigeria and Cote d'Ivoire (Mtingwi and Van Belle 2013:8). Okae and Gyasi (2013:26) hold that the mobile phone penetration in these countries doubled between 2007 and 2011. The rise and impact of mobile technologies has been discussed above in Section 2.6.2 (M-government).

2.6.7 Skills and capacity development

The development of skills and competencies within the public sector has also motivated many public sector organisations to use email as an ICT application. ISO 15489 (2016:10) expresses that people who create, capture and manage records, in whatever format, should be competent to perform records management duties as assigned or expected. It also maintains that such competencies should be regularly evaluated from time to time in line with changing trends within the field of records and information management. ICT skills, inclusive of computer and online skills are now commonplace and this has greatly boosted use of email.

Olatokun and Opesade (2008:20) categorise ICT skills in Africa into the following four groups:

- (i) High level skilled countries - for example, Botswana, Cameroon, Mauritania, Tanzania and Nigeria.
- (ii) Medium level skilled countries – for example, South Africa and Morocco.
- (iii) Low to medium level skilled countries - for example, Mauritius.
- (iv) Low level skilled countries - for example, Guinea- Bissau.

Very low electronic records skills have been noted in countries like Namibia (Nengomasha 2009:179); Lesotho (Sejane 2004:48) and Uganda (Luyombya 2010:118). Where electronic records management skills are lacking, the use and management of email is uncontrolled and rather haphazardly executed.

2.6.8 Generic advantages and limitations of email

Use of email as an ICT tool has also been greatly enhanced by the advantages email has over other and traditional means of communication like letters, telephones and face-to-face communication.

Email is easy to use (Desai, Hart and Richards 2015:320) and it can be used from a variety of devices like computers and smart phones. Email is also relatively cheaper than traditional phone calls and letters (Ramsay and Renaud 2012:587), it is fast to send and receive (McMurtry 2014:31; Ramsay and Renaud 2012:587) and it leaves a paper trail. This implies that in addition to informational value, email has evidential value.

Nonetheless, despite its substantive use, email has some shortcomings. Firstly, is the challenge of information overload (McMurtry 2014:31; Ramsay and Renaud 2012:589) which Perry (2017:25) calls “one of life’s little irritations”. Secondly, email lacks inter-personal communication as opposed to other communication media like face-to-face communication and telephone where there is personal or physical contact of some sort. Thirdly, in using email, there is no guarantee that a message sent is read by its intended recipient (Barbour 2016:20). Fourthly, email is a major distraction and ‘productivity killer’ (Alberts 2013:1). Holding the same view are Kupritz and Cowell (2011:56) who hold that an office worker can spend as much as a quarter of his or her working day reacting to emails, which can be a sheer waste of time, unless he or she works in a customer support area of that organisation. SRO Guideline (2009:14) notes that although email represents the dominant electronic message format in business, there are flexible emerging technologies with potential to surpass email, for example, short message service (SMS) and multimedia messaging service (MMS). Other challenges of using email have to do with computer viruses and computer crimes like phishing and spam (Ghusinga 2013:42). Nonetheless, despite such challenges, email is currently used by many public sector organisations both as a communication media as well as an information device.

2.7 Management of email in the world

Irrespective of whether the email records are temporary and required to be retained for a short period or of greater value with long term or permanent retention periods, all email records must be managed appropriately... Emails that are [State] records should be captured in the organisation’s recordkeeping system as soon as they are sent or received or as soon as possible thereafter (SRO Guideline 2009:11- 12).

The quote above highlights the importance of creating, capturing, retaining and managing email records. According to Harvard Records Management Services (2012:1), like any other type of record, email records should be managed to ensure that they are secure, accurate, readily available when needed and appropriately disposed when they are no longer needed. SRO Guideline (2009:6) maintains that organisations must ensure that policies and procedures are in place to control the creation, editing, capture, maintenance, storage and authorised disposal of business email records.

2.7.1 What managing email entails

According to Information and Records Guidance 5 (2001:1), the management of email encompasses deleting emails one does not need, sorting those that one holds and saving those that one wants to keep. Managing can be done by indexing email records, storing them correctly, retaining them for as long as they are required and destroying them when they are no longer needed, deleting spam and unwanted email, emptying deleted folders regularly, creating sub-folders to sort email and setting retention periods for different types of email (Cloy 2007:3; Information and Records Guidance 5 2001:1).

Before classification, email records should be given appropriate titles. Cloy (2007:11) holds that the title should aid identification and retrieval and that the following conventions can be used to aid good titling:

- (i) The title should reflect the contents of the message.
- (ii) The title should provide sufficient information to suit content.
- (iii) The title should use natural language and spell words in full.
- (iv) The title should not have prefixes like “Re” and “Fw” since they do not provide information on the message content (Cloy 2007:11).

2.7.2 Reasons for managing email

The following are reasons why email should be managed:

- (i) Email accumulates quickly and fills in-boxes, which makes it difficult for an officer to see valuable email from less valuable email. As Kavanaugh (2016:4) puts it, “as email has become ubiquitous in today’s society, the need to manage and archive it properly is important for businesses, organisations and governments”.
- (ii) Email enhances easy access to information. It enables organisations to comply with regulatory requirements for records and information management.
- (iii) It ensures that email does not lose its authenticity.
- (iv) It ensures information security. According to Cloud Security Alliance (2012:8), due to its substantive use in business, email has been the target of many attacks.
- (v) It ensures information is not lost. According to Kavanaugh (2016:4), in 1992 the Congressional Research Service in the United States estimated that 96% of federal information begins on a computer and this statistic has since increased 20 years later in 2012.
- (vi) Managing email by deleting some messages helps create space on the email system and on servers for new and/ or more important messages.
- (vii) Managing email helps organisations to control information, thus ensuring who accesses what information and who does not (Cloud Security Alliance 2012:8; Information and Records Guidance 5 2001:1).
- (viii) Email also has to be managed and preserved for posterity. As Kavanaugh (2016:4) argues, failure to manage email directly contributes to lack of resources for future researchers and scholars.

2.7.3 Officers responsible for managing email

Responsibility for the management of electronic records in an organisation is rather complicated and different as compared to that of paper records. In the case of paper records, officers in the records section or department are responsible for managing records of their organisation. However, in the case of electronic records, for example, email, records may be sent directly to a recipient who can act on the message and archive or destroy it without the knowledge and involvement of records officers

of the organisation. This section reviews common practices in different parts of the world as regards the responsibility for the management of electronic records in general and email in particular.

ISO 15489-1 (2016:8) states that responsibility for the creation, capture and management of records should be clearly defined promulgated and assigned. The standard spells out that records professionals should manage records of the organisation and train other records users. At the same time, ISO 15489 notes that other professionals like IT officers, business managers and legal professionals also bear the burden of managing records within their sphere of operation. In addition, senior managers who are responsible for ensuring support for the development and implementation of records management policies together with systems administrators also have the responsibility for managing records. Thus, it is true that management of records, especially in electronic environments, is a shared responsibility. SRO Guideline (2009:8,15) like ISO 15489 holds that effective management of email is a shared responsibility and all members of staff including Chief Executive Officers, records managers, Chief Information Officers, information technology officers, system administrators and individual email users should play a pivotal role in capturing email records as they are created, received and used. Thus, the source stresses that management of email must be incorporated into an organisation's staff induction and training policy to ensure compliance by all members of staff.

Some scholars have proposed guidelines outlining who is responsible for managing email and at what stage. Cloy (2007:9) holds that for internal email, the sender or initiator is responsible for keeping the message that he or she sends. Internal recipients are responsible for keeping a copy of the email they receive. He further propounds that for external email, the sender is responsible for keeping a copy of the message. Receivers of external email are also responsible for keeping the message. However, in cases where an external message is sent to multiple recipients in an organisation, the person responsible for the area of work as well as the records staff are responsible for keeping the message. Nevertheless, organisation-wide management of such records can be done by appointed staff. In North Carolina, United States of America, email records are managed by government records analysts who write records retention schedules and identify records of historical value (Brenneman 2017:36). Pignata, Lushington, Sloan and Buchanan (2015:159) hold that staff should be trained in email management strategies for there to be improved productivity and well-being.

In Zimbabwe, Mutsagondo and Tsvuura (2017:192) note that IT staff in the Midlands province's public departments had an edge over records officers in the management of email. The same scenario was seen in Botswana where Rakemane and Serema (2018:159) reveal that during the development of an email policy at the Companies and Intellectual Property Authority, there was a heated debate on whether email was supposed to be managed by the records management division or the IT department. Thus, the responsibility for managing email and the level of authority for such action is subject to debate and deserving of further research.

2.7.4 Email management strategies

The first step towards managing email involves being able to deduce what an email record is and what an email non-record is. A study by Sigauke, Nengomasha and Chabikwa (2016:14) on state universities in Zimbabwe revealed that public officers had difficulties in identifying email records from email non-records. Officials used different criteria to identify email records from non-records. In giving guidelines to identify email records from non-records, Sigauke, Nengomasha and Chabikwa (2016:14) hold that business emails are records with significant transactional, reference and decision making value and these records deserve to be captured, retained and managed. They also add to the above records emails that are generated and received in the course of official business of an organisation. According to Sigauke, Nengomasha and Chabikwa (2016:21) and University of Salford Manchester (nd:3), the following emails constitute non-records and they may have to be deleted:

- (i) Personal copies of in-house publications and policies
- (ii) Meeting requests, updates and responses
- (iii) Internal business decision
- (iv) Announcements
- (v) CC, BCC and For Your Information copies
- (vi) Working papers and drafts once the official document is complete
- (vii) Previous emails in a conversation string
- (viii) Committee documents, unless one is the secretary

- (ix) Spam emails
- (x) Graymail, that is, newsletters or notifications that an email user may have signed up for at one point, but no longer wishes to receive
- (xi) Chain emails
- (xii) Redundant emails
- (xiii) Junk emails
- (xiv) Social emails
- (xv) Emails that required no further action from the recipients
- (xvi) Emails with neither relation to nor value for both current and future business of the organisation
- (xvii) Personal emails

Sigauke, Nengomasha and Chabikwa (2016:21) and University of Salford Manchester (nd:3) hold that the following constitute email records which should be retained as business records:

- (i) Records about decisions or formulation and execution of policy.
- (ii) Official business correspondence.
- (iii) Records with information on which decisions are based.
- (iv) Records which document why certain courses of action are taken or need to be taken.
- (v) Records about the establishment, negotiation and maintenance of business relationships or contractual arrangements.
- (vi) Records that demonstrate the initiation, authorisation or completion of a business transaction.
- (vii) Records that satisfy legal and/or compliance purposes.

Extant literature has shown that there are many strategies one can use in managing email. Reviewed in this section are the following; in-box management, classification, use of official email accounts for official business, use of electronic signatures, managing email metadata, managing email security and privacy, appraisal of email, managing email whilst out of office, managing email of leavers, deletion of ephemeral and/ or time expired email and preservation of email of continuing value.

2.7.4.1 In-box management

Cloy (2007:7) notes that many officers who receive large amounts of email find it difficult to manage their inbox. He therefore proposes the following as a guide to deal with this.

- (i) Officers should set aside fixed periods of time to read and sort their messages.
- (ii) Officers should flag certain messages so that they can pay attention to them.
- (iii) Officers should use folders (which mirror paper and electronic file and folder structures) to group related messages together.
- (iv) Officers should move important email messages out of the email system.
- (v) Officers should promptly delete low value records as well as non-records.
- (vi) Officers should use outlook functionality to set up rules, for example, sending certain messages to certain addresses or folders.

Email can be managed by managing the inbox, where efforts should be made to keep the inbox clean, which makes it possible for one to easily see important emails from less important ones (McMurtry 2014:33). Maintaining a clean inbox can be done through triaging, that is, by doing a quick analysis to see who is sending the email and what the email is about (Barbour 2016:20), by regularly checking the inbox and responding to emails, as well as by making use of colour codes to identify very urgent, moderately urgent, less urgent, very important, important and less important emails (McMurtry 2014:33).

2.7.4.2 Email classification, categorisation and auto-categorisation

Email records can be managed by classifying them and then categorising them manually or electronically. Under normal circumstances, there should a single classification for both paper and

electronic records (Kavanaugh (2016:4). Email records should be arranged in some order to enhance retrievability and access. This can be done through grouping emails by subject or by business function (SRO Guideline 2009:11). Email records should be managed in the same manner as their paper records counterparts (Capra, Khanova and Ramdeen 2013:1032; Kalman and Ravid 2015:2041). This includes their classification and filing. Capra, Khanova and Ramdeen (2013:1032) categorise email users into three groups, that is, non-filers or pilers (those who never file), frequent filers (those who file on a daily basis) and spring filers or spring cleaners (those who file once in one to three months). They maintain that people who do not file their email have large in-boxes of average 3094 items while spring cleaners have an average of 1492 items, with frequent filers having an average of 43 items in their inboxes. According to Kalman and Ravid (2015:2041) classification and filing of emails can be done in the same manner as that of paper records.

After a record's classification is known, the record has to be categorised either manually or electronically. Officers (both records and non-records officers) within the organisation should be trained on how to identify records from non-records and how and where to categorise them. According to Florance, Gulbranson and Sayre (2013:10), NARA of the United States encourages public agencies to use auto-categorisation, where an email is automatically categorised upon receipt. In the United States, auto-categorisation has been successfully used by the Department of Interior (Florance, Gulbranson and Sayre 2013:10). Kavanaugh (2016:4) gives two examples of auto-categorisation technology, namely the Email Mining Toolkit (EMT) and ePADD (email: Process, Appraise, Discover, and Deliver) which are used by some public agencies in the United States. He holds that EMT can compute the behaviour profiles or modules of users' email accounts and automatically sorts email into pre-determined categories through mapping users who are often communicated with (Kavanaugh 2016:4). Likewise, ePADD, which was developed by the Stanford University Library has the potential to sort email automatically into pre-determined categories.

2.7.4.3 Use of official email accounts for official business

Cloy (2007:13) advises that firms should use organisational and generic email addresses, which reflect business groupings' functions, as opposed to using personal email addresses. The following are examples of generic email addresses:

- (i) economics@stir.ac.uk

- (ii) records.management@stir.ac.uk
- (iii) academic.registrar@stir.ac.uk (Cloy 2007:13).

These email addresses reflect the economics, records and academic groupings of an organisation called “Stir” respectively. Advantages of generic email addresses are that there is a great probability that a message sent is seen and actioned and that there are no complications when one member of staff leaves the organisation, as others in the department still see and access the email message. Kavanaugh (2016:28) holds that the majority of agencies in the United States observe the 2014 amendment to the Federal Records Act which discourages use of personal email accounts for official business. The Act states that personal email accounts can be used in rare cases but if this is done, one needs to send a copy of the email to the official email account within a period of 20 days.

One of the celebrated cases where failure to use the official email address became a talking point, was Hillary Rhodam Clinton’s *emailgate* of 2015 in the United States of America. Clinton was the United States’ Secretary of State between 2009 and 2013 and was responsible for the United States’ foreign policy (Dowd 2016:7). In September 2012, the American Consulate in Benghazi in Libya was attacked by terrorists. A House Select Committee established in 2014 to investigate the attack recommended that foreign communication with Benghazi, including that of Clinton, be forwarded to security authorities as part of investigations. The Wall Street Journal (2015) noted that Clinton only forwarded eight Benghazi-related emails from her official email account and this raised a lot of questions. According to Csernák (2016:4) as well as Ferrechio (2015) Clinton was ordered to release deleted emails from her personal account and in November 2014, a massive 30 000 emails with 55 000 pages were retrieved, hundreds of them being work-related emails. On 2 March 2015, The New York Times reported that Clinton used her personal email account for official business, inclusive of top secret communication (Csernák 2016:1). She received widespread criticism for failing to use her official email account for official business, which posed a serious security threat to the United States (Dilanian 2016:7). Clinton later apologised to the people of America for the mishap, but the emailgate negatively affected her presidential bid in 2015 (Dowd 2016:7; Dilanian 2016:8). Besides Hillary Clinton, other Secretaries of State in the United States, namely, Albright and Powell had shortcomings in the manner they used and managed official email. Albright did not use an email account during her time as Secretary of State between 1997 and 2001. Powell used personal email

for government business between 2001 and 2005 and neither saved nor printed any of his emails (Kavanaugh 2016:28).

2.7.4.4 Use of electronic signatures

It is very difficult for a person to ascertain who he or she is corresponding with using email. A lot of people have been duped after they were misled into believing they were corresponding with the “right people”. Like in the paper records environment, a signature is important to verify and authenticate the source of an email. In the electronic environment, these signatures are referred to as “electronic signatures” or “digital signatures”. Agbede (2018:10) defines an electronic signature as a digital identity used to reveal one’s identity in an electronic environment. An electronic signature should not be confused with a scanned hard copy signature. It comprises of, among other things, one’s name, official work title, name of organisation, email address, physical address, postal address, national identity number or passport number (Agbede 2018:10). A number of countries, for example, Germany, China and the United States of America, have adopted the use of electronic signatures in online transactions, including email (Niranjan, Seetharaman, Jadhav and Banerjee 2016:217). These countries have moved a step further to give electronic signatures the same legal status and validity as handwritten signatures. Koning (2019:2) claims that once an electronic signature is appended, a document becomes legal binding.

Electronic signatures have become common in email and they serve the following purposes:

- (i) They promote confidence amongst the corresponding parties (Koning 2019:1; Niranjan, Seetharaman, Jadhav and Banerjee 2016:216). The presence of an electronic signature ensures both the sender and receiver gets the confidence they are corresponding with the right person or organisation.
- (ii) They authenticate a document or an email (Agbede 2018:13). To authenticate is to give assurance that one is corresponding with the person or organisation as purported.
- (iii) They ensure integrity of data (Niranjan, Seetharaman, Jadhav and Banerjee 2016:216). Commenting on the aspect of integrity, Refish, Jabbar, Hussain, Kadhim, Yassin, Hussain and Waley (2016:452) remark “It (electronic signature) is one of the most accurate identity verification systems”. Ensuring integrity implies giving assurance that the contents of a

message received are exactly as sent by the sender (Niranjan, Seetharaman, Jadhav and Banerjee 2016:217).

Nevertheless, electronic signatures also have limitations as advanced by scholars like Chou, Shalvi and Van Gelde. They note that electronic transactions transcend national boundaries and so what is legal binding in the sender's country may not be legal binding in the receiver's country (Niranjan, Seetharaman, Jadhav and Banerjee 2016:217). This is especially true if the corresponding parties hail from a country with electronic signature laws while the other has none. Chou also does not seem to see how the mere presence of an electronic signature increases honesty (Koning 2019:2). He argues that an electronic signature can be appended whilst the record is distorted or misleading. Despite the few limitations, electronic signatures have enhanced the element of trust, confidence and integrity in electronic and online transactions, including email.

2.7.4.5 Managing email metadata

Metadata refers to data that describes the context, content and structure of records (Ministry of Economic Affairs and Communication (MEAC) 2013:4). It is data about data, for example, in the context of an email, the name of the sender, time the message was sent and the date the message was sent. Metadata is one aspect of proper records management which has to be catered for when one manages email. For example, when email is preserved, metadata has to be preserved as well alongside the main message, which is the content of the record. Metadata can be structured, meaning to say, the data about data is standardised, where it is made in a certain format (ISO 23081-1:2). Metadata can also be semi-structured, meaning to say, some of the data is standardised while some is not.

Metadata is important for the following reasons:

- (i) It identifies the record (MEAC 2013:3; ISO 23081-1 2017:3). The "subject" of a record and the "title" are examples of metadata that can be used to identify a record.
- (ii) It describes a record in relation with other records (MEAC 2013:3; ISO 23081-1 2017:3). Volume number indicated at the top corner shows that there are other volumes on the same subject matter.

- (iii) It authenticates records (MEAC 2013:3; ISO 23081-1 2017: 3). The name of the sender and his or her electronic signature can be examples of metadata which proves the email is true or genuine.
- (iv) It enables the archiving of records (MEAC 2013:3). A record can be classified by its title from where it can be filed and archived accordingly.
- (v) It helps to locate and retrieve records (Guenther and Radebaugh 2011:1; ISO 23081-1 2017:3). The title, reference number and folio are some of the metadata that can be used to locate and retrieve archived email.
- (vi) It protects records as evidence (ISO 23081-1 2017:3). One characteristic of records that records managers always have to ensure is integrity, that is, a state of being whole, full and honest. The name of the sender, time, date and an electronic signature ensures integrity.
- (vii) It enhances proper and successful migration of records (ISO 23081-1 2017:3). When records are moved from one medium or format to another, records managers have to ensure that metadata is retained and this ensures the records retains its integrity.
- (viii) It helps people or readers to easily understand a record. The title of an email message is one example of metadata that helps people or readers to easily understand the content of an email.

Guenther and Radebaugh (2011:1) categorise metadata into the following:

- (i) Descriptive metadata, where metadata describes the content of the record. Examples of descriptive metadata are title, abstract, name of author and key words.
- (ii) Structural metadata, for example, the table of contents which shows how the entire record is structured.
- (iii) Administrative metadata, for example, date of creation, file type and access issues.
- (iv) Rights management metadata, for example, details about intellectual property rights.
- (v) Preservation metadata, for example, information about how to archive and preserve a record.

2.7.4.6 Managing email security and privacy

There is need to manage the privacy and security of email in order to enhance the record's confidentiality, authenticity and integrity. Choudhary and Ghusinga (2013:42) and Dashora (2011:240) express that email should be managed to prevent the following threats, which collectively are commonly referred to as "cybercrime":

- (i) Message blocking
- (ii) Message modification
- (iii) Message forgery
- (iv) Origin modification
- (v) Denial of service
- (vi) Message interception
- (vii) Viruses, Trojan horses and worms
- (viii) Hacking
- (ix) Theft of information
- (x) Email bombing
- (xi) Email spoofing
- (xii) Email spam
- (xiii) Email harassment

Dashora (2011:240) defines cybercrime as an illegal activity committed on the Internet with the computer as a tool or with the computer as a victim. Whichever way, a crime is committed and it is the duty of records professionals to safeguard email so that the ICT application truly serves its intended purpose. Below is an outline of some forms of cybercrime and measures that can be instituted to combat such crime.

2.7.4.6.1 Hacking

Hacking is whereby cyber criminals attack the computer's information and other resources (Dashora 2011:241). This includes issues of unauthorised access to computer systems or computer networks. Broadhurst, Grabosky, Alazab and Chon (2014:1) express that hacking can reach alarming proportions as they cite the case of a 25 year-old, Andrew Auerheimer, who fraudulently obtained email addresses of 114 000 iPad users in the United States of America, including those of politicians

and celebrities after hacking into the website of AT and T, a telecommunications company. Hacking can be prevented by an individual desisting from giving their personal details to strangers and suspicious organisations (Choudhary and Gusinga 2013:45). It is from divulging personal information like passwords and personal identity numbers that criminals can break into someone's email account and engage in criminal activities. Firewalls can also be used to prevent unauthorised access into one's system or account. Khan (2012:11) defines a firewall as a programme that screens incoming traffic on the Internet or on computer networks. The 'wall' prevents unwanted material reaching one's computer system and corrupting it. It is thus advisable that individuals and organisations install such a programme on their online computers to combat hacking.

2.7.4.6.2 Theft of information

After breaking into someone's email account, cyber criminals can steal information. Dashora (2011:24) claims that theft of electronic information is common on computer hard drives, email and storage devices like floppy disks and flash disks. Theft of electronic information can be prevented by encrypting information as one sends it out. Using a technique called 'cryptography', an electronic message can be transformed into unreadable characters or into cyphered text by the sender and can only be decrypted by the receiver using a pre-designed key back into readable form (Babilo, Gerardo and Byun (2019:1). This means even if a cybercriminal breaks into someone's email account, he or she cannot read the message and thus cannot steal it for any meaningful purpose as the main message including metadata are unreadable. Theft of data also includes phishing. Choudhary and Gusinga (2013:44) define phishing as theft of data which is perpetrated in order to break into someone's system, for example, a bank account. It is normally seen where people are asked to provide personal details as a means of updating their personal data, for example, on Yahoo and in some universities. Records professionals and email users should not entertain unknown people or organisations as the sources of such messages are criminal and scandalous.

2.7.4.6.3 Email spoofing

Spoofing is whereby a sender misrepresents the origin of an email. Choudhary and Gusinga (2013:45) opine that spoofing involves the forgery of an email header whereby the header is made to appear genuine yet it is from an imposter. If someone positively responds to a spoofed email, he or she provides personal data, for example, personal identity numbers and passwords, and his or her account

is rendered vulnerable to cyber-attacks. In addition to desisting from entertaining email from strangers and suspicious organisations, one should also scrutinise the source of the email by looking at the electronic signature of the sender. This includes the sender's organisation, alternative email, physical address and position within the organisation. The aspect of electronic signatures has been tackled on Section 2.7.4.4 above.

2.7.4.6.4 Email spam

Spam refers to junk email, or unsolicited email or bulk email which is normally unwanted and annoying, though not necessarily dangerous, to the receiver (Dashora 2011:246). Sending of large volumes of email onto one's account can result in 'email bombing', which can crash the receiver's email server. There are also higher chances that bulky email carries with it viruses that can harm the computer system. The issue of computer viruses is handled in greater detail on section 2.7.4.6.5 below. Choudhary and Ghusinga (2013:44) warn email users from opening email from unknown sources as well as opening them without first scanning them. Balilo, Gerardo and Byun (2019:1) also advise *netizens* to make use of email spam filters. They note that some email systems like Outlook have spam filters which can pick and set aside email designated as 'spam' which helps the receiver deal with the spam menace. Balilo, Gerardo and Byun (2019:1) see the use of spam filters as a necessity as they point out that 70% of email sent globally is 'spam'.

2.7.4.6.5 Computer viruses

Wanjala and Jacob (2017:2) define a computer virus as an executable programme that can replicate itself and spread rapidly throughout the computer system and affects files, documents and programmes, altering their normal operations in the process. Related to the virus menace are Trojan horses and worms, which also have the potential to harm the computer system, including the ability to crash it. According to Khan (2012:10), the following are symptoms of viral infection on the computer:

- (i) The computer runs very slowly.
- (ii) The computer stops and restarts frequently.
- (iii) The computer crashes and may restart after a few minutes or it may crash and cease to operate.
- (iv) Disks drives may become inaccessible.

- (v) Items may not print correctly.
- (vi) Menu dialogue boxes appear in distorted form.
- (vii) New icons appear on the desk top.
- (viii) There are frequent out of memory messages on the computer.

One can deal with computer viruses by avoiding visiting suspicious websites (for example, some movies, music and pornography sites), desisting from opening attachments without first scanning them as well as by installing anti-virus software (Khan 2012:10; Wanjala and Jacob 2017:2). Choudhary, Saroha and Beniwal (2013:483) define anti-virus software as sets of programmes one can use to analyse information on a computer system in order to disinfect infected files. Examples of anti-virus packages one can use to secure their computer and email are Avast; AVG; McAfee, Norton and Kaspersky.

2.7.4.7 Appraising email

Like any other record, email should be appraised to determine its value. This exercise should be conducted each time an individual or organisation wants to determine which records to keep and which ones to destroy, unless if a retention and disposal schedule for such records exists. This helps organisations to see which email has to be destroyed and which one has to be preserved for longer periods or for posterity. State Archives (2009:1) which views records appraisal as “the toughest jobs in historic preservation” defines appraisal as the determination of the value of a record to enhance its disposition. The State Archives (2009:1) advances that there is no difference between the appraisal of paper and electronic records. It argues that the same principles should be used in managing records regardless of medium or format. However, there are exceptions to this ‘rule’ as outlined below:

- (i) Electronic records can be regarded as archives at the point of creation, and thus, they should be appraised early in their life (The National Archives 2013:5). This is in tandem with the records continuum theory, which calls for the management of electronic records right from the point of the record’s origination.
- (ii) Some scholars like Twigge (2003:20) hold that electronic records are affected by technological obsolescence and thus need to be appraised at the point of creation. He gives a cut-off point of five years during which appraisal of electronic records should be conducted. This contrasts sharply with the management of paper records which, according

to The National Archives (2013:5) can be appraised at two stages using the “Grigg system”, that is, during the first five years to assess its primary value and at 25 years to assess its secondary value.

Reviewed in this section are the following records appraisal methods; functions-based appraisal, value-based appraisal, sampling as well as the Capstone approach.

(a) Value-based appraisal

The value-based appraisal approach was developed by an American archivist named Schellenberg. He argued that in order to determine how long a record should be retained, one needs to establish the record’s primary as well as secondary value (Doom 2003:7). Primary value refers to the importance of a record to its creator, which is further sub-divided into administrative, legal and fiscal values (The National Archives 2013:3). If a record has primary value, it follows that it should be retained for a longer period by the organisation than a record that has no such value.

Administrative value refers to the importance of a record in relation to origins, developments, activities, accomplishments and functions of the organisation (State Archives 2009:2). Examples of records with administrative value are reports, correspondences, minutes and policies. Fiscal value refers to the importance of records for financial purposes (State Archives 2009:2). Examples of records with fiscal value are payroll records, vouchers, audit reports and budgets. Legal value refers to the importance of records in as far as they advance the rights, interests and obligations of individuals and organisations (State Archives 2009:2). Examples of records with legal value are contracts, ordinances, criminal and civil records. Secondary value of records should also be considered when appraising records. Secondary value is the importance of records for other purposes other than those of their creators (The National Archives 2013:4). Secondary value is further divided into historical value and informational value, where such records are of importance to historians, researchers, students, journalists and the general public. If one is to use the value-based approach to appraising email, one has to consider both the importance of the record for the creating organisation (primary value) and for other people (secondary value).

(b) Functions-based appraisal

The methodology has been advanced by theorists like Hans Booms of Germany, Helen Samuels of the United States of America and Terry Cook of Canada (Mills 2003:3). It is the process of assessing the value of records by determining the functions that the records support within the organisation. Common functions within an organisation are finance, administration, human resources and legal services. In conducting appraisal, an archivist does not look at individual items within a series or group of records, but looks at whole record basing on the function that it serves within the organisation. The fact that the appraiser looks at the whole rather than parts explains why the method is also called macro-appraisal methodology (The National Archives 2013:5). If a record falls under functions normally considered as important like finance, administration, human resources and legal services, the record is given a longer retention period or preserved permanently. The selection of a record for preservation is based not upon the content of the record but upon the functions that led to the generation of the record in the first place (Mills 2003:3). The reason is simply that the record supports an important function, and thus, the record is important. There are less important functions in an organisation like “Social events” and “Bereavement”. These functions are not central to the vision and mission of the organisation. Records supporting such functions are thus appraised as “not important” and can be given shorter retention periods or are outrightly destroyed.

(c) The sampling approach

This is an appraisal method where a representative selection or specimen is archived while the rest of the records series is destroyed (Leppanen 2003:12). It involves the selection of a body of records made in such a way that taken together, the items selected are representative of the whole. The National Archives (2013:5) claims that a sample of between 5 and 20% can be selected from a group of records for preservation while the rest can be destroyed. The sampling approach is ideally used where there are large quantities of similar records, which when a few are sampled, the picture of the whole can still be determined. This is supported by Leppanen (2003:12) who claims that the method is best applicable where records selected for preservation are homogenous both in form and content. Examples of records which can be appraised using the sampling method are case and staff files.

(d) The Capstone approach

Scholars like Brenneman (2017:37) and Kavanaugh (2016:14) propose that email can be appraised using the Capstone Approach. The Capstone approach was introduced in 2013 by the United States federal government as a means of managing email electronically as opposed to resorting to the “print and file option”. It also imposed 2016 as the deadline for all public institutions to comply with the approach (Kavanaugh 2016:14). The Capstone approach involves the preservation of email, without appraisal, of top or near-top officials in an organisation. It is the position of the email sender and receiver that matters and not the contents of the messages. The approach outlined that final disposition of email should be based on the role or position of the end-user and not the content of the individual email record (NARA 2013:7). It advances that emails of senior officials should be scheduled as “Permanent” and eventually transferred to NARA for permanent preservation. Seniority of the officials can be established by name, title, group, specific function and includes officers acting in senior positions for periods extending beyond 60 days. The content of each individual email does not count in the Capstone approach. However, Kavanaugh (2016:33) advances that the user still has the ability to mark individual Capstone records as “temporary” if he or she decides they are not permanent records and at the same time mark non-Capstone records as “permanent” if he or she believes such records are important.

NARA (2013:9) holds that email from senior officers can be transferred to NARA when they are 15 years old, or after declassification review (when applicable), whichever is later. Sigauke, Nengomasha and Chabikwa (2016:17) discovered that such an approach was unconsciously used by state universities in Zimbabwe where email sent or received from senior authorities were automatically retained as they were simply regarded as “important” and “archival” as the end user was a senior university authority.

The following are senior officers in accordance with the Capstone approach:

- (i) Heads of agencies
- (ii) Commissioners
- (iii) Administrators
- (iv) Secretaries

- (v) Chairmen
- (vi) Under secretaries
- (vii) Assistant Secretaries
- (viii) Senior members of the Armed Forces
- (ix) Military assistants
- (x) General Counsels
- (xi) Chiefs of Staff
- (xii) Chief Operating Officers
- (xiii) Chief Information Officers
- (xiv) Chief Knowledge Officers
- (xv) Chief Technology Officers
- (xvi) Chief Financial Officers
- (xvii) Directors
- (xviii) Regional principals
- (xix) Regional administrators
- (xx) Officials in acting capacities for periods longer than 60 days (NARA 2013:9).

Emails of non-Capstone officials as well as transitory email, personal email and/or email filed with other records but not removed from the email repository should be scheduled as “Temporary” and should be deleted before they are seven years old, although a longer retention can be authorised if required for business use. Kavanaugh (2016:33) claims that the Capstone approach adopted a seven-year retention period for transitory emails because most legal and defence statutes of limitation in the

United States stretch for six years. Emails of supportive and administration officers may be deleted after three years (Kavanaugh (2016:33).

Non-Capstone officials include but not limited to the following:

- (i) Support staff
- (ii) Administrative staff
- (iii) Non-supervisory staff
- (iv) General office staff
- (v) Processors of routine transactions
- (vi) Unskilled, semi-skilled or skilled labourers
- (vii) Clerical staff (NARA 2013:9)

The following exceptions were outlined:

- (i) The implementation of the Capstone approach for the management of an organisation's email does not mean one should ignore other recordkeeping responsibilities (NARA 2013:7).
- (ii) A longer retention can be authorised for emails of non-Capstone officials, if required for business use.
- (iii) Organisations should keep on ensuring that all other records such as programme and project files are still scheduled and managed appropriately (NARA 2013:8).

The benefits of the Capstone approach include the following;

- (i) It increases the volume of email of continuing value that is transferred to NARA.
- (ii) It eases the burden by officers to select email of value, which is quite taxing (Florance, Gulbranson and Sayre 2013:6; NARA 2013:3). As a result, the approach reduces risk of unauthorised deletion of email records as well as the preservation of non-email records.

- (iii) It increases automation within an organisation (Florance, Gulbranson and Sayre 2013:6).
- (iv) It reduces reliance on printing and filing email.
- (v) It enables officers to systematically destroy email based on NARA disposal schedules.
- (vi) It allows agencies to utilise already existing technologies (Florance, Gulbranson and Sayre 2013:6). An organisation that chooses to use the Capstone approach can still use other appraisal strategies and technologies like auto-categorisation and EDRMSs.
- (vii) It reduces the volume of ephemeral email that may be stored unnecessarily (NARA 2013:3).
- (viii) It optimises access to records (Florance, Gulbranson and Sayre 2013:6).
- (ix) It helps organisations overcome obsolescence as it timely transfers electronic records early in their lifecycle (Kavanaugh 2016:33).
- (x) It allows use of other management strategies like ECM and EDRMS, thus, it is accommodative (Kavanaugh 2016:33).

The following are challenges of the Capstone approach;

- (i) Officers normally have difficulties in determining who are the Capstone officials and who are not (Florance, Gulbranson and Sayre 2013:7; NARA 2013:3). Kavanaugh (2016:33) gives the example of the Central Intelligence Agency in the United States which only came up with 23 Capstone accounts out of a workforce of 23 000 employees.
- (ii) There is a high possibility of permanently capturing non-records and personal emails from Capstone accounts. Some transitory email of senior officials may be preserved, which can be a waste of space, time and money (Florance, Gulbranson and Sayre 2013:7; NARA 2013:3). Kavanaugh (2016:33) states that appraising email records basing on position of receiver or sender rather than content may not bring forth the best results.
- (iii) Some important email of non-officials may not be preserved, which may pose problems in the future (NARA 2013:3). As Kavanaugh (2016:33) puts it,

There is a big possibility that email that could be considered federal records will not be archived because the employee was deemed “not important enough” to have their account designated as “Capstone”.

2.7.4.8 Disposal of email

Disposal implies the destruction of ephemeral and time-expired records as well as the preservation of important records or records of continuing value. In the case of email, ephemeral email is either deleted soon after reading or soon after actioning or deleted after some period of time as determined by the organisation’s retention and disposal schedule or by the appraisal process. Methods used to destroy email and circumstances leading to destruction of the same have been reviewed on Section 2.7.4.7 “Appraising email”. The current section greatly explores preservation of email using electronic means, namely, by use of the email system, the Electronic Documents and Records Management System (EDRMS); the Enterprise Content Management (ECM) system, the Trusted Digital Repository (TDR) and cloud computing. The section also explores traditional means of preserving electronic records, that is, by printing to paper.

(i) Retention in email systems

Meijer (2001:261) defines an email system as a medium which makes it possible for users to asynchronously exchange messages between addressable electronic mailboxes using computers linked by telecommunications. Email can be retained on the in-box but a better option is to create folders on the email system where related emails are filed, with the email folders reflecting the organisation’s existing paper and electronic record keeping systems. SRO Guideline (2009:9) holds that records which need to be retained for less than six months can be retained in the email system. A study by Meijer (2001:261) as well as Sigauke, Nengomasha and Chabikwa (2016:25) on state universities in Zimbabwe revealed that filing within the email system and email servers was the most popular email retention and preservation method.

However, the SRO Guideline (2009:9) holds that the practice of saving email messages to directories or folders are merely forms of storing the emails and are not a means of managing them, which can be done through EDRMS and printing to paper. Harvard Records Management Services (2012:3)

argue that preservation within the email system is not ideal for long-term preservation and management of email because of technological obsolescence and also because email systems are communication systems and not record keeping systems. The University of Salford Manchester (nd:1) notes that the email system has space challenges as at 400 MB, an email storage limit warning pops up, at 450 MB, one will not be able to send emails and at above 500 MB, one will not be able to send or receive emails.

(ii) The EDRMS

A number of records management systems have been developed and used in managing electronic records. These systems have evolved over time and have been continually improved to include many components, functions, applications and modules. Table 2.2 shows records management systems that have been in use in the world.

Table 2.2: Evolution of electronic records management systems

Phase 1	Phase 2	Phase 3
EDMS	IDRMS	ECM
ERMS	EDRMS	-

One of the most popular electronic records management system in use today is the Electronic Documents and Records Management System (EDRMS) which was developed in the 1990s. Katuu (2012:459) notes that the EDRMS has been a culmination of the merger of the Electronic Documents Management System (EDMS) and the Electronic Records Management System (ERMS). While as the EDMS was solely for the management of documents and the ERMS solely for the management of records, the EDRMS is capable of managing both documents and records (Katu and Ngoepe 2015:138). The system is more versatile than its predecessor systems. Rakemane and Serema (2016:165) opine that the EDRMS is capable of managing word processed documents, spreadsheets, images, scanned documents and email. Thus, contemporary management of email, inclusive of capturing, receipt, storage, preservation and migration of email cannot be systematically done without use of electronic records management systems like the EDRMS.

Cloy (2007:10) advances that emails which need to be retained for more than six months and less than six years should be moved out of the email system and captured and filed preferably on a shared network drive folder as soon as possible. Lips, Rapson and Hooper (2008:16) recommend the use of EDRMS and Enterprise Content Management (ECM) for long-term preservation. In using the National Archives of Australia approach, public organisations in Australia capture email records individually and save them in records management systems (Florance, Gulbranson and Sayre 2013:9). Email records in email systems should be migrated onto ECMs and EDRMSs before obsolescence sets in. This was expressed by SRO Guideline (2009:11) in its comment which only focused on email systems that “it is highly likely that email kept in most email systems will be unreadable in as little as five years’ time due to technological obsolescence unless appropriate actions are taken to ensure their ongoing readability”. Lips, Rapson and Hooper (2008:16) recommend organisations to use Electronic Records Management (ERM) systems as a step towards best practice, to ensure that emails are captured, declared and managed effectively as electronic records.

(iii) The ECM

As shown in Table 2.2, the Enterprise Content Management (ECM) system is the latest electronic records management system on the block. Katuu (2012:460) defines ECM as a strategy and tool used to manage all types of content, not just records, within an enterprise or organisation. The ECM is currently used to manage records in the United States of America, Australia and South Africa. Katuu and Ngoepe (2015:138) hold that the ECM is the latest phase of electronic records solutions on offer. It has become more popular than the EDRMS as it capable of managing more components, namely;

- (i) records
- (ii) documents
- (iii) knowledge
- (iv) work flow or business processes
- (v) images
- (vi) web content
- (vii) collaboration
- (viii) portal
- (ix) digital assets
- (x) digital rights (Katu 2012:464).

The EDMS is capable of managing one application, that is, documents; the ERMS is capable of managing one application, that is, records; the EDRMS is capable of managing two applications, that is, records and documents and the ECM is capable of managing ten applications. Thus, it is advisable for organisations procure the ECM which manages many applications, inclusive of email. With an ECM, organisations are able to create, receive, capture, preserve and transfer email electronically. Katuu (2012:461) avers that unlike its predecessor electronic records management solutions, the ECM is capable of transferring archival content to digital curation solutions such as the Trusted Digital Repository (TDR).

(iv) Trusted Digital Repository (TDR)

While e-solutions like EDRMS and ECM are ideally used with records in their current and semi-current states, the TDR is the ideal e-solution for non-current records or archives. According to the Digital Transition Framework (Zimbabwe) (2018:4), the TDR is the equivalence of the physical archives repository, where non-current records are stored and preserved and from where they can be accessed by the public. Figure 2.4 shows the link between the ECM and the TDR. It also shows how the ECM feeds into the TDR, something that can be done with email that has to be preserved for posterity.

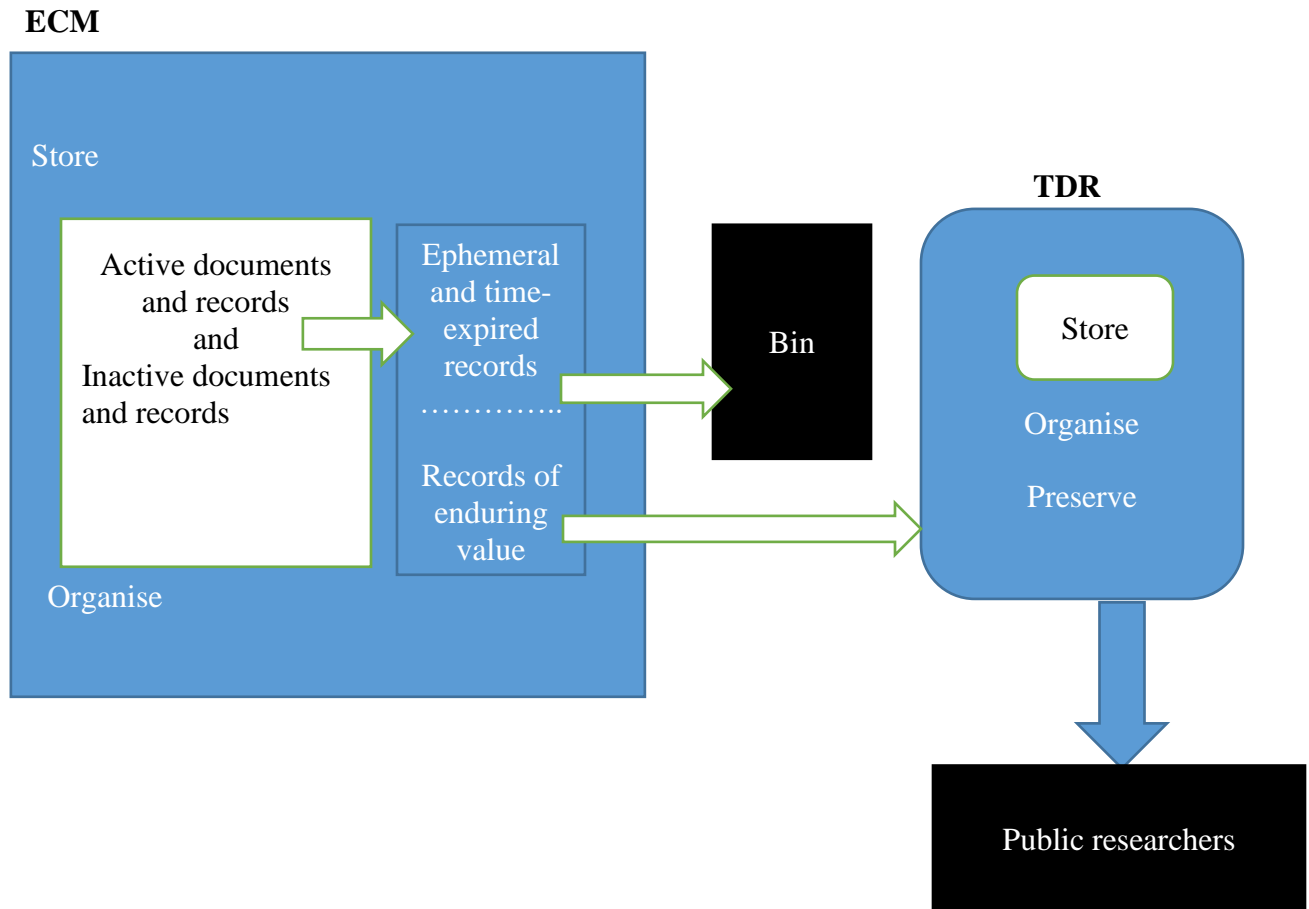


Fig. 2.5: A simplified version of how the ECM and TDR relate (Adapted from Katuu nd: 13 and modified by the researcher)

The ECM is capable of organising, maintaining and storing electronic records. However, if records are destined for permanent preservation, it is ideal that there is a transfer mechanism from the ECM to the TDR where public access can be guaranteed. Records that are ephemeral and time expired can be destroyed by the ECM solution without getting to the TDR.

(v) Cloud computing

Yet another option is to manage email on the cloud. One proponent of this strategy is Schadler (2009:2) who argues that “If every group has its own email server, it’s a nightmare”. By this, he meant a situation where each and every firm had its own server complicated issues as this meant there

would be millions of servers in the world, as compared to a situation where firms all over the world are hosted by a few cloud storage companies. In a study by Forrester conducted on IT professional enterprises in North America and Europe in 2008, seven (19.4%) out of 36 firms confirmed they were planning to use the cloud to store their email, while the majority 20 (55.6%) claimed they would rather resort to a hybrid of their own servers or corporate data centres and the cloud.

Cloud storage is whereby an independent company hosts and manages client organisations' data. Examples of companies offering cloud storage services are Intermedia.net, Rackspace, AT&T Hosting and Application Services, Microsoft, IBM and Google, Code 42 cash plan, Microsoft one drive, Certain safe, Idrive, Box, Drop Box, Sugar sync, Apple iCloud and High tail. These companies have transformed from hosting small firms to hosting large firms, for example, firms with 10,000 or even 15,000 mailboxes (Schadler 2009:4).

The advantages of hosted cloud service are:

- (a) Firms pay as they go, as opposed to paying upfront which is more expensive.
- (b) Firms by-pass software, maintenance and support costs.
- (c) Firms are assured of always using current software and protection.
- (d) Firms are timely informed of new forms of threats like malware or spam floods.
- (e) Firms get new configurations and updates rapidly and timely.
- (f) Firms benefit from specialised skills and tools and of expertise from professionals (Cloud Security Alliance 2012:12; Schadler 2009:9).

Nevertheless, managing email on the cloud has the following shortcomings;

- (a) Cloud storage poses privacy and security challenges (Cloud Security Alliance 2012:13). Evans, Huynh, Le and Singh (2011) argue that it is not clear who accesses clients' records and who does not. They opine that even though owners of data have passwords to restrict unauthorised access to information, information access breach cannot be ruled out. CWS

- (2015) hold that in the United States, the government can apply to cloud companies to access private information that they hold.
- (b) Cloud clients face the challenge that they always need Internet connection to access their records (CWS 2015:7). Where there is no Internet connection, there is no access.
 - (c) Records on the cloud may suffer from integrity and authenticity challenges. Evans, Huynh, Le and Singh (2011:5) note that data stored in the cloud is subject to frequent updates by the users through insertions, deletions, appendages and modifications. If this happens, organisations are affected as their data loses two important characteristics of a good record which are integrity and authenticity.

(vi) Printing to paper

Email that should be retained for longer than six years should be printed to paper and filed just like born-paper records (Cloy 2007:10). Sejane (2004:100) labels this retention strategy “the least technological approach to managing email”. This emanates from the rationale that the strategy goes back to the traditional paper records option as opposed to managing email through electronic means. If printing to paper is the option, care must be taken to make sure that all metadata are captured and preserved. Harvard Records Management Services (2012:3) recommend printing to paper email for long-term preservation, with due care paid to capturing metadata, hyperlinks and graphics. Carpenter, Jackson, Matthews, Thomas and Spencer (2012:4) note that printing and filing email records is common in the United Kingdom where paper-based records are still regarded as “more formal” and as “official records” and documents while email has “a much more colloquial usage”. Kavanaugh (2016:33) also notes that prior to the Capstone approach of 2013, the United States also relied on the print and file approach to email management.

Mutsagondo and Tsvuura (2017:193) observed that printing to paper was the commonest preservation method used by 73% of government ministries in the Midlands Province in Zimbabwe. A similar observation was also made by Nengomasha (2009:70) where she claims the email printing to paper option was the most popularly used email retention strategy at the University of Texas at Austin in the United States. In an interview, the Director of NAZ advised state universities in Zimbabwe to resort to printing to paper emails of importance and transfer them to records centres until such a time

when NAZ and public institutions were infrastructurally capacitated to manage such records through EDRMS and ECM systems (Sigauke, Nengomasha and Chabikwa (2016: 23). Below is an email records management decision tree, which can be used as a guide to determine how different email records can be retained.

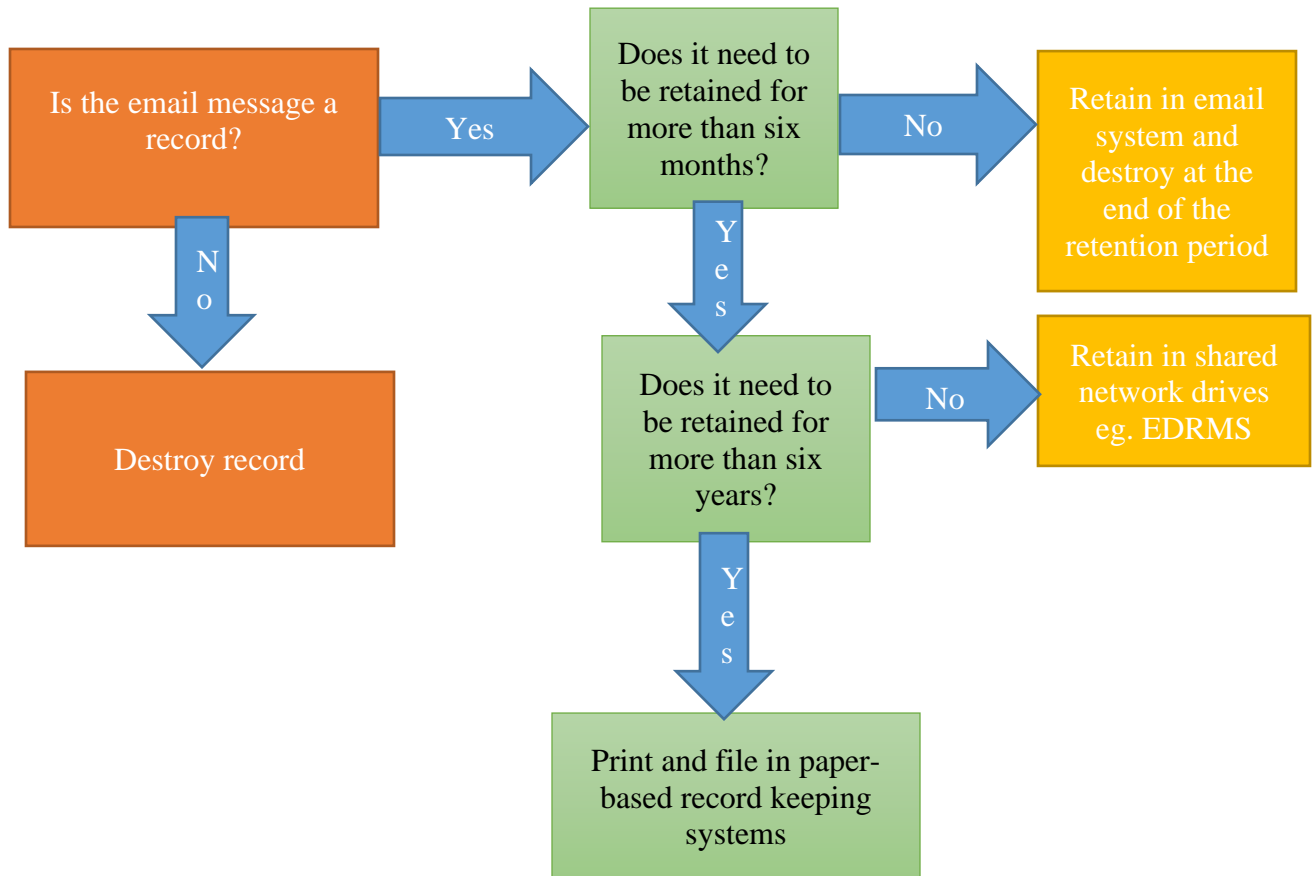


Fig. 2.6: Managing email: Decision tree (Adapted from Cloy (2007:13))

In accordance with the illustration, if email is deemed “non-record”, it can be destroyed straight away from the organisation’s email system. However, if email is designated as “a record”, it warrants preservation, depending with certain circumstances. If important email has to be retained for less than six months, it can be retained in the email system but in folders that are specially created for such types of records, from where they can be destroyed at the end of their retention period, as determined by the retention and disposal schedule, the Capstone approach or the appraisal process. If email has to be retained for longer than six years, Cloy (2007:13) proposes that such email should be printed

and filed in paper recordkeeping systems of the organisation. Alternatively, the TDR (not shown in Cloy's illustration) can be used to preserve email for posterity, while providing authorised public access for the same.

2.7.4.9 Managing email whilst out of office

Officers should make appropriate arrangements to deal with email that comes in when one is out of office (Cloy 2007:12). It is good practice to indicate when one will be back in office as well as providing an alternative recipient for incoming emails. According to the Head of Information Compliance (2016:5), it is good practice to use an "out of office message" which provides information including the time that one will be back in office and also to provide details about a member of staff who will be available to assist during one's absence. The "out of office" application is available on Outlook.

2.7.4.10 Managing email of leavers

"Leavers" is used in the context of this study to refer to officers who one reason or the other cease to be members of an organisation. This can be due to dismissal, retirement, resignation or death (Cloy 2007:12). Email that they created, received, maintained and preserved during the time they were members of the organisation has to be accounted for and managed continuously for the good of the organisation. Cloy (2007:12 and SRO Guideline 2009:13) opine that at one point or the other, officers leave an organisation. When such happens, the business email they leave should be managed to ensure continuity in the organisation. The same sentiments have been expressed by Blouin (2010:45) who called for a smooth transition to email management when staff leaves and when new staff comes into the organisation.

Cloy (2007:12) and SRO Guideline (2009:13) advance that email of leavers may be managed in the following manner:

- (i) The outgoing officer should delete all personal emails and non-records emails from official emails.

- (ii) The officer should move all email records out of their personal email folders and place them in departmental record keeping systems where they can be accessed by colleagues who need them.
- (iii) The officer should notify clients of alternative email contact(s).
- (iv) The officer should grant proxy inbox access to colleagues to periodically check email messages.
- (v) Management should confirm that emails have been moved to the relevant department or persons.
- (vi) Management should close the email account if necessary and/ or open a new one for the new employee (Cloy 2007:12; SRO Guideline 2009:13).

2.7.5 Role of national archival institutions in public sector email management

National archival institutions are normally the national records and information regulatory authorities in their countries. They set parameters under which records in any format are managed. Chaterera (2013:89) opines that there should be active involvement by national archival institutions in overseeing the manner in which records in any format are managed. Examples of the National Archives and Records Service (NARS) of South Africa; National Archives and Records Service (NARS) of Botswana; National Archives of Namibia (NAN) of Namibia; National Archives and Records Authority (NARA) of the United States of America, National Archives of Australia (NAA) in Australia and the British National Archives in the United Kingdom are used in this review to examine the national archival institutions' level of involvement in enhancing email management in their respective countries.

A study on email management in Namibia by Keakopa (2009:8) revealed NAN's minimal involvement in email management in Namibia. She avers that public bodies in Namibia faced challenges in managing email and at one time wrote to NAN to seek guidance and direction regarding the management of email. This was contrary to the norm where the national archival institution should play the leading role, giving policies and procedures pertaining to the management of email and other

records. Keakopa (2009:3) notes that the passive role by NAN was mainly caused by skills' deficiencies amongst staff of the national archival institution. She had this to say; "a lot still has to be done to equip records professionals with skills to take the challenge of managing emails and other forms of electronic records". Another scholar, Nengomasha (2012a:84) discovered that by 2012, the situation had not improved in Namibia, making public institutions manage email in whatever way they pleased.

In Botswana, the NARS also did not play an active role in managing email of public bodies. Although the government of Botswana set up the Department of Information Technology to oversee the management of public sector email, the NARS still allowed the public sector to manage email their own way. By 2009, there was no email management system, policy nor procedural manual in Botswana (Keakopa 2009:9). Chaterera (2013:40); Keakopa (2007:174) and Ngulube and Tafor (2006:5) comment therefore that the role played by national archival institutions of developing countries in managing email was rather marginal. Concurring with them is Matangira (2016:ii) who observed that many archival institutions in developing countries were overwhelmed with traditional manual records systems and were slow in incorporating ICTs in the management of records and archives.

South Africa fares better than many developing countries in regulating the management of electronic records, which includes email. Scholars like Busrai (2019:26), Keakopa (2009:1) and Katuu and Ngoepe (2015:137) note that the NARS of South Africa made tremendous impact in promoting email management as they cite the following notable developments:

- (i) The National Archives and Records Service of South Africa (NARSSA) Act (1996) had regulatory and policy provisions for the management of electronic records, inclusive of email.
- (ii) NARS offered the public sector guidelines in implementing software applications for the procurement of electronic records systems.

The situation in developing countries differed remarkably when one looks at the situation in developed countries such as the United States of America, Britain and Australia. According to Nengomasha (2009:69), the United States federal government was initially not involved in public

sector email management as she did not regard email as official records. This stance changed after two lawsuits rocked America. These were the PROF's *Armstrong v. Executive Office of the President* and the *General Records Schedule Citizen v. Carlin*. Nengomasha (2009:69) advances that the two lawsuits made the United States acknowledge that records did not only exist only in paper format. The following landmark developments by NARA greatly enhanced public sector email management in America:

- (i) NARA encouraged public agencies to use auto-categorisation of email (Florance, Gulbranson and Sayre 2013:1).
- (ii) In 2013, NARA promulgated the Capstone Approach where email of senior officials was supposed to be automatically preserved while those of low ranking officials could be destroyed (NARA 2013:7).
- (iii) After Hillary Clinton's Emailgate in 2015, NARA encouraged public officials to use public email accounts as opposed to using private email accounts like Yahoo and Gmail (Csernak 2016:1).
- (iv) The State Archives of North Carolina archived important emails and made it a point that email was managed by government records analysts who prepared and used retention schedules (Brenneman 2017:36).

In Britain, the national archival authority played an active role in public sector email management. Keakopa (2009:9) regards Britain as a model for good email management as revealed by the following developments;

- (i) Britain repealed the Public Records Act in 1958 in order to make sure that the management and preservation of electronic records was catered for. All these efforts catered for email management as well.
- (ii) Britain developed standards and best practices for the management of electronic records, for example, the Electronic Records in Office Systems (EROS) and the National Digital Archive of Datasets (Kalusopa 2011:83).
- (iii) Britain listed tested and reliable vendor software applications that the public and private sector could procure (Katu 2012:464).

- (iv) In 2007, Britain developed the EDRM Toolkit, a “one-stop shop” guideline for impartial, detailed and practical advice for procuring EDRM solutions by higher education institutions in the United Kingdom (Katu 2012:464).
- (v) Britain has well-developed email policies, for example, a policy on use of official email accounts for official business (Keakopa 2009:8).

Australia has also made in-roads in regulating public sector email management. This is evidenced by the following efforts of the NAA;

- (i) In 2007, NAA published a standard for ERM applications (Katu 2012:463). The standard provided functional requirements for Enterprise Content Management (ECM) applications that the public sector could consider in procuring electronic software and solutions.
- (ii) NAA developed electronic records’ international best standards and best practice guidelines in collaboration with the International Council on Archives (ICA) (Katu 2012:463). These standards and guidelines could also be used in the management of email, the commonest type of electronic record.

Extant literature has shown that the level of involvement by national archival authorities in regulating public sector email management differed greatly. Whilst national archival authorities in developed countries played a proactive role in regulating public sector email management, those in developing countries had lip-service approach to the same.

2.8 Generic email management challenges

Generic email management challenges include the following, which are subsequently discussed in detail below:

2.8.1 Difficulties in identifying email records and non-records

Public records officers face challenges in distinguishing between email records and email non-records. Failure to do so implies that officers fail to manage the right product. Scholars such as

Sigauke, Nengomasha and Chabikwa (2016:14), SRO Guideline (2009:16) and University of Salford Manchester (nd:3) give guidelines that officers can use to identify email records and non-records. Sigauke, Nengomasha and Chabikwa (2016:17) argue that failure to separate email records from non-records has two negative repercussions. Firstly, some valuable email records get deleted and lost forever, to the detriment of business activities or transactions. Secondly, retaining of email records has cost implications and worsens storage and retrieval processes further complicating e-discovery processes.

2.8.2 Lack of a clear and representative legal framework

Management of email in many countries is complicated by the fact that there is no legal framework for electronic records. This has been seen in countries like Zimbabwe by Mutsagondo and Chaterera (2016:259) and Sigauke, Nengomasha and Chabikwa (2016:17). As advanced by Mutsagondo and Chaterera (2016:255), lack of archival legislation that specifically caters for electronic records usually resulted in records officers using a “hit or miss approach” in managing such records. Email records just like other electronic records are currently not admissible as evidence in a court of law in Zimbabwe as the Electronic Communications and E-commerce bill which was presented before parliament in 2009 is still to be adopted into law.

2.8.3 Lack of email policy and procedural guidelines

Mutsagondo and Tsvuura (2017:190) as well as Sigauke, Nengomasha and Chabikwa (2016:14) note that there are no clearly laid out guidelines or procedures for email records and this often resulted in public officers using their own discretion in managing email records. Email records policy deficiencies have also been noted in Namibia (Nengomasha 2009:69) and Lesotho (Sejane 2004:99). Such a situation contrasted sharply with the state of affairs in developed economies like in Malaysia which had well-spelt out email records policies and procedures (Seow, Chennupati and Foo 2005:48).

A records policy is a formal written document containing an organisation’s procedures for managing paper and electronic records. It caters for among other processes the retention period for different types of records, the manner in which records should be organised and later disposed (Collaborative Electronic Records Project 2006:3). In using the NAA approach, Florance, Gulbranson and Sayre

(2013:9) strongly advise that email records should be managed in accordance with email policies and procedures of the organisation as well as those of the country. This implies that the formulation and implementation of email policies and procedures precede efforts at managing email within respective organisations.

2.8.4 Lack of email management skills by users

According to Harvard Records Management Services (2012:5); Johare (2006:549); Kemoni (2009:197) and Nengomasha (2009:145), officers generally lack electronic records management skills, which encompass email management. This has also been revealed by Sigauke, Nengomasha and Chabikwa (2016:16) who in their study discovered that the bulk of records and information officers in state universities in Zimbabwe did not have records management qualifications and thus were incapacitated to manage email records effectively. They discovered that only 12% of respondents in their study had precise qualifications in records and archives management studies (Sigauke, Nengomasha and Chabikwa 2016:22). They therefore recommended skills development for records officers and others who worked with records and so capacitate them to manage even e-records (Sigauke, Nengomasha and Chabikwa 2016:24). Florance, Gulbranson and Sayre (2013:9) also hold that in pursuance of the NAA approach to email management, there was need for staff training so that officers could implement the procedures as well as incorporate email management into daily workflow. Public organisations generally have a lacklustre approach to records management training. Kavanaugh (2016:37) holds that of all public agencies in the United States, only the Department of Interior had records management tests for employees. Kavanaugh (2016:33) also exposed training shortcomings by NARA in the United States where NARA scored 4 out of 30 points for records management training.

2.8.5 ICT infrastructural challenges

Developing countries face ICT infrastructural challenges, making it difficult for them to use and manage email properly and professionally (Munter, Rogers and Rymer 2003:29; Mutsagondo and Tsvuura 2017:193; Sigauke, Nengomasha and Chabikwa 2016:16). ICT infrastructure like EDRMS and ECM is very costly and this may be a challenge for developing countries. This implies that management of email in such countries can be a problem.

Kavanaugh (2016:36) avers that;

As long as agencies must make choices between funding what they consider core mission programmes, records management will consistently be short-changed. Electronic records management will only receive the required resources if it does not have to compete with other priorities.

Even if ICT infrastructure is procured, it is a fact of life that ICT hardware and software is subject to obsolescence in the short term. Thus, constant changes in hardware and software are challenges that institutions have to grapple with from time to time.

2.8.6 Appraisal challenges

Convery (2011:204) and Trace (2010:23) hold that email management challenges also emanate from appraisal challenges. They note that paper records may be appraised at the end of the record's life, but electronic records' retention and destruction have to be decided much earlier in the record's life. They argue that this is the reason why archivists have to be actively involved in the development of electronic records management systems where they have to recommend embedding of disposal mechanisms into the systems. Thus, the fact that appraisal of electronic records starts even before the records are born, poses challenges in managing such records. Many appraisal approaches can be used, for example, the functions-based, value-based, sampling and the Capstone approaches. However, deficiencies in appraisal skills within the public sector are also a challenge (ICA 2005:36).

2.8.7 Dispersal of email records within the organisation

According to Kyobe, Molai and Salie (2009:3) as well as Sigauke, Nengomasha and Chabikwa (2016:16), electronic records are dispersed within an organisation and they are found in shared network drives, local drives and research databases. This makes management of an institution's email a challenging task. Harmonising filing of received and sent email within an organisation is rather a challenge. In addition, email records are ubiquitous as they can be everywhere at the same time, for example, in the managing director's office and at the same time in the human resource and finance officer's offices.

2.8.8 Relegation of electronic records management to ICT staff rather than record management staff

Email management is also complicated by the tendency by many public institutions who let ICT staff manage electronic records ahead of records management staff. This has been noted by scholars like Moore (2004:2); McKinnon (2004:6) and Sigauke, Nengomasha and Chabikwa (2016:23). This was despite ICT officers' lack of expertise in the records management function which is central to effective records management. The situation is made worse by the rather poor working relationship between records officers and IT officers as expressed by Mutsagondo (2017:115) in Zimbabwe and Luyombya (2010:118) in Uganda where the two groups of officers seemed to be fighting for space and relevance in the management of electronic records.

2.9 Summary

This chapter examined the conceptual perspective that guided the study and also reviewed literature related to the study. It explored how the conceptual perspectives derived from the innovation diffusion theory and the records continuum theory influenced and guided the study. The study made use of one borrowed theory, that is, the innovation diffusion theory, as well as a discipline-generated theory, that is, the records continuum theory. Propositions and constructs from these theories were used to come up with the conceptual perspectives that guided the study in addition to helping explaining issues and predicting phenomena. Conceptual perspectives of the innovation diffusion theory were used in relation to Objective 1 and Objective 2 of the study, that is, prevalence of use of email and motivation for using email respectively. Conceptual perspectives derived from the records continuum theory were used to explain issues to do with Objectives 3 and 4, that is, email management strategies and challenges faced in managing email, respectively. A thematic approach to literature review was used where the objectives of the study were transformed into the main headings of the literature review. The literature reviewed in this chapter was obtained from published books, unpublished theses, journal articles, conference papers and Internet sources. The successive chapter addresses the issue of research methodology, which like the current chapter helps to shape up presentation of findings and subsequently discussion of findings of the study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is an indispensable part of research. It refers to a set of systematic techniques and tools used in research in the course of looking for answers to address a research problem (Igwenagu 2016:5). This chapter explores research techniques like the research paradigm, research approach, population and sampling, data collection techniques and data analysis, among others. With research methodology, the research process is pre-planned, thus setting the scene for improved data collection to address the use and management of email in Zimbabwe's central government. This study is mixed methods research and as such, it used a pluralist ontology and a pragmatist epistemology. The study also used a convergent mixed methods research design, the census approach and purposive sampling in selecting questionnaire respondents and interviewees respectively, collected data using both quantitative and qualitative research methods and analysed data using descriptive statistics and thematic data analysis. The mixed methods research approach was adopted because it integrated both qualitative and quantitative approaches, thus offering a more informed approach to examining the use and management of email in the central government of Zimbabwe.

3.2 Research paradigm

According to Neuman (2014:96), research paradigm, also called "philosophical assumption" or "world view" is a basic orientation to theory or an organising framework for theory or a whole system of thinking. Creswell and Creswell (2018:46) aver that all research contains in-built assumptions whether or not the researcher acknowledges such philosophical assumptions. Walliman (2011:15) argues that it is important to probe the research paradigm because it reveals the researcher's world view, which includes ontology and epistemology. He adds that it is important to show one's world view in one's study so that the research is conducted and judged using the right measures. Creswell (2014:23) and Neuman (2014:16) both hold that research paradigms are made up of two elements, that is, ontology and epistemology.

3.2.1 Ontology

According to Creswell (2014:23), ontology refers to assumptions about the nature of reality. Neuman (2014:94) defines ontology as a philosophy that interrogates the nature of being and what exists. The realist, nominalist and pluralist perspectives of the quantitative, qualitative and mixed methods research are discussed below in turn.

3.2.1.1 Realism: the ontological perspective in quantitative research

The ontology or world view of reality in quantitative studies is realism. According to Neuman (2014:95), realists believe that nature exists in reality, that it is out there and ready to be explored or discovered by people. In the context of this study, realists would believe that email as well as email technology exists in reality and they can be explored, seen or felt.

3.2.1.2 Nominalism: the ontological perspective in qualitative research

The ontological perspective in qualitative studies is nominalism. For nominalists, reality does not exist and what people see are schemes of their interpretations and inner subjectivity (Neuman 2014:95). In the context of this study, nominalists would argue that email and email technology do not exist and whatever people have in relation to these is a creation of their minds.

3.2.1.3 Pluralism: the ontological perspective in mixed methods research

Unlike realism and nominalism, the mixed methods ontological perspective of pluralism is not a philosophy, but a practical means to solving research problems. It is the ontological perspective which holds that no research method is inherently superior to another (May, Hunter and Jason 2017:1). It does not seek to discredit the quantitative ontology of realism nor the qualitative ontology of nominalism, but encourages researchers to make maximum use of multiple ways of obtaining data to explore the nature of reality in a study in order to tackle the research problem. Thota, Berglund and Clear (2012:1) hold that proponents of the pluralist ontology, like Dewey, believe in multiple realities and thus advocate for multiple forms of data collection in addition to multiple forms of data analysis. In the context of this study, pluralists would urge the researcher to use both the realist and nominalist ontological perspectives to examine the use and management of email in Zimbabwe's central government. Their main interest is the use of divergent and opposing worldviews, where applicable,

to make a study richer and better placed to tackle the research problem. The current study made use of the pluralist ontological perspective.

3.2.2 Epistemology

Epistemology is an interrogation of the nature of knowledge and deals with issues of how people know the world around them (Neuman 2014:95). Another scholar, Babbie (2011:4) holds that epistemology refers to ways of knowing. This section interrogates the epistemological perspectives of the quantitative, qualitative and mixed methods research approaches in turn.

3.2.2.1 Positivism and post-positivism: epistemological perspectives in quantitative research

The epistemological view in quantitative studies is positivism. Creswell (2014:7) holds that for positivists, knowledge is real as the world around us is real and observable through empiricism (use of sensory experience) and rationalism (use of deductive and inductive reasoning). While empiricism was regarded by the ancient Greek philosopher Aristotle as the source of knowledge, another ancient Greek philosopher Plato regarded rationalism as the bastion of knowledge. Neuman (2014:96) opines that positivism was developed as an epistemological part of knowledge in the late 18th and early 19th centuries through the efforts of philosophers like David Hume (1711- 1776), John Stuart Mill (1806- 1873), Auguste Comte (1798- 1857) and the sociologist Emile Durkheim (1858- 1917). Positivism emphasises discovery causal laws as well as careful empirical observation. According to Williamson and Johanson (2018:508), positivists value facts and objectivity and hold that reality exists and can be easily discovered. Post-positivists hold that whilst reality exists, it is not easy to discover it as it can be discovered with probability and not with certainty (Mertens 2010:12).

3.2.2.2 Interpretivism: the epistemological perspective in qualitative research

The epistemological view in qualitative studies is interpretivism. Creswell (2014:8) holds that interpretivism, also called relativism, idealism, constructivism or constructionalism, is an epistemological perspective that a person's knowledge about the world is the creation of his or her mind as his or her perception of the world is personal in line with his or her pre-conceptions, beliefs and values. Likewise, Neuman (2014:102) argues that interpretivists believe that there are multiple realities and multiple truths which are likely to change just as the social world changes from time to

time. Interpretivism which is normally associated with qualitative research is traceable to the German sociologist Max Weber (1864- 1920) and the German philosopher Wilhelm Dilthey (1833- 1911) (Neuman 2014:102).

3.2.2.3 Pragmatism: the epistemological perspective in mixed methods research

This is the middle-of-the-road approach between positivism and interpretivism. Pragmatism, the epistemological perspective in mixed methods research, is derived from pragmatists like Pierce, James, Mead and Dewey (Creswell 2009:10). Pragmatism is more of a problem-oriented practical solution to a problem than a philosophy and it emphasises actions, situations and consequences (Creswell and Plano Clark 2018:51). Holding the same view are Creswell and Creswell (2018:51) who argue that pragmatism as a worldview arises out of actions, situations and consequences rather than antecedent conditions. It states that sources of knowledge should not be restricted to positivism or interpretivism alone, but should be practically-oriented in solving problems. Due to its middle of the road orientation, the epistemological approach makes it possible for researchers to employ various methods of enquiry in a single study. The current study made use of pragmatism as its epistemological perspective. This made it possible for the researcher to consult various data collection techniques, various data interpretation methods and data analysis methods in examining the use and management of email in Zimbabwe's central government. The practical-oriented approach places the research in a better position to tackle the research problem than could be done by interrogating the epistemological perspective of quantitative or qualitative research alone.

3.3 Research approach

In conducting a study, researchers choose amongst three research approaches, that is, between quantitative, qualitative and mixed methods (Creswell and Plano Clark 2018:43). This study used a mixed methods research approach. However, since mixed methods research involves an integration of quantitative and qualitative elements in all or in many phases of a study, this section firstly outlines what quantitative and qualitative research entail before it makes an interrogation of the mixed methods research approach.

3.3.1 Quantitative research approach

Quantitative research is a research strategy which emphasises use of quantities in data collection and data analysis. Rajasekar, Philominathan and Chinnathambi (2013:9) hold that quantitative research focuses on measurement of magnitude or aggregate including numbers, percentages, numerical counts, statistical tests and mathematical models. They further maintain that quantitative research is descriptive, numerical and often presents data in tables and graphs. Neuman (2014:204) argues that quantitative research is deductive as researchers move from inductive use of abstract ideas to use of deductive and precise numerical information. Findings as well as analysis of data are expressed in a numerical or quantifiable manner. The quantitative domain was helpful in this study as it helped to numerically unpack the frequency of use of email, average number of emails sent and received per day, the average size of email inboxes and the frequency of filing of email. All these variables were numerically in essence. Use of the mixed methods research approach where the quantitative domain was applied helped to tackle the research question in as far as issues of numeric or quantitative interest were concerned.

3.3.2 Qualitative research approach

Rahman (2017:103) defines qualitative research as any type of research where its findings are not reached through quantification or statistical measures and where findings express people's lives, lived experiences, behaviours, emotions and feelings, social movements, cultural phenomena and interactions between different parties. Neuman (2014:13) opine that qualitative research collects non-standardised data, analyses subjective meaning and incorporates multiple realities. Participants broaden and deepen the researcher's understanding of the social world, particularly showing why people behave in certain manners and how they are affected by events around them (Creswell 2014:234). Qualitative researchers make use of interviews, documents reviews, focus group discussions and personal observation (Neuman 2014:13), which produce subjective and personal findings. The qualitative domain was helpful in this study as it helped to unpack subjective issues like management of email, challenges of managing email and the role played by the NAZ in helping central government manage email. The qualitative domain was useful in expressing subjective experiences, views, feelings and emotions expressed by interviewees in the study. Thus, using a mixed methods research approach where the qualitative domain was equally dominant, as the quantitative domain, helped to tackle the research problem of the study.

3.3.3 Mixed methods research approach and justification for its use

This study used the mixed methods research approach, an approach which stands in between the quantitative and qualitative research approaches (Creswell and Plano Clark 2018:44). The mixed methods research approach came about in the late 1980s and early 1990s and gained popularity in the first decade of the 21st century (Ngulube 2020b:426). It came as an alternative to quantitative and qualitative research approaches, which had rather become the conventional research approaches. Scholars such as Teddlie and Tashakkori (2012:776) refer to the mixed methods research approach as “the third methodological movement” whose dawn marked the end of the “paradigm wars” between the polarised quantitative and qualitative research approaches. Nonetheless, Creswell and Creswell (2018:43) opine that one should not view qualitative and quantitative approaches as rigid, distinct categories, polar opposites, or dichotomies but as different ends on a continuum. This implies that use of the mixed methods research should not be seen a sign of detesting quantitative or qualitative research approaches, but a practical and complementary way of helping interrogate a research problem from a more informed position.

Mixed methods research is defined by Moule (2018:79) as a research which involves the use of both quantitative and qualitative research methods in one study and where elements from both the quantitative and qualitative approaches are integrated and synthesised in tackling a research question. This research adopted the use of a mixed methods research approach because the approach maximises inherent advantages of quantitative and qualitative research and at the same time minimises the gravity or severity of the limitations of each of the approaches (Ngulube 2020b:425). For example, while quantitative research was viable in showing the frequency of use of email and the frequency of filing, it was weak in revealing reasons for a meteoritic rise in use of email as well as in explaining why filing of email was low and erratic in the central government of Zimbabwe. Thus, use of both quantitative and qualitative research in the same study helped the two research approaches to cover each other’s weaknesses thereby making the study richer, more comprehensive and better comprehensible in addressing the research question at hand.

In showing the limitations of a single method (for example, quantitative or qualitative), Ma (2012:1862) claims; “LIS is a complex field that calls for the use of mixed methods to provide a comprehensive and richer understanding of information and information-related phenomena”. Thus,

as Marutha (2020:404) avers, one method may have limitations and biases, making it important to augment quantitative data with qualitative data, and vice versa, to close gaps and provide better and more comprehensive answers to the research problem at hand. Summing it up are Ngulube and Ngulube (2015:1) who opine that mixed methods research brings in balanced investigation of a research problem as “there is no single omnipotent research method”.

In his recent submissions on mixed methods research, Ngulube (2020b:425) states that mixing of quantitative and qualitative elements should occur at many or all phases of the study. Similarly, Marutha (2020:421,427) argue that mixing of the methods should not be done at a single stage lest the approach be labelled “multi-method” rather than “mixed method”. Thus, in this study, mixing of quantitative and qualitative strands was done at many stages as shown in Table 3.1.

Table 3.1: Quantitative and qualitative elements mixed in this study

Phase	Quantitative strand	Qualitative strand
1. Research questions	<p>Research question 1 What is the prevalence of use of email in Zimbabwe’s central government? (prevalence is a quantitative measure)</p> <p>Research question 2 What is the motivation for using email in Zimbabwe’s central government? (Frequencies of factors was regarded and this is a quantitative measure)</p>	<p>Research question 3 How is email managed in Zimbabwe’s central government? (Personal views were dominant and this is essentially qualitative)</p> <p>Research question 4 What challenges are faced in managing email in Zimbabwe’s central government? (Personal and subjective views were dominant and this is qualitative in essence)</p>

2. Data collection techniques	Structured questionnaires: For records officers For IT officers For administration officers	- Semi-structured interviews with NAZ Harare Records Centre's archivists, the NAZ Director and central government Administration and IT Directors - Personal observation by researcher - Documents reviews from ministries and NAZ
3. Research design	The convergent research design was used	Quantitative and qualitative data were collected at roughly the same time between November 2019 and April 2020
4. Sampling methods	Census approach used on Records, Administration and Information Technology officers in head offices of government ministries	Purposive sampling- used to select NAZ archivists; the NAZ Director; central government Administration and IT Directors.
5. Data analysis	- Microsoft Excel 2010 - Descriptive statistics	- Thematic data analysis using Atlas.ti
6. Interpretation of findings	Deductive interpretation	Inductive interpretation
7. Reporting of findings	- Percentages and numbers - Graphs and tables - Descriptive statistics	- Explanations - Subjective views - Personal opinions - Personal views

Table 3.1 shows that mixing of quantitative and qualitative strands was done at various levels of the study. Mixing was done at the research questions stage where two objectives were quantitative in

nature while the other two were qualitative in nature. Mixing was also done at the research design stage where the convergent research design was used and which involved the collection of quantitative and qualitative data. Quantitative and qualitative data were collected roughly at the same time. The data collection procedure also catered for both quantitative and qualitative research approaches. The census approach was used in selecting questionnaire respondents while purposive sampling was used in selecting interviewees. Quantitative data were analysed using descriptive statistics as well as through use of Microsoft Excel 2010®. Qualitative data were analysed thematically using Atlas.ti®. Findings were reported both numerically as well as in prose form, representing the quantitative and qualitative strands respectively. Findings of the study were also deductive-based (quantitative approach) and inductively-based (qualitative approach).

Scholars such as Marutha (2020:421); Ngulube (2020b:427) and Pasipamire (2020:458) warn that the mixed methods research approach should not be arbitrarily used, just for the sake of it. It should be used where it adds value to a research, where the research problem can be best answered in quantitative as well as qualitative ways. A researcher should indicate why he or she used a mixed methods research in preference to quantitative or qualitative research approaches. Amongst a cocktail of reasons for choosing mixed methods research as propounded by Creswell and Plano Clark (2018:8) are the need to investigate a problem from many perspectives, the need to have quantitative results corroborated by qualitative findings and vice versa, the need to come up with quantitative and qualitative results in a single study; the need to explore before the researcher can develop an instrument and the need to have participants take part in a study, where they bring in their own experiences, attitudes and emotions. In the context of this study, the mixed method research approach was used to make qualitative findings corroborate or disconfirm quantitative findings. This enhanced triangulation of quantitative and qualitative findings making the study more reliable, valid, credible and dependable.

The mixed methods research approach has been successfully used by many scholars in information science. One of them is Chikonzo (2018:141) who conducted a study on the use of social media in disseminating HIV/ AIDS information amongst the youth in Zimbabwe. She was able to collect both qualitative and quantitative data making her study richer than could have been the case had she used a single research approach. The mixed methods approach has also been used by Murbach (2019:42)

in his study on information security. In the study, Murbach (2019:42) fused quantitative and qualitative findings which made the study richer in terms of the quality of data collected as well as the presentation and discussion of the findings.

3.4 The convergent mixed methods research design

Research designs in the case of quantitative and qualitative research approaches include survey research, ethnography, case study, phenomenology, grounded theory and narrative analysis (Creswell 2014:295). The mixed methods research approach has developed research designs of its own and these include convergent research design, exploratory sequential research design and the explanatory sequential research design (Molina-Arizon and Fetters 2016:37). Creswell and Plano Clark (2018:60) coin these mixed methods research designs the “signature designs” of mixed methods research approach. This study used a convergent mixed methods research design, which is also called a “parallel” or “concurrent” research design. In this research design, a researcher collects and analyses both quantitative and qualitative data separately before he or she compares the results to determine how they confirm or disconfirm each other (Creswell and Creswell 2018:397). The essence of using a convergent research design stems from the rationale that one data collection method is inadequate. In this study, a “QUAN + qual” data collection notation (Creswell and Plano Clark 2018:118) was used where quantitative responses had more weighting than qualitative responses since qualitative findings came in to confirm or disconfirm quantitative findings. Thus, a convergent research design was used where qualitative findings were used to corroborate quantitative findings. Though to a lesser extent, the convergent research design enabled the strengths of the quantitative and qualitative research approaches complement each other as well as cover each other’s limitations.

In order to avoid bias in questioning techniques and format, the two data sets (quantitative and qualitative) were collected at roughly the same time, between 4 November 2019 and 20 April 2020. As a result, quantitative responses did not influence qualitative questions and vice versa. Quantitative questionnaire responses were obtained from records officers, administration officers and Information Technology officers while qualitative interviews responses were obtained from NAZ interviewees and directors from Zimbabwe’s central government. Personal observation at head offices of

government ministries and document reviews obtained both at NAZ and in government ministries were also used to confirm or disconfirm quantitative data responses.

3.5 Population of the study

Population, also called universe, refers to the large collection of interest (Neuman 2014:250). Etikam, Musa and Alkassim (2016:1) defines population as the total quantity of things, objects, organisations or people that a study focuses on. The population of this study was 670 officers from central government (Records Section; Administration and Information Technology departments and the directorate) as well as from the NAZ (archivists and the director). The breakdown of the target population is shown in Table 3.2.

Table 3.2: Officers making up the population of the study

Section/ Department	No. of officers
Records Section	220
Information Technology department	176
Administration department	264
Directorate central government	2
NAZ Records Centre Archivists	7
NAZ Directorate	1
Total (Population)	670

The Records section as well as the IT and Administration departments of central government comprised part of the target population because of their affinity and active role in records, information and email management. The Records section manages records of the public sector, which includes records created and received in electronic environments. The IT department manages information systems, procures, installs and maintains ICT infrastructure while the Administration departments comprise of action officers who create, receive, use, maintain and dispose records in different formats during administrative processes of their ministries.

3.6 Sampling techniques

Sampling is whereby a small set of cases is selected from a large pool (population) from where a researcher generalises about the population (Neuman 2014:246). Another scholar, Igwenagu (2016:32) defines sampling as a process where a researcher selects a subset of individuals from a defined population. Ngulube (2020b:442) opines that mixed methods researchers should choose sampling methods from both the quantitative and qualitative sampling techniques. In this study, interviewees were selected using purposive sampling, a qualitative sampling technique. On the quantitative side, questionnaire respondents were selected using the census approach.

3.6.1 Sampling of interviewees in this study

All 10 interviewees (7 NAZ archivists, 1 NAZ Director, 1 Administration Director and 1 IT Deputy Director) were selected using purposive sampling. Purposive sampling is a non-probability sampling method, where participants are subjectively selected based on some criteria that the researcher chooses. Purposive sampling, also called judgmental sampling, is a sampling method where participants deemed as “information-rich” are deliberately chosen due to their knowledge, skills and experiences in a phenomenon under study (Etikam, Musa and Alkassim 2016:2). In this study, all seven NAZ archivists of Harare Records Centre, were purposively selected based on their knowledge of records management in Zimbabwe’s public sector and because they are mandated by the NAZ Act (1986) to supervise records management practices, inclusive of email, in the public sector, including in Zimbabwe’s central government. Similarly, an officer from the NAZ directorate, the Administration Director and Information Technology Director from central government were purposively selected because of their knowledge about policy and general management issues in government. The NAZ directorate administers the NAZ Act (1986) and is responsible for records and archives management issues in Zimbabwe’s public sector. This made an officer from the NAZ directorate eligible to comment on records management issues, inclusive of email, in Zimbabwe’s central government. The IT Deputy Director in central government was selected in this study because he or she occupies the highest position in the IT department since currently there is no IT Director in central government. The IT Deputy Director reports to the Administration Director. The Administration Director was also selected as an interviewee in this study because the records section in central government falls under his or her purview and also because the IT Deputy Director reports to him or her as well.

Advantages of using purposive sampling are that it is a cheaper and quicker way of soliciting information from participants who are deemed knowledgeable (Etikam, Musa and Alkassim 2016:1; Sharma 2017:751). However, it should be noted that due to its non-probability sampling nature, the method can be a source of bias where participants may not be very representative of the entire population and as not all participants or units in the population do not have equal chances of being included in the study (Sharma 2017:751; Tavakol and Sanders 2014:841). The population of NAZ Archivists in the Records Management section in Harare was seven, and thus, could be studied *in toto* without prejudice to time and cost. Ngulube (2020b:442) states that samples with 3 to 50 participants are common in qualitative studies (or in qualitative phases of mixed methods research) and that such samples are capable of achieving both data saturation and information redundancy.

3.6.2 Sampling of questionnaire respondents in this study

The census approach was used to select all Records Officers (ROs), Administration Officers (AOs) and Information Technology Officers (ITOs) in head offices of government ministries. In all, there were 660 ROs; AOs and ITOs. Officers from the records section, administration department and IT department were targeted because they played the most active roles in use and management of email in central government. Tavakol and Sanders (2014:841) argue that the census approach helps to reduce sampling error, that is, the difference between data obtained from a sample and the data that is obtained from the entire population. The distribution of ROs, AOs and ITOs in Zimbabwe’s central government head offices is shown in Table 3.3.

Table 3.3: Distribution of questionnaire respondents

Department/ Section	Total no. of officers in dept.	
Records Section	10 officers x 22 ministries	220
Information Technology department	8 officers x 22 ministries	176
Administration department	12 officers x 22 ministries	264
Total/ Population	-	660

3.7 Data collection techniques

Since this study was mixed methods, quantitative and qualitative methods of data collection were used. Structured questionnaires were used to collect quantitative data while semi-structured interviews, personal observation and document reviews were used to collect qualitative data. Each of these four data gathering techniques have strengths and limitations. Their strengths complemented each other while their limitations covered each other's gaps.

3.7.1 Closed-ended questionnaires

Roopa and Rani (2012:273) who view questionnaires as the major data collection technique in quantitative studies define questionnaires as a list of mimeographed or printed questions that is completed for a respondent to give his or her opinion. Bhattacharjee (2012:73) defines a closed-ended questionnaire as a list of questions where respondents' answers are limited to a fixed set of responses. This study used closed-ended questionnaires to collect data from ROs; AOs and ITOs in Zimbabwe's central government about how they used and managed official email.

There were three sets of closed-ended questionnaires, that is, one for ROs (See Appendix V), the second for AOs (Appendix VI) and the last one for ITOs (Appendix VII). While some questions were common in all the three questionnaires to ensure triangulation, others were departmental-specific in line with the core business of the department but in relation to records and email management. The researcher personally distributed the questionnaires to targeted respondents. Data collection through use of questionnaires was conducted between 4 November 2019 and 20 April 2020. Data were collected over 167 days in order for the researcher to acclimatise to the research environment and build trust and close ties with respondents. Data collection through questionnaires was also conducted over an extended period due to the COVID-19 pandemic national lockdown which was effected in Zimbabwe on 30 March 2020 which resulted in many government officers staying at home and reporting for duty on exceptional and/ or rotational basis.

In collecting data, the following types of questions were used; dichotomous questions, Likert Scale questions and multiple choice questions. Cohen, Manion and Morrison (2018:477) hold that dichotomous questions are those questions that give respondents the option to choose one from two options, for example, the "Yes" / "No" questions. Multiple choice questions are those where three or

more optional answers are provided. There are two forms of ranking questions, that is the Likert and semantic differential questions. Only the Likert form was used in this study. The Likert scale, named after Rensis Likert, the man who devised these types of questions, provides a series of responses from where a respondent chooses the best option in order of preference. For example, a respondent is asked to choose the best option amongst “strongly disagree, disagree, neither agree nor disagree, agree, strongly agree” (Cohen, Manion and Morrison 2018:480).

Questionnaires were preferentially used as the principal data collection technique for the following reasons;

- (i) Questionnaires are relatively cheaper as compared to other data collection techniques like interviews and focus group discussions. Kumar (2011:141) argues that questionnaires have cost savings in terms of time, human and financial resources. This advantage was more pronounced in this study where questionnaires were self-administered by the researcher as opposed to mailing them or using research assistants which have higher financial bearings.
- (ii) Questionnaires are non-obtrusive as respondents may never be known to the researcher (Bhattacharjee 2012:73). In this study, respondents were instructed not to identify themselves on the questionnaires and as well, they were not identified by name in the study as alphanumeric codes were used to identify them. The issue of respondents remaining anonymous helped to make respondents provide more reliable and valid answers as fears of backlash and victimisation by authorities were allayed. Respondents completed questionnaires away from the researcher. This increased respondent objectivity and in turn, increasing chances of obtaining more reliable answers (Bryman and Bell 2014:192; Williamson and Johanson 2018:381).
- (iii) Through use of questionnaires, the researcher was able to gather large volumes of data from a diverse population in a quicker and cheaper manner (Bhattacharjee 2012:73; Neuman 2014:332). Bijeikiene and Tamosiunaite (2013:80) claim that one of the strengths of using questionnaires is the collection of high quality data in a relatively short space of time. They claim that data can be collected from as many as 80 respondents in a space of 14 days! In the context of this study, data were solicited from respondents through questionnaires over a period of four and half months.

(iv) In structured questionnaires, the researcher provides possible responses. This brings forth fixed and standardised answers, thus eliminating too much variation in responses obtained. This made data analysis easier (Cohen, Manion and Morrison (2018:476). Scholars like Neuman (2014:332) as well as Williamson and Johanson (2018:381) maintain that structured questionnaire responses are easy to compare, code and statistically analyse. It was easier for the researcher to compute frequencies, percentages and other statistical measures like the mean and range from responses that were pre-determined and in numerical or quantifiable fashion.

Questionnaires were used but the researcher noted that they had limitations in certain respects:

- (i) Questionnaires have a low response rate (Kumar 2011:141; Williamson and Johanson 2018:381). Bhattacharjee (2012:740) holds that questionnaire response rate is normally as low as 15% to 20% even after three reminders. Lower response rates breed less reliable and less valid results. In this study, questionnaires were distributed to 660 officers in central government from where 240 responses were obtained, making a response rate of 36.4%.
- (ii) Questionnaires have a slow response rate which can vary from two weeks to two months despite numerous follow-ups (Neuman 2014:345). This limitation applied in the present study as COVID-19 lockdown restrictions limited movement by and contact with the so-labelled “non-essential officers” in central government.
- (iii) Questionnaires also lack clarification for unclear or misunderstood questions (Bhattacharjee 2012:74; Neuman 2014:332; Williamson and Johanson 2018:381). This is opposed to interviews where the researcher is there to guide participants and to clarify issues that they may fail to comprehend. All three questionnaires were pre-tested to make them more comprehensive and comprehensible and necessary adjustments were made following pretesting findings. This reduced chances of questions or some questions being unclear, clumsy and/ or ambiguous. The issue of pretesting is dealt with in Section 3.8.1 under “Reliability of the study”).
- (iv) The greatest limitation of structured questionnaires is that they may not provide all optional answers as desired by the respondent (Neuman 2014:332). Kumar (2011:145) holds that structured questionnaire responses do not have depth and may lack variety. He adds that this limitation normally comes as a result of investigator bias where the researcher may provide

as alternative answers only those response patterns he or she is interested in or aware of. The researcher tried to minimise the impact of this limitation by formulating “rich” response options as guided by a review of literature, an interrogation of the research problem, aim, objectives, contextual and theoretical frameworks.

- (v) Kumar (2011:145) also notes that in structured questionnaires, respondents may be influenced by given response patterns which may make them provide answers without adequate reflection, thus compromising the quality of responses. No data collection method is perfect. Thus, limitations of structured questionnaires were covered by use of other data collection techniques namely semi-structured interviews, document reviews and personal observation as outlined below.

3.7.2 Semi-structured interviews

Data were also collected from seven NAZ archivists and three directors using semi-structured interviews. Face-to-face interviews were conducted with seven archivists of NAZ’s Harare Records Centre (Appendix VIII) and with the NAZ Director (Appendix IX); an Administration Director in central government (Appendix X) and an IT Deputy Director in central government (Appendix XI). Creswell (2014:190) defines an interview as an oral interchange of information, views, beliefs and opinions between the interviewer and the interviewee. Since semi-structured interviews were used, questions were asked in a particular order and format, but participants were given room to expound and explain further as they saw fit. Since a convergent mixed methods research design was used, semi-structured interviews were held at roughly the same time as questionnaire data collection, that is, between 4 November 2019 and 20 April 2020. Interviews were held over a period extending 167 days as Zimbabwe had imposed a COVID-19 national lockdown beginning on 30 March 2020. This made it difficult to access some interviewees. Face-to-face interviews which lasted roughly hour each were held with the ten interviewees but with regard to the World Health Organisation’s (WHO) COVID-19 guidelines which included sanitising hands, wearing face masks and maintaining acceptable social distance.

Semi-structured interviews were used mainly for two reasons. Firstly, they allowed the researcher to ask pre-prepared questions, which are adjustable, but at the same time giving room for interviewees to further explain their thoughts (Creswell 2014:342; Matsa, Mutekwa and Marambanyika 2015:8).

This enabled the researcher to gather richer qualitative responses pertaining to the use and management of email in Zimbabwe's central government, particularly as follow-ups to quantitative responses to questionnaire responses. Personal interaction between the interviewer and interviewee as well the room to further explain helped to improve the rapport between the two, thereby building confidence and trust between the researcher and the participants. This improved chances of gathering as much authentic data as possible. Secondly, through semi-structured interviews, the researcher was able to ask questions that needed quantitative and qualitative responses. This was suitable in this study whose research approach was mixed methods.

The researcher used semi-structured interviews very well knowing some of the challenges that go with interviews in general. These included high costs and lack of anonymity (Kumar 2011:142). The researcher is grateful for bursary support from the University of South Africa which greatly assisted in defraying research costs, including the administration of interviews. The researcher also assured participants of anonymity which greatly helped in making them relaxed and able to give much in-depth responses as possible.

3.7.3 Observation technique

Personal observation by the researcher was also employed to collect data in this study. Personal observation is whereby a researcher watches and listens as the observed people undergo their normal duties (Kawulich 2012:3). Personal observation is an important data collection technique which can be conducted on nearly any subject matter (Urquhart 2015:30). Other scholars, for example, Walsh, Ewing and Griffiths (2012:1) hold that observation is important as it helps the researcher understand people's actions, roles and behaviour. Matsa, Mutekwa and Marambanyika (2015:12) hold that observation is used many times to observe people and their activities as well as to observe how people react to questions and whether they act differently to what they say or intend. Kawulich (2012:3) argues that observation is very useful in scenarios where full information cannot be obtained through questioning and where respondents are not willing to divulge information orally. Personal observation was conducted between 4 November 2019 and 20 April 2020 during the times the researcher visited head offices of government ministries to talk to targeted respondents, during distribution and collection of questionnaires and during the times the researcher was making follow-ups on non-returns and slow-returns.

Observation can either be participant observation or non-participant observation. In participant observation, a researcher actively takes part in the goings-on with or without the observed aware of it (Urquhart 2015:30). In non-participant observation, a researcher is not directly involved in the activities of the group but he or she remains a passive observer, who watches and listens to activities going on from where he or she draws conclusions (Kawulich 2012:3). Non-participant personal observation was used in this study. An observation checklist was used in government ministries where the researcher observed ICT infrastructure, email registers, size of email inboxes and volumes of email print-outs. An observation checklist is captured in this study as Appendix XII. Matsa, Mutekwa and Marambanyika (2015:12) opine that in observation, there is identification, counting, naming, listing, mapping and photographing of phenomena in situ or in its natural setting.

The following were noted as the major advantages of personal observation in this study.

- (i) Observation is an efficient method of gaining preliminary knowledge about an issue which enables the researcher identify what respondents actually do as opposed to what they claim to do (Kawulich 2012:3). The same point is reiterated by Creswell (2014:174) who maintains that observation helps the researcher to see people's behavior as opposed to how they claim to behave. The researcher observed ICT equipment in use, classification and filing systems and email inbox management techniques, among other observable phenomena, in different ministries, which helped to triangulate, confirm or refute research findings obtained by questionnaires and interviews.
- (ii) Matsa, Mutekwa and Marambanyika (2015:15) hold that data collected by personal observation can be useful for identifying changes that take place over a period of time. This in turn helps the researcher to see if the observed are not victims of the Hawthorne Effect where people can change their behaviour and work patterns when they realise they are being observed.

Although personal observation is an important data collection technique, it has the following drawbacks.

- (i) Observation is a time-consuming data collection technique (Matsa, Mutekwa and Marambanyika 2015:15). It takes time to observe behaviour and changing patterns of behaviour. A lot of time was taken to observe email-related work patterns and activities in the 12 government ministries during the four and half months that the researcher distributed, collected and made follow-ups on questionnaires in Zimbabwe's central government.
- (ii) Kawulich (2012:9) notes that access to premises to conduct observation may be denied or limited. If this happens, a researcher is restricted or completely barred from accessing information using this technique. Personal observation was most successful in 10 ministries where the researcher was given the freedom to move around and about. It was not very helpful in two ministries where the researcher was just confined to the visitors' reception area during questionnaire administration and related visits.
- (iii) Observer bias, where a researcher chooses what to observe and what not to observe, is rife in personal observation (Kumar 2011:135). To reduce bias, the researcher formulated an observation checklist which he used whenever an opportunity to observe availed itself.

3.7.4 Documents review

Documents comprise material written about an institution as well as about business activities within an organisation (Creswell 2014:342). Another scholar, Triad 3 (2016:1) defines documents review as a form of qualitative analysis where a researcher uses documents to give voice and meaning around a topic. He further advances that there are three types of documents that one can review. Firstly, there are public records, for example, ongoing records of an organisation like mission statements, annual reports, policy manuals, handbooks, minutes of meetings and strategic plans. Secondly, there are personal documents, for example, calendars, emails, scrapbooks, Facebook posts, incident reports and duty logs. Lastly, is physical evidence, also called artifacts, for example, fliers, posters, agendas and training manuals. This study made use of records survey reports, the Public Sector Digital Records Management Framework, the new records survey worksheet, the old records survey worksheet and the draft records policies found in both central government and at NAZ. A list of documents reviewed in collecting data is shown in Appendix XIII.

Documents review was additionally chosen as a data collection technique because it is a cheaper way of obtaining data and as well they are a good source of background information (Triad 3 2016:12). For example, the researcher reviewed records survey reports of some ministries from where he partially comprehended the records management situation on the ground. This also guided some of the interview and research questions that the researcher posed. Nonetheless, the researcher noted that documents were produced by some parties for a specific purpose and as such were sometimes out of line with the interests of the researcher and sometimes lacked the desired depth and detail. This limitation has also been noted before by Matangira (2016:105), where she argued that the few documents that may be availed may peripherally touch on what the researcher is looking for. Creswell (2014:343) also noted that documents were sometimes inaccessible to researchers. Documents are internally generated and researchers many times find it difficult to access such documents as annual reports, which carry with them sensitive internal information. It should be noted that through the pluralist ontological perspective adopted in this study, four data collection techniques were used. While their strengths made data collection richer, their limitations were covered up by the strengths of each other.

3.8 Reliability and validity in the quantitative domain of the mixed methods research

A research is conducted for a purpose. As such, findings of a research should be authentic, credible and believable for them to be acceptable to society and for the research to wholesomely serve its intended purpose. A quantitative and mixed methods researcher needs to put measures that ensure that a study is both reliable and valid. Kalusopa (2011:144) notes that validity and reliability are central in positivist research for a research to stand out as authentic, credible and believable. A research that fails to cater for validity and reliability may fail to produce similar results if conducted by another researcher and may be dismissed as guess work or forgery.

3.8.1 Reliability

Neuman (2014:212) holds that reliability has to do with dependability and consistency of a study. Another scholar, Creswell (2014:201) argues that a reliable study is one which produces similar results should a study be repeated using a different sample from the same population or repeated under similar conditions with the same subjects. Reliability has to do with repeatability, replicability

and duplication of results should a similar study be conducted under the same conditions. This study investigated the use and management of email in Zimbabwe's central government using participants from the records section as well as the IT and administration departments of 22 government ministries. Reliability through pre-testing and triangulation of data, which are explained in detail below, ensured that even if the same research was conducted using samples from the Finance, Legal and Human Resources departments, similar results would be obtained.

Reliability can be achieved by means of triangulation. Zauszniewski (2012:40) defines triangulation as a measure to confirm findings by observing phenomenon from different viewpoints. Addressing the same thing from different angles can be achieved through data, investigator and theory triangulation. This study sought to ensure triangulation through application of data triangulation coupled with pre-testing. Data triangulation is whereby a study collects and analyses data using multiple means (Chikutsa and Chingozha 2013:20; Magwa and Magwa 2015:90). In this study, data were collected using structured questionnaires, semi-structured interviews, document reviews and personal observation. For example, government ministries' officers were asked why there was an increase in use of email within the public sector through questionnaires. A similar question was posed to NAZ archivists through interviews. The replicability in terms of responses ensured that the study could pass as being "reliable".

Reliability was also achieved through pretesting. Roopa and Rani (2012:275) define pretesting as the preliminary part of research conducted before a complete survey to test the effectiveness of the research methodology. Hilton (2015:1) opines that pretesting is a method of checking that questions work as intended and are understood by those individuals who are likely to respond to them. Cohen, Manion and Morrison (2018:496) as well as Roopa and Rani (2012:275) opine that pretesting questionnaires has the following advantages;

- (i) It helps the researcher identify and correct questions that might be misunderstood.
- (ii) It helps the researcher to take note of non-sample and question-wording errors.
- (iii) It helps the researcher determine the average duration of interviews and so make necessary adjustments.
- (iv) It helps the researcher to check readability levels for the target audience.

- (v) It helps the researcher to improve instructions given to questionnaire respondents and interviewees.
- (vi) It helps the researcher to gain feedback on the attractiveness and appearance of the questionnaire.
- (vii) It helps the researcher to identify technical terms that may need to be clarified.
- (viii) It helps the researcher to check the clarity of the questionnaire items.

The researcher pretested both the three sets of questionnaires before a full scale data collection exercise was conducted. Three officers from the records section, three from the IT department and three from the administration department of the Ministry of Primary and Secondary Education were asked to complete questionnaires as part of the pre-testing exercise. The following anomalies were noted prompting adjustments to be made on the final questionnaires. Firstly, the researcher discovered that the records officers' questionnaire was very long and so adjusted it from 62 to 50 questions lest it "put off" actual respondents resulting in many non-responses or delayed responses. Secondly, the researcher discovered he had omitted "HND" (Higher National Diploma) and the "Other" bands from the list of qualifications that respondents could choose from in all three sets of questionnaires. Thirdly, the researcher discovered from pretesting that the majority of pretest respondents did not understand what "m-government" was. As such, the researcher had to define the term on the final questionnaire before asking questions about how m-government influenced the rise in use of email in Zimbabwe's central government. Lastly, through pretesting the three questionnaires, the researcher discovered that some questions had been repeated as they were or were repeated when asked differently. Thus, adjustments were made and this made the questionnaires add value to the research process.

3.8.2 Validity

Neuman (2014:215) holds that "valid" implies "true" or "correct", meaning to say a valid research is one whose findings are truthful and correct in relation to the social world and social reality. Validity as a measure is used to determine whether or not research instruments measure what they are supposed to measure (Bryman and Bell 2014:38; Magwa and Magwa 2015:90; Neuman 2014:215). This implies that the way a research instrument measures phenomenon has to be as accurate as possible. There are four types of measurement validity and these are face validity, content validity,

criterion validity and construct validity. A study can use all or some of these measures to ensure validity. This study used two validity measures, namely, face and content validity to ensure truthfulness and correctness of measures used in the research.

Face validity concerns what people believe on the face of it (Neuman 2014:215). It has to do with what people generally see and believe. Findings of a study have to tally with what people generally see and believe, on the face of it, or else, those findings can be dismissed as not being valid. In this research, email was portrayed as an important ICT tool which has generally changed the face of communication and records management as is generally held by the general public. Thus, issues of importance, use and management of email are portrayed as important and indispensable in the public sector today. Face validity was also ensured by linking the research problem, aim, objectives, literature review and findings of the study. This guaranteed truthfulness of findings in such a way that the study could be labelled as being true and correct.

Content validity is concerned with the content, that is, ideas and concepts expressed in a study and its findings (Neuman 2014:215). It is concerned with the accuracy, correctness, truthfulness and relevance of a study and the content embedded in its findings. Ideas expressed in this study are supported by a theoretical framework, which predicted phenomenon and behavior even before the study was conducted. For example, conceptual perspectives derived from the innovation diffusion theory were used to explain why certain technologies diffused more rapidly and widely than others. The study through literature review revealed that there was email usage explosion, implying content is verified as valid.

3.9 Establishing rigour in the qualitative domain

While quantitative studies use validity and reliability to show the degree of care and thoroughness in conducting a study, qualitative research uses rigour through elements such as transferability, credibility, dependability and confirmability. Establishing rigour is also used by researchers in mixed methods research where they need to establish the degree to which the qualitative strand of mixed methods can be credible and dependable. One scholar who has used transferability, credibility, dependability and confirmability in establishing rigour in qualitative research in the information sciences is Mosweu (2018:76) who maintains that rigour legitimises the research process and

demonstrates integrity and competence in research. This research used all the above four elements in “legitimising” the qualitative strand of the mixed methods research.

3.9.1 Transferability

Transferability in qualitative research is the equivalence of external validity in quantitative research (Moon, Brewer, Januchowski-Hartley, Adams and Blackman 2016:3). Transferability refers to the generalisability of inquiry where findings in a single study can be used to make predictions in similar or related studies (Nowell, Norris, White and Moules 2017:3). It is the degree to which the results of qualitative research can be transferred to other contexts or settings with other respondents. Hadi (2016:7) holds that transferability in research can be seen by use of thick descriptions of research settings, outline of sampling techniques and well spelt-out data collection and analysis methods, all of which help make the research transferable to other settings, situations and populations. The current study demarcated the contextual and conceptual settings of email management in Zimbabwe, outlined the population from which samples were selected for data collection, collected data using four techniques, namely structured questionnaires, semi-structured interviews, personal observation and document analysis and critically analysed data using both quantitative and qualitative data analysis methods. All this was meant to make the study representative of similar or related studies and thus enhance transferability of the current research.

3.9.2 Credibility

Credibility is the equivalence of internal validity in quantitative research (Gunawan 2015:4). Credibility refers to the degree to which a research represents the actual findings as expressed by research participants and free as far as possible of the researcher’s subjective views (Moon, Brewer, Januchowski-Hartley, Adams and Blackman 2016:2). A researcher can ensure credibility by prolonged engagement, persistent observation, data collection triangulation and member checking (Hadi 2016:4). The current study ensured the study was credible by application of the following. Firstly, data collection in Zimbabwe’s central government was undertaken over an extended period of six months from November 2019 to April 2020, during which period, visits to government offices made the researcher become more familiar with ICT and email management processes and equipment through personal observation. Interviews were conducted with archivists of Harare Records Centre

and directors of NAZ and central government over a five month period to build trust and establish rapport with targeted participants which resultantly facilitated collection of up-to-date and trustworthy responses. Secondly, the researcher resorted to data collection triangulation, where both quantitative (structured questionnaires) and qualitative (semi-structured interviews, personal observation and document reviews) were used in collecting data and checking the authenticity of the data collection methods against each other. Lastly, qualitative findings of the study were presented and analysed thematically through use of Atlas.ti 8® qualitative data analysis programme where themes were borne out of the themes created out of the qualitative responses made.

3.9.3 Dependability

Dependability in qualitative studies tallies with reliability in quantitative studies (Hadi 2016:7). Dependability refers to the stability of findings over time and includes the aspect of consistency of qualitative data over time (Nowell, Norris, White and Moules 2017:3). One way of ensuring dependability of qualitative data is through putting in place an audit trail which transparently describes the research steps taken from the start of a research project to its development and ultimately the reporting of research findings (Nowell, Norris, White and Moules 2017:3). Dependability in this study was obtained through informed execution of the research problem, aim and objectives of the study (Chapter 1); the review of literature (Chapter 2); an outline of the research design, data collection, data analysis (Chapter 3); data presentation and analysis (Chapter 4); data interpretation and discussion (Chapter 5) and summary, conclusions and recommendations (Chapter 6). The audit trail helped readers to see the development of the research in interrogating use and management of email in the central government of Zimbabwe throughout all the chapters. The constant and consistent development of the plot made the research and its findings dependable as results were not arrived at without a traceable execution of discernable research processes. Through use of Atlas.ti 8® qualitative data analysis programme, the study showed how themes were analysed.

3.9.4 Confirmability

Confirmability is the degree to which findings of a research study can be confirmed by other researchers (Korstjensa and Moser 2018:121). Research results are easily confirmed by others where a researcher guards against inner subjectivity by making sure research findings and interpretations

are not based on his or her preferences and viewpoints but those of participants as derived from the data. Scholars like Nowell, Norris, White and Moules (2017:3) argue that confirmability is established when the three elements discussed above, that is, credibility, transferability and dependability are all achieved. Thus, issues of data collection triangulation, use of thick descriptions, prolonged engagement, persistent observation and application of an audit trail count when one wants to establish confirmability of his or her research. Thus, through use of the strategies stated above (3.9.1 – 3.9.3) the researcher strived to establish confirmability of the current study. In addition, the researcher stated who was interviewed and why, supplied the interview guide in Appendix VIII, a personal observation checklist in Appendix XII and a list of documents reviewed in Appendix XIII, all of which were meant to guide the researcher to keep on track. In Chapter 1, the researcher outlined objectives, research questions and assumptions of the study, all of which were confirmed by research results in Chapter 4.

3.10 Data collection procedures

It is important to outline the procedures that one undertakes in collecting data in a study. Data in this study were collected through questionnaires, interviews, document reviews and personal observation. As such, data collection procedures are enunciated in line with the data collection technique used in each case.

- (i) The researcher sought permission to carry out this research from the Permanent Secretaries of different ministries. Appendix I shows the letter that the researcher wrote to Permanent Secretaries of ministries seeking permission to conduct the research. Once permission was granted, the researcher approached heads of the records section and the administration and IT departments to work out modalities for questionnaire distribution and collection. A copy of the Respondent Consent Form shown in Appendix XIV was given to respondents for completion to show their willingness to participate in the study. The researcher personally administered the questionnaires to respondents and collected them after three weeks. Follow-ups were made on selected respondents who did not return their questionnaires in time. This exercise lasted six months from November 2019 to April 2020. The researcher stopped making questionnaire response follow-ups when he felt the research process had reached data saturation point at which stage, data compilation for presentation and analysis was begun. Data were coded, tabulated, edited and used to answer different research questions.

- (ii) The Director of NAZ was contacted in writing for permission to conduct the research with NAZ archivists as well as with one officer in NAZ directorate. Appendix II shows the letter the researcher used to seek permission to conduct the research by interviewing NAZ archivists. With the Director's permission, the researcher approached the seven archivists through telephone and notified them of his intention to hold interviews with them. On appointed days, the researcher personally visited the archivists and sought their consent after guaranteeing them privacy and confidentiality as well as outlining the importance and relevance of the study. Since semi-structured interviews were used, the researcher personally conducted the interviews, using the face-to-face approach and recorded their responses for onward data compilation and analysis. Permission was also sought and granted to interview an officer from the NAZ directorate as well as the administration and IT directors.
- (iii) With regards to personal observation, the researcher sought permission from respective heads of government departments. To allay fears of security breach and mistrust, the researcher observed without use of electronic gadgets like cameras and videos. Observation was non-obtrusive, meaning to say the researcher did not interfere with the work routine of participants. The number of ICT gadgets per department and per ministry were recorded in a notebook and so were the size of email inboxes, the volume of email records print-outs, among other quantifiable observable processes, procedures and material. To fend of the Hawthorne effect, where participants behave in a positive manner when they realise that they are being observed, the observation data collection technique was applied over an extended period of six months from November 2019 to April 2020 when the researcher visited the ministries on appointed days on different occasions.
- (iv) The researcher also asked for permission to access documents generated within ministries as well as those produced by the National Archives of Zimbabwe. These included quarterly and annual reports, records survey reports and draft records policies.

3.11 Data analysis plan

Data analysis is an important subset of research for large amounts of data collected and presented have to be identified and organised in some way to enhance better comprehension and layout of the facts. As Ngulube (2015:135) puts it, data analysis creates meaning and helps to make sense of the

data. The process of analysing data involves interpreting and summarising data so that the most important features of the data are communicated (Creswell 2014:163). Since this study was mixed methods, data analysis was derived from both quantitative data analysis and qualitative data analysis methods. While quantitative data were analysed using the Microsoft Excel 2010® programme and descriptive statistics, qualitative data were analysed thematically using the Atlas.ti®. The Microsoft Excel 2010® programme was used to make statistical calculations as well as to create tables, graphs and charts on which data were succinctly displayed and communicated. Walliman (2011:113) advances that Microsoft Excel 2010® programme is an indispensable tool in analysing quantitative data as resultant graphical and tabular presentations succinctly summarise data and draw clear conclusions and generalisations. Descriptive statistics, namely, frequencies, percentages, ratios, the mean and the mode were used to analyse quantitative responses from questionnaires.

Qualitative data were analysed in this study thematically using Atlas.ti®. Use of statistical packages to analyse qualitative data was adopted following the realisation that many qualitative researchers were increasingly turning to computer-aided qualitative data analysis software like MaxQDA, Nvivo, QDA Miner, Atlas.ti and Ethnograph (Creswell and Plano Clark 2018:321; Faizan 2019:2). Atlas.ti® was developed in 1989 in Berlin, Germany but the Windows version used in the current study, that is, Version 8, was developed in 2016 (Radivojevic 2017:2). Atlas.ti® has among other advantages the capability to make quotations, code quotations, group codes into categories and thus establish themes and sub-themes under which data in a qualitative study can be analysed.

Analysis of data in quantitative form was through use of Microsoft Excel 2010® data analysis programme as well as descriptive statistics. Prior to using the statistical programme, the following steps were undertaken in line with the following recommendations of Fowler (2014:127);

- (i) The researcher designed codes which were computer-processable.
- (ii) The researcher coded the responses.
- (iii) The researcher entered the quantitative responses into the computer programme.
- (iv) The researcher cleaned data to make it more accurate and more complete.

All this made it possible for the researcher to create tables and graphs that succinctly displayed data.

Analysis of qualitative data began with transcription of interview responses which were later imported into Atlas.ti® together with documents review and personal observation notes. The researcher made use of a research assistant to transcribe interview responses. A total of 20 qualitative documents were loaded and a total of 360 quotations were made and associated with 78 codes. Sub-themes were formed around the most frequently-occurring words as depicted in the word cloud in Appendix XV. In turn, the 78 codes were transformed into eight categories, also known as code groups or themes (See Appendix XVI).

3.12 Data integration

As argued by Ngulube (2020:440), researchers should strive to show how quantitative and qualitative data were mixed. Holding a similar view is Creamer (2018:218) who argues that without showing how the two data sets are mixed, a study becomes “eternally parallel” as quantitative and qualitative data findings remain unsynchronised and unsynthesised. Creswell and Plano Clark (2018: 220) also see data integration as important as they describe it as “the centre-piece of mixed methods research”. Integration in convergent research designs involve merging or bringing together the quantitative results with the qualitative results (Creswell and Plano Clark 2018:128). It is a strategy a researcher adopts in merging quantitative and qualitative results so that the two data sets appear as results of a single study. Data integration in this study was based on the six processes outlined below as influenced by Creswell and Plano Clark (2018:130):

- (i) Collection and analysis of quantitative results.
- (ii) Collection and analysis of qualitative results independent of quantitative responses.
- (iii) Merging quantitative and qualitative responses, specifically merging numeric and textual responses.
- (iv) Seeing if quantitative and qualitative results merge or diverge. If they diverged, the researcher commented about the possible source of divergence.
- (v) Transforming qualitative responses into numerical counts and comparing them with quantitative results.
- (vi) Making researcher inference or researcher reflection of the combined results.

3.13 Ethical considerations

According to Bless, Higson-Smith and Sithole (2013:28), the word “ethics” is derived from the Greek word “ethos” which means “one’s character” or “one’s disposition”. Another related term, that is, “morality” which is derived from the Latin word “*moralis*” refers to “character” or “manners”. Both ethics and morality have to do with issues of right or wrong and today’s researchers can hardly do without them. Magwa and Magwa (2015:10) aver that ethics refer to norms of conduct that distinguishes between acceptable and unacceptable behaviour. Ruane (2016:61) holds that ethical considerations are part of research as they help prevent abuse of participants, minimise risk to participants and upholds respect and trust for participants and the public at large. This study conformed to ethical norms in as far as it pursued professionalism, honesty, non-maleficence beneficence, respect for participants and complied with the expectations of UNISA’s Ethics Review Committee whose ethics approval for the researcher stretched from 14 October 2019 to 14 October 2023. The ethics approval is shown in Appendix IV.

3.13.1 Professionalism and honesty

This research was conducted in a professional and honest manner, concepts that Bless, Higson-Smith and Sithole (2013:31) call the “principle of fidelity”. As Ruane (2016:46) argues, an ethical research is one in which data is not falsified and one in which a researcher desists from forms of deception, research fraud and also one in which the researcher avoids conflict of interest. Bless, Higson-Smith and Sithole (2013:31) add that professionalism and honesty can also be shown by keeping promises and agreements, avoidance of deception, reporting back to participants and acknowledging sources of information. The researcher spelt out the purpose of the study and enunciated to participants that they would not be given incentives for taking part in the study. The researcher respected appointment times, acknowledged sources of information by way of references both in-text and at the end of the study and also availed to participants research results. All this helped to avoid deception and to show that the researcher kept promises he made during the data collection phase.

3.13.2 Respect for participants

Closely related to the issues of professionalism and honesty is the issue of respect for participants. Bless, Higson-Smith and Sithole (2013:31) argue that an ethical research is one which respects

participants' legal and human rights as well as their dignity and self-respect. Cohen, Manion and Morrison (2018:471) point out that questionnaire respondents are not passive data providers for researchers and as such, they should be treated with respect as subjects and not objects of research. This study guaranteed respect for participants by pursuing the aspect of informed consent. Bryman and Bell (2014:121); Ruane (2016:50) and Sekeran and Bougie (2013:163) claim that informed consent is an ethical mandate which states that potential research participants should be fully informed about the research so that they can decide whether or not to participate. Permission to conduct this research was sought from the Permanent Secretaries of government ministries as well as the Director of the NAZ. In turn, prospective participants were asked to take part in the study after the purpose and potential benefits of the study were spelt out to them. The researcher catered for all the necessary four elements of informed consent, that is, competence, voluntarism, full information and comprehension (Cohen, Manion and Morrison 2018:471; Ruane 2016:50). The researcher approached competent potential participants who were all above 18 years of age. All necessary details were explained to potential participants and this ensured that with full information, participants thus acted voluntarily and with understanding. Participants were also notified that they reserved the right to withdraw from the study at any time without questions (Cohen, Manion and Morrison 2018:471). Participants were asked to sign a consent form to show their unfettered and un-coerced willingness to participate. The respondent consent form is shown in Appendix XIV.

3.13.3 Principle of non-maleficence

An ethical research must not cause harm to participants. Ruane (2016:48) argues that the most basic ethical principle is the "cause-no-harm dictum". Non-maleficence implies that a study should not in any way harm participants, be it physically, emotionally or psychologically (Cohen, Manion and Morrison 2018:471; Driscoll 2011:156). This study respected participants' privacy, confidentiality and anonymity as names of participants were not disclosed. The researcher concealed the identity of questionnaire respondents and interview participants to protect their privacy and thus prevented any harm befalling them. Preventing harm was extended to taking measures to safeguard both the health and safety of respondents and the researcher during this era of the COVID-19 pandemic. The World Health Organisation (WHO) COVID-19 guidelines were observed during interviews, as well as during distribution and collection of questionnaires. Some of the guidelines that the researcher observed were maintaining acceptable social distance, sanitising hands and wearing a face mask.

3.13.4 Principle of beneficence

Bless, Higson-Smith and Sithole (2013:29) hold that beneficence is the principle that a research should benefit wider society. Research is conducted for a purpose, for example, to generate knowledge or to resolve a social problem. A research that does not benefit society is meaningless and useless, more so, a waste of resources, for example, time, money and effort. The researcher spelt out to heads of government ministries, the Director of NAZ, respondents and participants the importance of this research both to the records management and electronic records management fraternity. The researcher informed key stakeholders that this research was intended to promote informed, responsible, effective and efficient management of email, which hitherto has been neglected despite its substantive use within the public sector. Doing so would enhance accountability, transparency, quick and informed decision-making and guarantee society of the availability of electronic documentary heritage now and into the future.

3.13.5 Conforming to dictates of the University Ethics Review Committee

Ruane (2016:61) opines that nowadays, it is no longer the sole responsibility of individual researchers to worry themselves about ethical issues in research, but that of institutions and examining bodies as well. As a result, research institutions as well as universities now have ethical review boards and ethics committees which enforce ethical compliance on researchers. The University of South Africa, examiner of this thesis, set out parameters that guided the researcher in making sure that this research was ethically-sound. The researcher was a signatory to the dictates of UNISA's Ethics Committee. As well, the researcher complied with the University of South Africa's Policy on Research Ethics (2013), which places emphasis on respect for participants' autonomy, privacy, anonymity and confidentiality, beneficence and justice. Appendix IV shows the researcher's ethical clearance form.

3.14 Evaluation of the research methodology

This section evaluates the research methodology used in the study, which includes among other issues, the research paradigm, research approach, data collection techniques, the population and sampling as well as the data collection techniques. There are reasons why these research methods and tools were selected ahead of others and which enabled the study to take shape it took and achieve the

desired goal that is, addressing the research problem of the study, which centered on use and management of email in Zimbabwe's central government.

The pluralist ontological perspective was relevant in this study as it allowed the researcher to use multiple sources of data as well as multiple perspectives in addressing the research problem. A pragmatic epistemological perspective was also used. Both the pluralist and pragmatic perspectives are commonly used in mixed methods research and should be viewed not as philosophies like realism, positivism, nominalism and constructivism, but as practical means to address a research problem, bearing in mind that single methods face a number of limitations. The mixed methods research approach was very useful in bringing out both quantitative and qualitative aspects of interest in use and management of email in Zimbabwe's central government. This could not be done by a quantitative study used alone or a qualitative study used alone. The plural and pragmatic approaches made the study richer in terms of data collection techniques and scope of findings.

This study collected data from structured questionnaires, semi-structured interviews, document reviews and personal observation. Use of these four data collection techniques helped to triangulate data and so ensure that the study was both reliable, valid, credible and dependable. In addition, the data collection techniques ensured that numerical data were collected in line with the research approach and research paradigm. The convergent research design was very helpful in the study as it enabled quantitative and qualitative data to corroborate and triangulate each other, making research findings richer, more valid, more reliable and more credible.

The population of the study included government officers who mostly indulge in the creation, receipt, maintenance, preservation and disposal of records in electronic format. The population also included directors who are well versed with policy and strategic management issues in the GoZ as well as NAZ archivists from Harare, who are involved in supervision of records management activities in head offices of government ministries. Samples were drawn from the most relevant section and departments of government ministries and from the relevant NAZ section, that is, the Records and Information Management section. Ethical considerations were put in place to protect the respondents as well as to enable respondents participate freely. Ethical considerations also paid heed to health and safety measures as data collection overlapped into the period of the COVID-19 pandemic.

3.15 Summary

This chapter has outlined the research design of the study. This enabled the researcher to collect data in a systematised way in line with the spirit of the mixed methods research approach. The chapter spelt out the research methodology of the study which was suitable in addressing the research question, which sought to examine the use and management of email in the central government of Zimbabwe. The research methodology was not adopted arbitrarily, and as such, it has been positively evaluated as necessary in addressing the research problem of the study. The use of a mixed methods research enabled the collection of both quantitative and qualitative data, thus making qualitative responses confirm or disconfirm quantitative responses. This enhanced validity, reliability, credibility and dependability of research findings which are presented in the successive chapter.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF RESEARCH FINDINGS

4.1 Introduction

This chapter presents and analyses research findings obtained in addressing four of the five research objectives of the study, namely;

- (i) Assessing the prevalence of use of email in the central government of Zimbabwe.
- (ii) Examining motivation for using email as an official ICT application in the central government of Zimbabwe.
- (iii) Establishing how email is managed in the central government of Zimbabwe.
- (iv) Determining challenges faced in managing email in the central government of Zimbabwe.

Research objective 5, that is, “Proposing a framework for effective use and management of email in the central government of Zimbabwe” is presented in Chapter 6 as part of the recommendations of the study. The current chapter outlines respondents’ and participants’ background information, the response rate, data integration format as well as the presentation and analysis of research findings. Without presentation and analysis of research findings, a study fails to bring in new knowledge and there cannot be any justification for conducting such a study.

4.1.1 Response rate

The population of the study was 670 officers, comprising of 660 ROs; AOs and ITOs plus 7 NAZ archivists from Harare Records Centre and 3 directors (one from NAZ and the other two from central government). Questionnaires were distributed to all the 660 respondents from where 240 questionnaires were returned. This gave a sub-response rate of 36.4% (240/ 660). While the researcher initially planned to have a higher response rate, COVID-19 lockdown restrictions in Zimbabwe thwarted efforts in achieving that fate. On 30 March 2020, the GoZ imposed a national lockdown in the country as a measure to fight and contain the COVID-19 pandemic. Between 22 March and 15 October 2020, only 20% of government workers classified as “essential” were allowed to report for duty. The figure was revised upwards to 40% as from 16 October 2020, then to 30% on 5 January 2021 and later to 10% on 20 January 2021. Thus, the COVID-19 induced national lockdown frustrated efforts at collecting some completed questionnaires as well as from making follow-ups on

unreturned questionnaires. As a result, there was a low questionnaire response rate of 36.4%. Nonetheless, more than half number of government ministries participated in the study as questionnaire responses were obtained from officers in 12 out of the targeted 22 government ministries. This made the study valid and reliable.

All the targeted ten interviewees (7 archivists and 3 directors) participated in the study, making a sub-response rate of 100%. The overall response was 250 out of 670, making an overall response rate of 37.3%. It is rather more advisable to use larger sample sizes in quantitative and quantitative-related studies (Connaway and Powell 2010:128; Kumar 2011:180). Nonetheless, Williamson and Johanson (2018:363) opine that obtaining large sample sizes in studies involving large populations is a mammoth task. Thus, they propose the following benchmarks as guidelines for sample sizes involving large populations;

- (i) For populations under 1000, a sample size of 30% is good.
- (ii) For populations above 10 000, a sample size of 10% is good.
- (iii) For populations of above 1000 000, a sample size of 0.025 is good.

Thus, the 37.3% sample size in the present study, for a population of 670, was “good” by Williamson and Johanson (2018:363)’s standards and could be relied upon to produce valid, reliable, dependable and credible research results.

4.1.2 Profile of respondents and participants

This section presents background information about questionnaire respondents and interviewees, focusing particularly on gender, qualifications and work experience. Although gender *per se* did not meaningfully influence results of the study, it was outlined in order to show demographic trends and patterns within the sample that participated in the study. Participants’ and respondents’ qualifications and work experience were crucial in this study as they helped to enhance credibility and dependability of the study in some way. Figure 4.1 shows gender of the 240 questionnaire respondents.

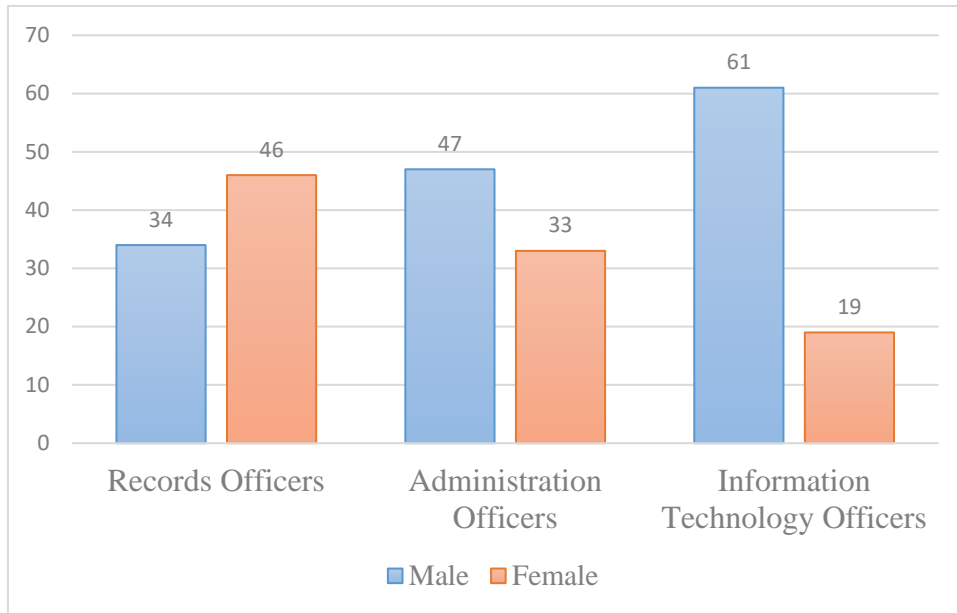


Fig. 4.1: Gender of questionnaire respondents

There were more male officers than female officers in the administration and information technology departments. However, there were more female officers than male officers in the records section. The dominance of women over men in the records management field has ripple effects as it shaped attitude and perceptions of management towards records and information management work as shown in Sections 5.8.7; 5.8.8 and 5.8.9. The study also outlined educational qualifications of respondents. It is the researcher's contention that qualified respondents are more likely to give valid, reliable, credible and dependable responses when asked about issues within their professional circles. Figure 4.2 shows the consolidated educational qualifications of Records Officers (ROs); Administration Officers (AOs) and Information Technology Officers (ITOs).

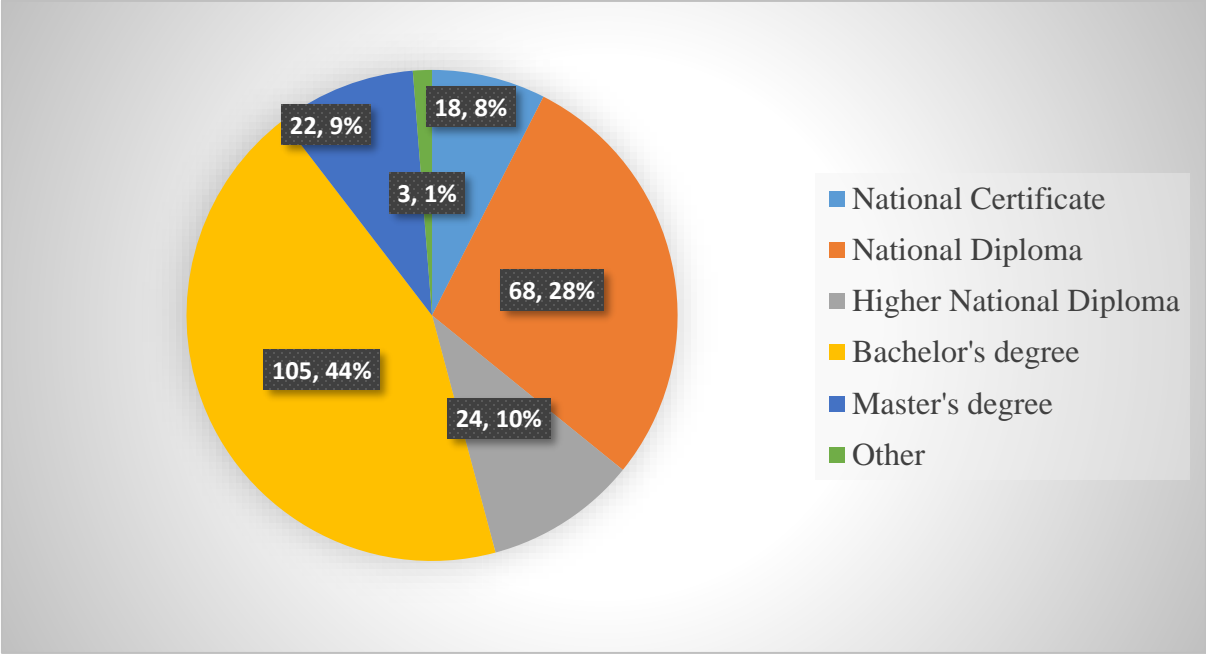


Fig. 4.2: Consolidated educational qualifications of ROs, AOs and ITOs in Zimbabwe’s central government

The majority of respondents, 105 (44%) had bachelors’ degrees, followed by 68 (28%) with National Diplomas, 24 (10%) with Higher National Diplomas, 22 (9%) with Masters’ degrees, 18 (8%) with National Certificates and lastly, 3 (1%) with “Other” qualifications. Since the majority of respondents had national diplomas, bachelors’ and masters’ degrees, it follows that respondents were generally highly qualified in their respective areas within central government.

The study also established that respondents were generally very well experienced. Most respondents had up to 10 years work experience followed by those who had between 10 and 19 years work experience. It is the researcher’s contention that more experienced officers are more likely to provide reliable and valid responses. Figure 4.3 shows the work experience of ROs, AOs and ITOs in Zimbabwe’s central government.

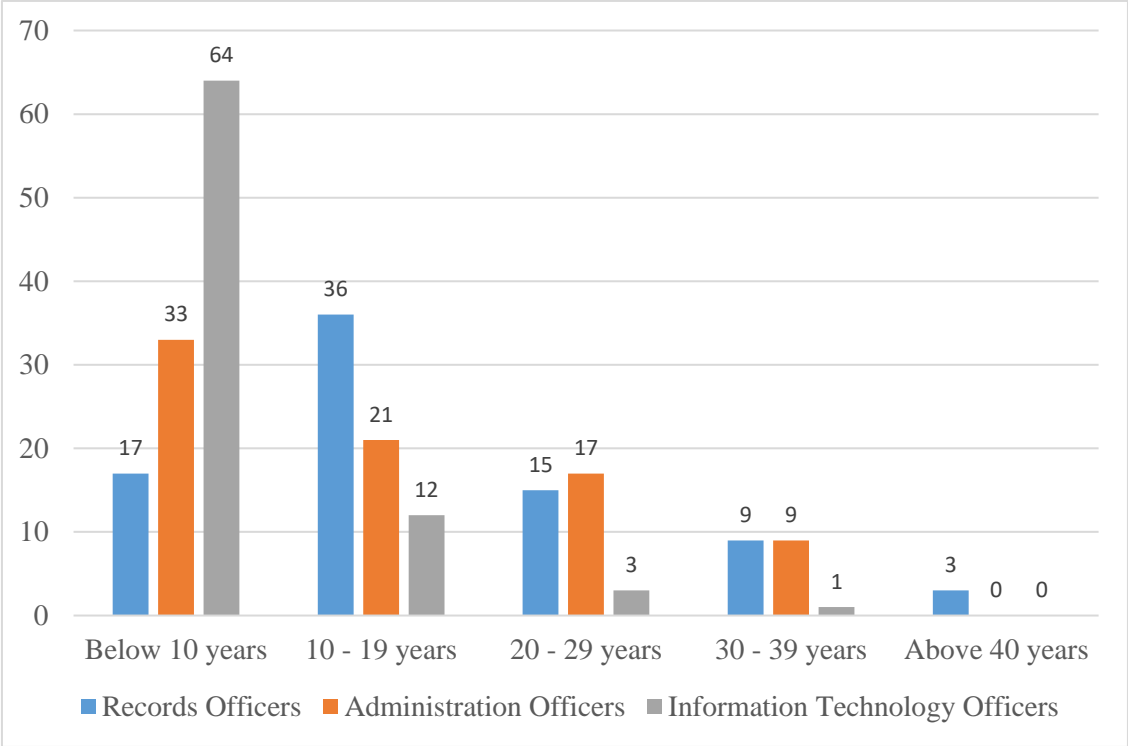


Fig: 4.3: Work experience of ROs, AOs and ITOs

Participants, who included seven NAZ archivists and three directors also had high qualifications and long work experience. The seven NAZ archivists were coded as NAZ1; NAZ2; NAZ3; NAZ4; NAZ5; NAZ 6 and NAZ 7 in line with the order they were interviewed. Directors were coded D1 (officer from NAZ directorate); D2 (Administration Director from central government) and D3 (IT Deputy Director from central government). Biographical details of the two sets of interviewees are shown in Table 4.1.

Table 4.1: Gender, qualifications and experience of interviewees

Interviewees	Gender	Qualification	Experience
NAZ 1	Male	Master's degree	8 years
NAZ 2	Female	Bachelor's degree	6 years
NAZ 3	Male	Bachelor's degree	8 years
NAZ 4	Male	Bachelor's degree	11 years
NAZ 5	Female	Bachelor's degree	5 years
NAZ 6	Male	Master's degree	5 years
NAZ 7	Female	Bachelor's degree	2 years
D1	Male	Master's degree	21 years
D2	Female	Master's degree	28 years
D3	Male	Bachelor's degree	18 years

The commonest (5; 71.4%) qualification amongst NAZ interviewees was a bachelor's degree, followed by a master's degree (2; 28.6%). In terms of experience, the most experienced archivist, was NAZ4, a Principal Archivist, followed by three Senior Archivists, NAZ1, NAZ2 and NAZ3 with eight, six and eight years' work experience respectively. Their experience implied possession of knowledge and experience necessary to comment about records management issues in Zimbabwe's central government, including email management issues. The officer from the NAZ directorate had a master's degree and had 21 years working experience at the NAZ. The Administration Director drawn from central government had a master's degree and had 28 years work experience in government. The Information Technology Deputy Director had a bachelor's degree and 18 years work experience in government. All the three directors were well versed with policy and management issues in the GoZ considering their work experience and high academic qualifications. Thus, they could be relied upon to explain and comment over general management, records, email and related issues in this study.

4.1.3 Data presentation format

This study used a mixed methods research approach and a convergent mixed methods research design. Data integration in convergent research designs involve merging or bringing together the quantitative results with the qualitative results (Creswell and Plano Clark 2018:128). It is a strategy a researcher adopts in merging quantitative and qualitative results so that the two data sets appear as results of a single study. This enhanced and enriched the research findings. Data were presented under the research objectives of the study, namely, prevalence of use of email; motivation for using email; management of email and challenges facing Zimbabwe's central government in managing email.

4.2 Prevalence of use of email in the central government of Zimbabwe

The first objective of the study was to identify the prevalence of use of email in Zimbabwe's central government. Four sub-research questions were posed in addressing the prevalence of use of email in Zimbabwe's central government. The first sub-research question was to find whether or not electronic records were replacing paper records. The second sub-research question was to establish the frequency of use of email. The third sub-research question sought to find out the types of records normally sent and received through email. The last sub-research question sought to establish the average number of emails central government sent and received in a day.

4.2.1 Electronic records as replacing paper records in Zimbabwe's central government

In order to establish the prevalence of the use of email in the central government of Zimbabwe, the researcher began by probing whether or not electronic records were replacing paper records in Zimbabwe's central government. The question was asked to establish the context of electronic records within the current records management regime in Zimbabwe's central government. The question was posed to questionnaire respondents as well as NAZ archivists who participated in the study as interviewees. A combined 127 (52.9%) questionnaire respondents "disagreed" and "strongly disagreed" that electronic records were replacing paper records in Zimbabwe's central government. A combined 103 (42.9%) respondents "Agreed" and "strongly agreed" that electronic records were replacing paper records in Zimbabwe's central government, while 10 (4.17%) were neutral. Their responses are shown in Table 4.2.

Table 4.2: Electronic records are replacing paper records in Zimbabwe’s central government

(N=240)

Respondents	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Totals
ROs	12(5%)	20(8.33%)	3(1.25%)	40(16.67%)	5(2.08%)	80 (33.33%)
AOs	15(6.25%)	30(12.5%)	5(2.08%)	25(10.42%)	5(2.08%)	80 (33.33%)
ITOs	15(6.25%)	35(14.58)	2(0.83%)	18(7.5%)	10(4.16%)	80(33.33%)
Totals	42(17.5%)	85(35.41%)	10(4.17%)	83(34.59%)	20(8.32%)	240 (100%)

Seven NAZ archivists who participated in the study as interviewees were also asked whether electronic records were replacing paper records or not. NAZ archivists are responsible for supervising records management services in the entire public service of Zimbabwe including in central government. The majority (5; 71.4%) of archivists stated that paper was still the dominant records format within central government, while two (28.6) stated that electronic records were replacing paper records in Zimbabwe’s central government. One of the interviewees, that is, NAZ2, who held the view that electronic records were not replacing paper records had this to say;

Zimbabwe is a developing country, which currently is inundated with a myriad of economic and social challenges. As such, the country is lagging behind many other developing countries in terms of ICT developments to the extent that it would take decades before electronic records could replace paper records. Currently paper records are more dominant.

Through personal observation in 10 government ministries where access into offices and storerooms was granted, the researcher noticed that there were hordes of paper records, paper files and paper print-outs. Staff in many government ministries were engrossed with working with paper records, inductively supporting the view that Zimbabwe’s central government records system was still predominantly more paper-based than digital-based. Nonetheless, the rise in use of electronic records was also evident. Statistical evidence from questionnaires, interviews and personal observation showed that paper was still the dominant records format within the central government of Zimbabwe.

4.2.2 Types of records sent and received using email in Zimbabwe's central government

In probing the prevalence of use of email in Zimbabwe's central government, 240 ROs, AOs and ITOs were asked through questionnaires to indicate which types of records were normally communicated through email in their ministries. The following consolidated results were obtained.

Table 4.3: Types of records normally sent and received through email

Type of record	Frequency	Percentage
Correspondences	222	92.5%
Minutes of meetings	220	91.7%
Memoranda	210	87.5%
Reports	210	87.5%
Policies	198	82.5%
Operations records	160	66.7%
Contracts	147	61.3%
Appointment letters	106	44.2%
Financial records	102	42.5%
Instructions	89	37.1%
Requisitions	87	36.3%
Assets registers	82	34.2%
Leave applications	74	30.8%
Tax returns	50	20.8%
Staff appraisals	49	20.4%
Investment projects	42	17.5%
Other	32	13.3%

Almost all types of records created and received in Zimbabwe's central government could be sent and received via email. However, as shown in Table 4.3 above, some types of records were most communicated using email than others. Results of the survey showed that the commonest types of records communicated through email were correspondences (92.5%), minutes of meetings (91.7%),

memoranda (87.5%), reports (87.5%) and policies (82.5%). Records least communicated through email were staff appraisals (20.4%), tax returns (20.8%) and investment projects (17.5%). The fact that 32 (13.3%) respondents indicated “Other records” implies that there were quite a number of other records which were communicated through email other than those that the researcher provided as options on the questionnaire.

Interview results from NAZ archivists corroborated questionnaire results as six (85.7%) participants indicated that minutes, memoranda, correspondences, reports and policies were generally the commonest administrative records handled on a day to day basis in Zimbabwe’s central government. Thus, it was not surprising that they were the most communicated through email. One interviewee (NAZ3), stated that records of a sensitive nature, namely, staff appraisal, tax returns and investment projects were least communicated through email since their communication was many times not for public consumption. As a result, use of email was rather low in the case of human resource and financial records than was the case with administrative records.

4.2.3 Frequency of using email in Zimbabwe’s central government

All respondents, that is, ROs, AOs and ITOs, were asked if email was the most widely used ICT for sending and receiving information in their ministries. A total of 177 (73.75%) respondents from all the three categories of respondents agreed that email was the commonest ICT for sending and receiving information. Only 42 (17.49%) disagreed while 21 (8.74%) stated that they did not know whether or not it was. Table 4.4 succinctly shows the responses obtained from the three categories of respondents.

Table 4.4: Email is the most popular ICT tool for sending and receiving information

Category of officer	Yes	No	I do not know	Totals
ROs	62(25.83%)	8(3.33%)	10(4.16%)	80(33.33%)
AOs	55(22.92%)	17(7.08%)	8(3.33%)	80(33.33%)
ITOs	60(25%)	17(7.08%)	3(1.25%)	80(33.33%)
Totals	177(73.75%)	42(17.49%)	21(8.74%)	240(100%)

NAZ archivists who participated in the study as interviewees were also asked whether or not email was the most popular ICT for sending and receiving information in Zimbabwe's central government. Five (71.4%) archivists agreed that indeed, email was the most popular ICT for sending and receiving information, while two (28.6%) disagreed. The five interviewees who indicated that email was the most popular ICT for sending and receiving information gave the following reasons in support of their views;

- (a) NAZ1 – “Email is fast and cheap”.
- (b) NAZ2 – “Email is cheap and can be accessed wherever there is Internet connection”.
- (c) NAZ4 – The most experienced of all NAZ archivists stated that email was fashionable as seen in his remarks that, “Email is the in-thing. Only laggards can choose to be left behind”.
- (d) NAZ6 – “Email is the most formal ICT in business as compared to other upcoming ICTs like Whatsapp, Facebook and Instagram”.
- (e) NAZ7 – “Email has an audit trail which is good for records management”.

Through personal observation in 10 government ministries where observation access was granted, the researcher discovered that there were many online computers, especially in administration officers' base rooms, implying that they used email, which happens to be a very common Internet application. The researcher also saw servers as well as email files and email paper printouts, all pointing to use of email within those ministries. The researcher saw documents in the form of records survey reports in Ministries D, I, L and N. All the records survey reports showed that the ministries used email extensively. The Administration Director (D2) in one government ministry indicated that technology was fast evolving in Zimbabwe resulting in increased use of email in central government. She indicated that despite some challenges and ICT teething problems, use of email was growing remarkably in Zimbabwe as a result of the e-government programme which availed requisite ICT infrastructure, policies and skills. Thus, one can safely say that email is now an emergent ICT which has an edge over traditional ICTs like letters, telephones, facsimile and telex.

4.2.4 Average volume of email received and sent per day

Prevalence of use of email in the central government of Zimbabwe was also established by looking at the average volume of email that ROs; AOs and ITOs received and sent per day. Respondents

were firstly asked to state the average number of emails they received per day. The results obtained are shown in the Table 4.5.

Table 4.5: Emails received by ROs, AOs and ITOs per day

Email volume	0 - 9	10 – 19	20 – 29	30 - 39	40 – 49	50 - 59	Totals
ROs	5(2.08%)	15(6.25%)	30(12.5%)	20(8.33%)	7(2.92%)	3(1.25%)	80(33.33)
AOs	3(1.25%)	13(5.42%)	35(14.58%)	17(7.08%)	7(2.92%)	5(2.08%)	80(33.33)
ITOs	31(12.92%)	22(9.16%)	16(6.67%)	10(4.17%)	1(0.41%)	0(0%)	80(33.33)
Totals	39(16.25%)	50(20.83%)	81(33.75%)	47(19.58%)	15(6.25%)	8(3.33%)	240(100)

Thirty-nine (16.25%) respondents received between zero and nine emails per day; 50 (20.83%) received between 10 and 19 emails per day; 81 (33.75%) received between 20 and 29 emails per day; 47 (19.58%) received between 30 and 39 emails per day; 15 (6.25%) received between 40 and 49 emails and eight (3.33%) received between 50 and 59 emails per day. The modal class, that is, the commonest, was the 20 to 29 emails category, which had 81 respondents. The IT Deputy Director (D3) in one government ministry corroborated the above findings as he indicated that many officers spent the better part of their day on email, either reading, sending or responding to email. Although D3 could not estimate the volume of email central government dealt with in a day, he stated that officers had become so engrossed on working with official email that it affected other official daily tasks.

This study established the average number of emails that each of the 240 officers received by computing the mean of the grouped data using statistics in Table 4.4 above. The study applied the formula for computing mean of grouped data where one establishes the midpoint (x) of the class interval, multiply it by the frequency for each category and divide the result by the number of observations. Table 4.6 shows how the data was arranged for computation of the mean of grouped data.

Table 4.6: Computation of the average number of emails received by ROs, AOs and ITOs per day

Class interval	Frequency (f)	Midpoint (x)	Fx
0 – 9	39	19.5	760.5
10 – 19	50	25	1250
20 – 29	81	40.5	3280.5
30 – 39	47	23.5	1104.5
40 – 49	15	7.5	112.5
50 – 59	8	4	32
Totals	n = 240	-	$\sum fx = 6540$

Formula for mean of grouped data =
$$\frac{\sum fx}{n}$$

Where ‘ \sum ’ denotes ‘sum of’; ‘f’ denotes ‘frequency’; ‘x’ denotes ‘midpoint’; and ‘n’ denotes ‘total number of observations’

$$= \frac{6540}{240}$$

$$= 27.25$$

$$= \underline{\underline{27 \text{ emails per day}}}$$

This means on average, each RO; AO and ITO received 27 official emails per day. This was rather a lot of email given that receiving, reading and responding to email were not the only daily tasks of these officers.

The researcher also probed to find out the volume of email that ROs, AOs and ITOs sent per day. Table 4.7 shows categories of email depicting the ranged volume of email sent.

Table 4.7: Emails sent by ROs, AOs and ITOs per day

Email volume	0 - 9	10 - 19	20 – 29	30 - 39	40 - 49	50 – 59	Total
ROs	5(2.08%)	15(6.25%)	30(12.5%)	20(8.33%)	8(3.33%)	2(0.83%)	80(33.33%)
AOs	3(1.25%)	12(5%)	35(14.58%)	17(7.08%)	8(3.33%)	5(6.25%)	80(33.33%)
ITOs	39(16.25%)	22(9.17%)	15(6.25%)	4(1.67%)	0(0%)	0(0%)	80(33.33%)
Total	47(19.58%)	49(20.42%)	80(33.33%)	41(17.08%)	16(6.67%)	7(2.91%)	240(100%)

Most (80; 33.3%) respondents indicated that they sent between 20 and 29 emails per day. The least range of email volume sent was 50 to 59 emails. Most (39; 48.75%) ITOs sent between zero and nine emails per day, while most ROs (30; 37.5%) received between 20 and 29 emails per day and most (35; 43.75%) AOs sent between 20 and 29 emails per day. The modal class was the 20 to 29 emails with 80 respondents. The average number of emails sent in a day by each officer is shown Table 4.8.

Table 4.8: Computation of the average number of email sent by ROs, AOs and ITOs per day

Class interval	Frequency (f)	Midpoint (x)	Fx
0 – 9	47	23.5	1104.5
10 – 19	49	24.5	1200.5
20 – 29	80	40	3200
30 – 39	41	20.5	840.5
40 – 49	16	8	128
50 - 59	7	3.5	24.5
Totals	n = 240	-	$\sum fx = 6498$

$$\begin{aligned}
\text{Mean for grouped data} &= \frac{\sum fx}{N} \\
&= \frac{6498}{240} \\
&= 27.075 \\
&= \underline{\underline{27 \text{ emails sent per day}}}
\end{aligned}$$

This means, on average, each RO, AO and ITO sent 27 emails per day. Sending on average 27 emails in addition to receiving 27 emails per day implied that on average, an officer dealt with 54 official emails in a single day! This was rather a high volume of email to content with given that ROs, AOs and ITOs had other duties to content with in their daily routines.

The majority (6; 85.7%) of NAZ archivists who were interviewed indicated that since usage of email had grown remarkably in central government, officers in central government received and sent large volumes in a day. This was also supported by interviewee D2 who indicated that administrative work relied heavily on email, a situation which resulted in officers in central government spending part of their working day dealing with email. Sending and receiving on average 54 emails (27 received + 27 sent) implied that use of email had remarkably grown in central government.

4.3 Motivation for using email in the central government of Zimbabwe

The second objective of the study was examining motivation for using email in Zimbabwe's central government. Four sub-research questions were posed in pursuit of this objective. Firstly, the study investigated the role played by ICTs in promoting the rise in use of email. Secondly, the study probed the role played by the regulatory, policy and procedural frameworks in promoting the rise in use of email. Thirdly, the study looked at how email generic advantages aided rise in use of email in Zimbabwe's central government. Lastly, the study probed how generic limitations of email discouraged Zimbabwe's central government from using email.

4.3.1 ICTs as promoting use of email in Zimbabwe's central government

In examining the role played by ICTs, the study interrogated the issue of e-government, m-government as well as ICT infrastructure in the rise in use of email. The issue of e-government was tackled first. There was generally consensus amongst all three categories of questionnaire respondents regarding the positive role played by e-government. Figure 4.4 shows questionnaire respondents' views about the role played by e-government in promoting the rise in use of email.

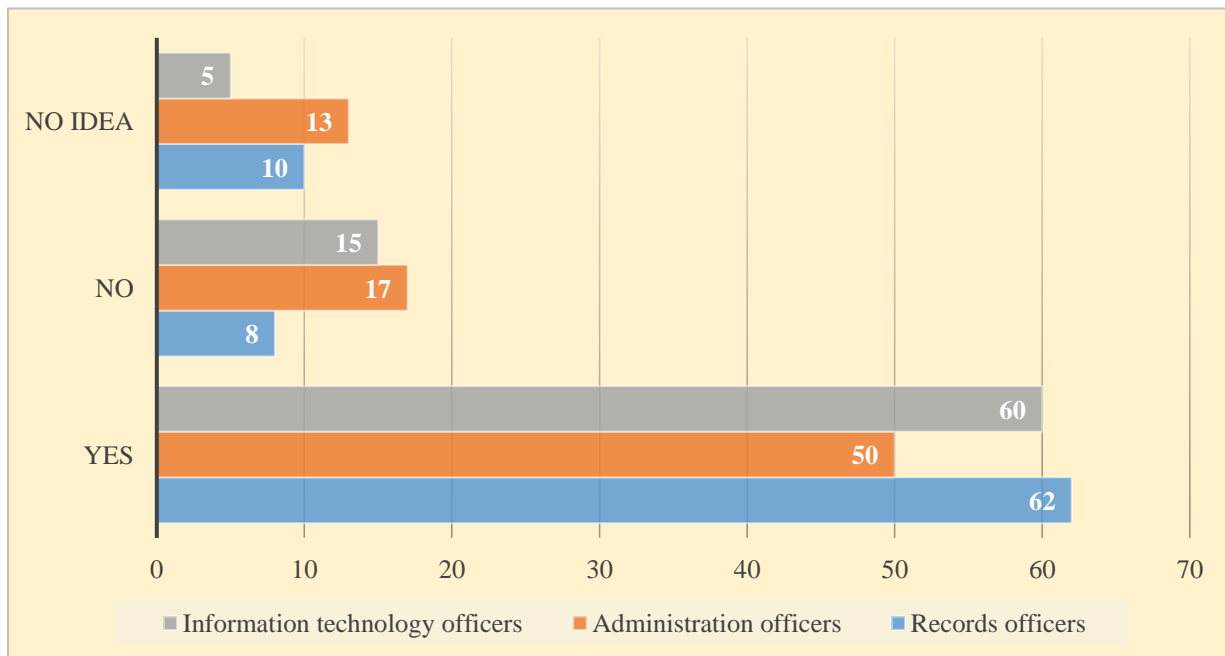


Fig. 4.4: E-government promotes rise in use of email in Zimbabwe's central government

Sixty-two (77.5%) ROs, 50 (62.5%) AOs and 60 (75%) ITOs saw e-government as boosting the rise in use of email in Zimbabwe's central government. Eight (10%) ROs, 17 (21%) AOs and 15 (19%) ITOs refuted the idea that e-government promoted the use of email within head offices of government ministries. Ten (13%) ROs, 13 (16%) AOs and 5 (6%) ITOs stated they were not aware whether or not e-government boosted the use of email within their ministries. These statistics show that the majority of respondents held the view that use of email in Zimbabwe's central government was highly motivated by the e-government programme.

The rise in use of email as attributed to e-government was corroborated by five (71.4%) of the seven archivists who participated in interviews. NAZ interviewees were asked to state one reason why e-government boosted the rise in use of email. The following results, as shown in Figure 4.5 were obtained.

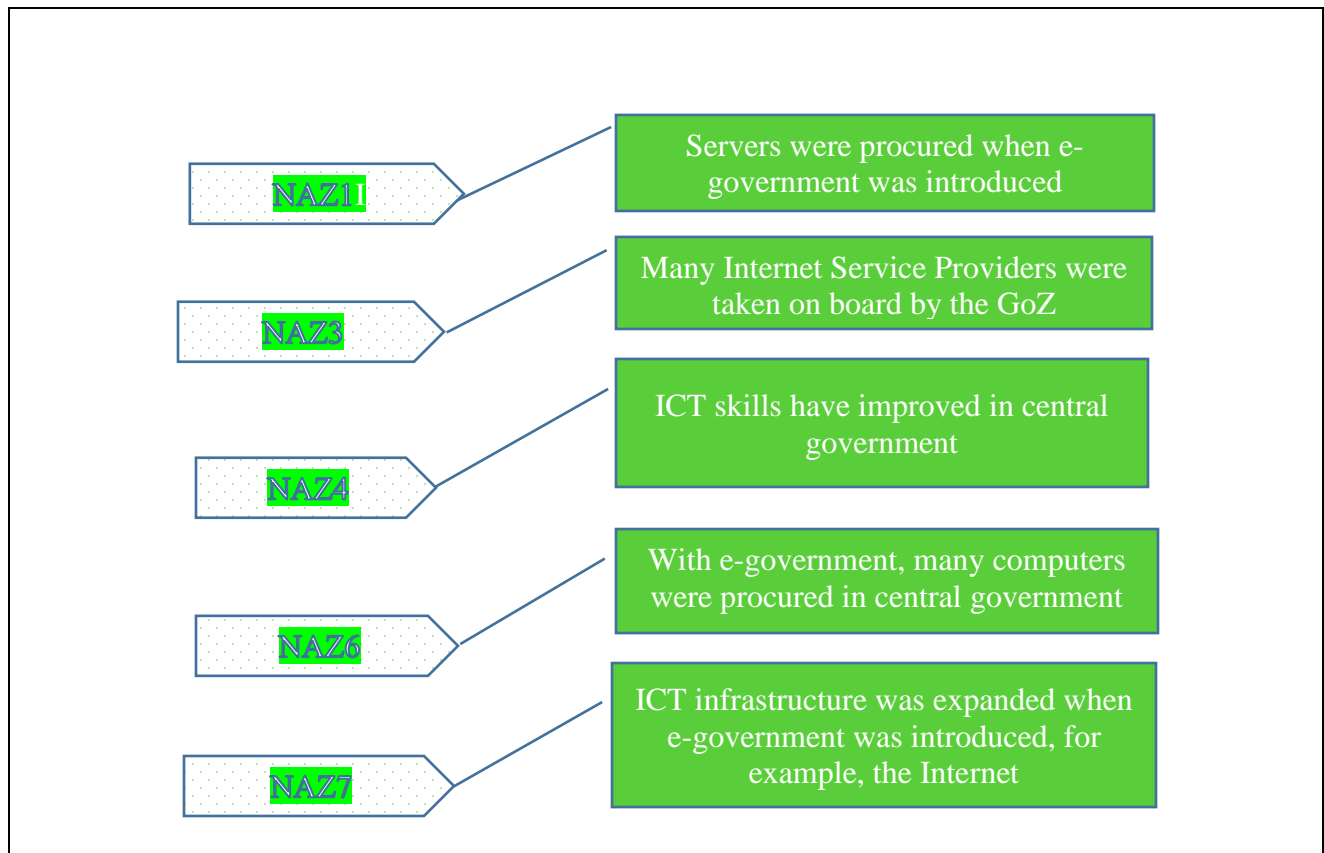


Fig. 4.5: Interviewees’ reasons why e-government boosted rise in use of email

The five participants regarded issues of ICT skills, Internet Service Providers and infrastructure (computers, servers and the Internet) as part of e-government which promoted the rise in use of email in Zimbabwe’s central government. D3, an IT Deputy Director from one central government ministry, indicated that e-government promoted the rise in use of email in central government because with the e-government programme came the establishment of the ICT ministry in 2009, the crafting of ICT policies and the massive procurement of ICT infrastructure by the GoZ.

Personal observation by the researcher in 10 ministries also revealed the existence of hordes of ICT infrastructure, which in some way propelled the rise in use of email in central government. The researcher noticed that almost all offices had at least one desk top computer and at least one lap top. NAZ6, a Senior Archivist, also backed the researcher's observation as he remarked;

Computers, which during the olden days were considered complicated and valuable gadgets, have now become just ordinary items. It would rather be absurd to see one single office without a computer. In addition, many officers have personal lap tops which they bring to work every day and use for both personal and official business. This has made it possible for officers to easily receive and send email.

- (i) Most computers were connected online. Personal observation in government ministries revealed that most of the computers in many offices were online. It was difficult to establish the number of computers in each ministry though.
- (ii) A total of 62 (77.5%) ITOs indicated that their ministries used a combination of broadband and Wi-Fi Internet while all (100%) ministries used Wi-Fi. With Internet connection, ministries could use email. It should be noted that email is one of the most popular Internet applications.
- (iii) A total of 12 (15%) ITOs described their Internet as "very strong", while 27 (33.8%) described it as "strong", 33 (41.3%) as "not strong" and 8 (10%) as "not very strong". One of the archivists (NAZ7) indicated through interviews that the fact that there was Internet connection was enough evidence that email could be used as an ICT application regardless of the strength of the Internet. She remarked, "Even if the Internet was 'not strong', this could not stop use of email, although the volume of email sent and received could be very low as a result".

Respondents and participants were also asked about the role that m-government played in enhancing the rise in use of email in Zimbabwe's central government. The results from this survey are outlined in Figure 4.6.

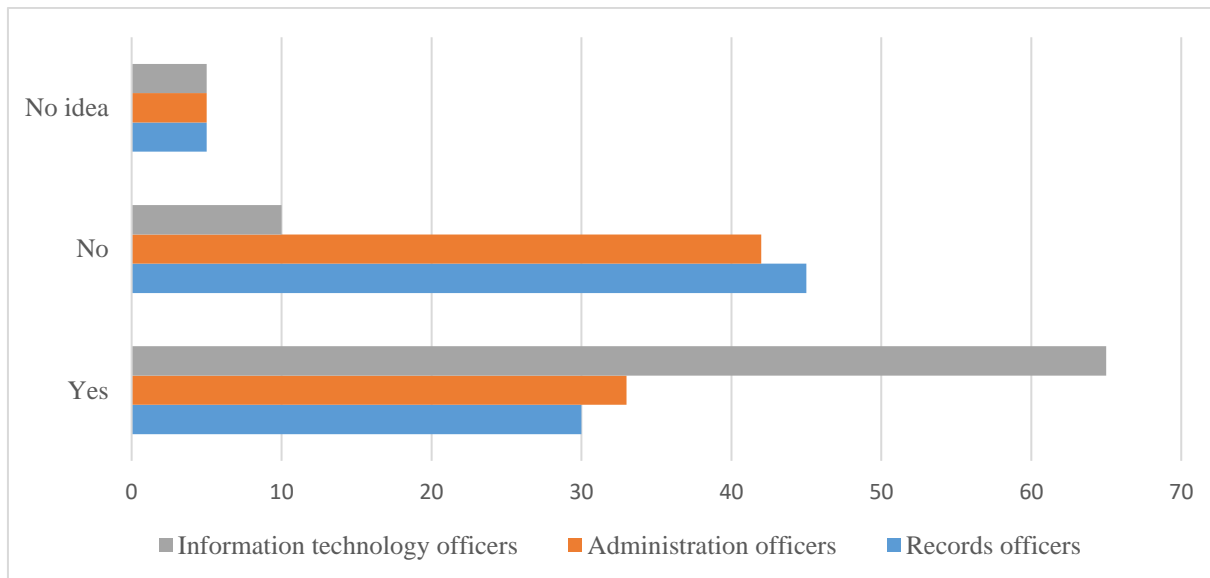


Fig. 4.6: M-government promotes rise in use of email in Zimbabwe's central government

Many (65; 81.3%) ITOs agreed that m-government boosted the use of email in their ministries. Only 30 (37.5%) ROs and 33 (41.3%) AOs saw the role of m-government as important. Most ROs, that is, 45 (56.3%), 42 (52.3%) AOs and 10 (12.5%) ITOs dismissed the role of m-government as a factor in enhancing the rise in use of email. Five (6.3%) respondents in each category expressed that they had no idea whether or not m-government promoted the rise in use of email in their ministries. ITOs should have been in a better position to realise the role of m-government than the other two categories of officers because issues of m-government and mobile technologies were part of their day-to-day work.

NAZ archivists were interviewed in order to establish the role of m-government in aiding the rise in use of email in Zimbabwe's central government. All NAZ archivists confirmed that the role of m-government was rather low as many of the mobile devices were personal properties of respective officers and as such were not normally used in official business. NAZ3, a Principal Archivist, had this to say;

Save for laptops, most mobile technologies are normally not used for official business since they are personal gadgets. Amongst these technologies are cell phones, tablets and smart phones. In addition, the availability of fixed technologies like desk tops make officers forget

about other ICTs like mobile technologies that can be alternatively used. As a result, the role played by mobile devices in enhancing official use of email is rather minimal.

Another Principal Archivist, NAZ1 also commented;

Most government workers are used to fixed technologies that are provided by their employers. Use of mobile technologies is largely unofficial and as such, are normally used for personal business on platforms like Whatsapp and Facebook. Thus, it is not surprising that the role of m-government is largely not highly regarded by many public officials.

The following were seen by ITOs as mobile technologies that promoted the rise in use of email;

- (a) Cellular phones, which were indicated by 25 (31.3%) ITOs.
- (b) Smart phones, which were indicated by 28 (35%) ITOs.
- (c) Laptops, which were indicated by 68 (85%) ITOs.

The researcher further probed to establish what ICTs were used in different ministries. Respondents, namely, ROs; AOs and ITOs, were asked to indicate ICTs that were available in their ministries. The consolidated responses are shown in Table 4.9.

Table 4.9: ICTs found in different government ministries

ICT	Totals
Business systems	240(100%)
Computers	240(100%)
Internet	240(100%)
Laptops	240(100%)
Servers	240(100%)
Scanners	235(97.5%)
Facsimile machines	203(84.6%)
UPS	173(72.1%)
Generators	174(72.5%)
Cell phones	150(62.5)
Intranets	117(48.8)
Extranets	83(34.6)
Radios	30(12.5)
Television	26(10.8)
EDRMS	0(0%)
ECM	0(0%)

All the items of ICT infrastructure in the table above were available in different government ministries, except the EDRMS and ECM. The commonest ICTs were computers, the Internet, business systems, servers and laptops which were found in all head offices of government ministries. These items of ICT infrastructure are indispensable in using email for information and communication purposes. This implied their presence greatly boosted the use of email in Zimbabwe's central government. Also common in many ministries were scanners, facsimile machines, cell phones, intranets and extranets. Radios and televisions were not found in many ministries, but even though, they did not directly impact on the use and management of email. No ministry to date has an EDRMS and an ECM. The two are trending electronic records management solutions currently used

in many parts of the world. Their absence in central government pointed towards drawbacks in management of records in electronic form, including email.

Personal observation in 10 of the 12 ministries that participated in the study confirmed the existence of many ICTs in many ministries. However, it was difficult to judge by mere personal observation the rate of use of the ICTs in enhancing the use of email in these ministries. Three (42.9%) interviewees (NAZ1; NAZ5 and NAZ6) corroborated questionnaire findings which revealed that no ministry was using the EDRMS and ECM. However, they speculated that such ICTs would soon flood central government as technology was diffusing in that direction. Interviewee D3 commented that despite fiscal challenges, Zimbabwe was trying its best to invest in ICT infrastructure. He nevertheless bemoaned the current state of most infrastructure which was old, slow and which frequently broke down.

4.3.2 Regulatory, policy and procedural frameworks promoting the use of email

Under this sub-research question, respondents and participants were asked about the role played by the regulatory, policy and procedural frameworks in enhancing the rise in use of email in Zimbabwe’s central government. The main regulatory framework in Zimbabwe is the NAZ Act (1986). Thus, by looking at the role played by the regulatory framework, focus was largely on the NAZ Act (1986). ROs, AOs and ITOs’ responses are shown in Table 4.10.

Table 4.10: NAZ Act (1986) promotes use of email in central government

Category	Yes	No	I do not know	Totals
ROs	25(10.42%)	46(19.17%)	9(3.75%)	80 (33.33%)
AOs	33(13.75%)	42(17.5%)	5(2.08%)	80 (33.33%)
ITOs	22(9.17%)	53(22.08%)	5(2.08%)	80 (33.33%)
Total	80(33.34%)	141(58.75%)	19(7.92%)	240(100%)

The majority of respondents (141; 58.75%) indicated that the NAZ Act (1986) did not play a significant role in enhancing use of email in Zimbabwe’s central government. Only 80 (33.34%)

stated that the NAZ Act played an important role in enhancing use of email in central government, while 19(7.92%) could not say whether or not the Act played an important role. The NAZ Act (1986) is supposed to play an important role in enhancing controlled use of records in any format in Zimbabwe. Thus, the largely negative response was rather surprising.

NAZ archivists and D1 were consulted in assessing the role of the NAZ Act (1986) in enhancing use of email in central government. The majority of NAZ archivists (5; 71.4%) stated that the NAZ Act was less helpful in the case of electronic records as it did in the case of paper records. Their individual responses are captured in Figure 4.7.

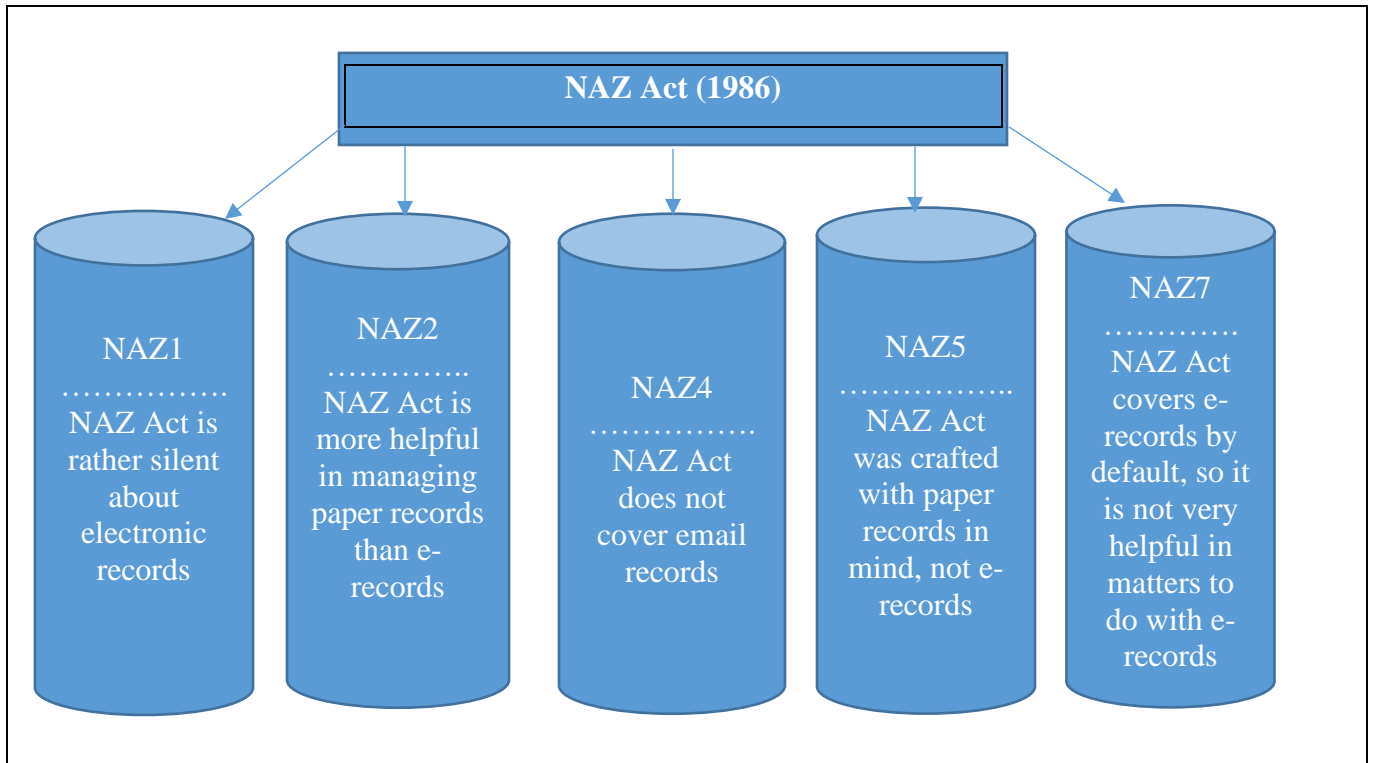


Fig. 4.7: NAZ archivists’ views why the NAZ Act (1986) did not enhance use of email in central government

The remaining two archivists (NAZ3 and NAZ6) stated that the NAZ Act (1986) can be used to manage records in all formats, for example, paper, electronic and audio-visual. They therefore held that the NAZ Act (1986) enhanced the use of email in central government. D1, an officer from the NAZ directorate, confirmed that the NAZ Act (1986) was skewed more in favour of paper records

than electronic records and that there was need for a review of the Act to make it fully cater for electronic records as well. He added that the NAZ Act (1986) did not promote the rise in use of email as it allowed the uncontrolled proliferation of email within central government. Results from interviewees and questionnaire respondents largely showed that the NAZ Act (1986) did not promote controlled use of email in central government and that there was need for the Act to be reviewed to cater for records in electronic form.

The purpose of a policy is to guide action. Respondents and participants were asked whether or not their ministries had ICT and email policies and what the impact of the policies was on email use. Focus was firstly made on ICT policy and the results of the investigation are portrayed in Table 4.11.

Table 4.11: Existence of ICT policies in central government

Category of officers	ICT policy exists	ICT policy does not exist	No idea	Totals
ROs	27(11.25%)	45(18.75)	8(3.33)	80(33.33%)
AOs	30(12.5%)	32(13.33)	18(7.5%)	80(33.33%)
ITOs	25(10.42)	50(20.83)	5(2.08%)	80(33.33%)
Totals	82(34.17)	127(52.92)	31(12.92%)	240(100%)

The most prominent response was that government ministries did not have an ICT policy, which was indicated by 127 (52.92%) respondents. Conversely, the existence of an ICT policy in government ministries was indicated by 82 (34.17%) respondents, while 31 (12.92%) respondents could not say whether or not an ICT policy existed in their ministries. The Deputy Director in one ministry, D3, indicated that all ministries in Zimbabwe had ICT policies but very few officers knew about their existence since the ICT policies were largely crafted by the IT department and largely not shared across departments within central government.

As a follow-up on respondents who indicated that an ICT policy existed in their ministries, the researcher asked whether or not the ICT policy was applied in using and managing email. Out of the 82 respondents who stated that an ICT policy existed in their ministries, 40 (48.78%) stated that the ICT policy was applied in using and managing email, and 38 (47.5%) stated the ICT policy was not

applied in using and managing email while four (4.87%) had no idea whether or not the ICT policy was used.

Poor application of ICT policy in the management of email which was indicated by ROs, AOs and ITOs was confirmed by two documents, namely the records survey reports found at Ministry I and N. They revealed that NAZ archivists had instructed the two ministries to make use of their ICT policy in using and managing email. The documents revealed that the ICT policies existed in the two ministries but were not applied in guiding the usage of electronic records, inclusive of email. NAZ7 who noticed that sometimes policies existed but were not used made this remark;

It seems ministries are sometimes pressured to come up with policies by auditors. They strive to have these policies crafted, but their application in day to day work is something else. Thus, it is not surprising to find a ministry with a records policy or an ICT policy, while ordinary officers hardly know of the existence of such a policy.

The researcher also probed whether government ministries had email policies. The following results displayed in Table 4.12 were obtained from questionnaire respondents.

Table 4.12: Existence of email policies in central government

Category of officers	Email policy exists	Email policy does not exist	No idea	Totals
ROs	14(5.83%)	62(25.83%)	4(1.67%)	80(33.33%)
AOs	18(7.5%)	54(22.5%)	8(3.33%)	80(33.33%)
ITOs	32(13.3%)	42(17.5%)	6(2.5%)	80(33.33%)
Totals	64(26.67%)	158(65.83%)	18(7.5%)	240(100%)

Very few respondents (64; 26.67%) stated that email policies existed in their ministries. This contrasted sharply with 158 (65.83%) who stated that email policies did not exist in their ministries. Four (57.1%) NAZ interviewees also indicated that most government ministries in central government did not have email policies, confirming the views raised by questionnaire respondents.

Interviewee D3 confirmed that many ministries did not have email policies despite the fact that email was substantively used in central government. He reiterated that government position was that all

ministries were supposed to have email policies, but lapses in follow-ups by Permanent Secretaries (heads of ministries in central government) resulted in IT departments dragging their feet in crafting email policies. Nevertheless, the absence of email policies did not deter use of email, but questions arise whether email was properly used and managed. D1 confirmed that not all ministries had email policies and that those with email policies had crafted them on their own without assistance from the NAZ which is the norm. D1 also indicated that the absence of NAZ-driven email policies was a result of NAZ being overwhelmed with work in other areas, but he hastened to state that with the draft records policy currently being polished up, every public sector organisation will soon have a NAZ-grown and driven email policy.

All the 240 ROs, AOs and ITOs were asked if they had email procedures manuals in their ministries and if they applied them in using email. A total of 100 (41.67%) stated that email procedures manuals existed in their ministries while 117 (48.75%) stated that such records tools did not exist in their ministries. Twenty-three (9.58%) respondents did not have an idea whether or not email procedures manuals existed. It was noted from the results that ITOs were mostly aware of the existence of email procedures manuals than did ROs and AOs. This indicated lack of collaboration between the three groups of officers in using and managing email within central government.

Through personal observation, the researcher confirmed the existence of the email procedures manuals which he saw in 5 head offices of government ministries. However, all the 5 manuals were developed by ITOs of the respective ministries and were approved either by the IT Deputy Director or the Permanent Secretary of the ministry. It was not clear whether or not the approved manuals had been distributed to all departments within the ministries. Interviewee D1 indicated that an authentic policy or procedures manual was supposed to be approved by the Director of the NAZ, or else it would be null and void. He stated;

Unless a policy, procedures manual or retention schedule is approved by the NAZ, it is null and void. Ministry-grown policies and procedures are okay given that NAZ-approved ones do not exist. While they remain guides for officers within the ministry, they are legally not binding.

The researcher also found that the existence of an email procedures manual did not imply the manual was used within the ministry. Figure 4.8 shows responses for the existence of a procedures manual juxtaposed to the use of the manual within those ministries.

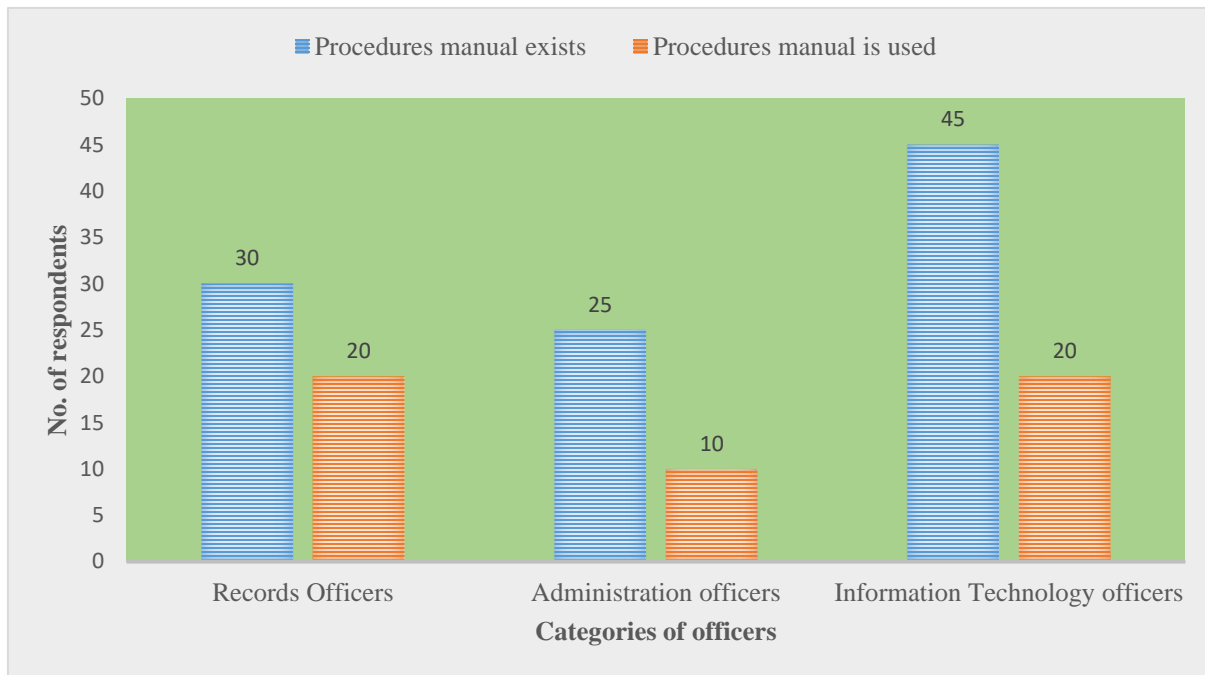


Fig. 4.8: Existence of email procedures manual versus its use in government ministries

A total of 30 ROs indicated that an email procedures manual existed yet 20 indicated the manual was used. Twenty-five AOs indicated that an email procedures manual existed yet only 10 indicated its use in their ministries. Forty-five ITOs indicated that an email procedures manual existed yet only 20 indicated its use in their ministries. NAZ4, a Principal Archivist from NAZ confirmed through interviews the existence of email procedures manuals which were more often underutilised. This showed that the procedures manual existed to some extent as a ‘window dresser’ and nothing more. He categorically stated that, at times, tools like the procedures manual were developed “just to be in sync with auditor requirements” but never used in practice.

4.3.3 Generic advantages of email that promote the rise in use of email

In further finding out what motivated officers in using email, questions regarding generic advantages of using email were posed. Figure 4.9 shows the advantages of email that respondents indicated as encouraging the use of email in their ministries.

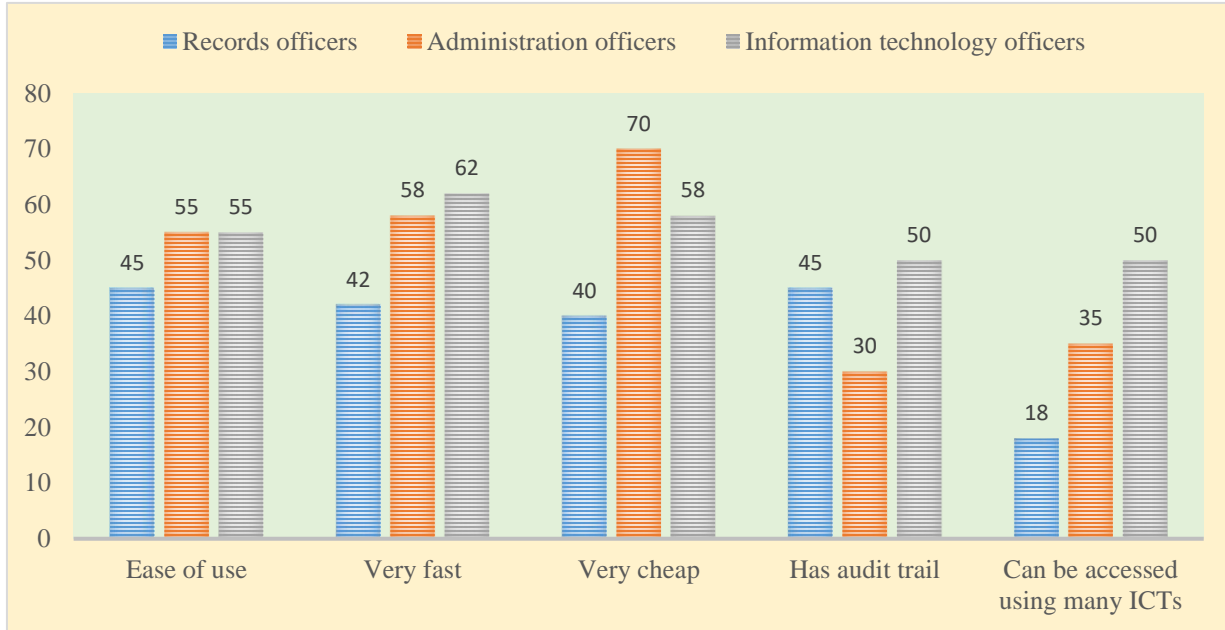


Fig. 4.9: Generic factors promoting use of email in Zimbabwe's central government

All three categories of questionnaire respondents indicated that rise in use of email was due to its ease of use, low cost and speed of processing and sending information, presence of an audit trail and the fact that email could be sent or received using many different ICT devices. Ease of use was indicated by 45 (56%) out of 80 ROs, 55 (69%) out of 80 AOs and 55 (69%) out of 80 ITOs. This showed that many times, government officers quickly adopted use of new technology if it was not complicated to use. The issue of speed was also important. It seemed most important for ITOs where 62 (78%) out of 80 ITOs saw it as a motivating factor, followed by 58 (73%) out of 80 AOs and 42 (53%) out of 80 ROs.

A total of 70 (88%) AOs indicated cost as a factor motivating use of email. Other categories of respondents also saw cost a factor as it was indicated by 58 (73%) ITOs and 40 (50%) ROs. It seemed for ROs, cost did not matter a lot than speed and ease of use. For AOs who engage in procurement as

one of their duties, the issue of cost played a major role. Similarly, ITOs are conversant with cost of ICT applications and it was not surprising that the issue of cost was a major determinant in assessing factors that motivated use of email in central government.

The issue of email having an audit trail was not very important to AOs where only 30 (38%) indicated audit trail as a contributing factor in the rise in use of email. However, for ROs and ITOs, the issue of audit trail was an important determinant as indicated by 45 (56%) ROs and 60 (75%) ITOs. Nevertheless, for ROs where use of electronic records is still growing, the issue of audit trail was found to be in its infancy, hence the lower percentage as compared to ITOs. The fact that email can be accessed through many ICT devices such as desk top computers, lap tops, tablets and smart phones also contributed towards the rise in use of email in government ministries. This was indicated by 18 (28%) ROs, 35 (44%) AOs and 50 (63%) ITOs. It was noticeable that for ROs and AOs, the issue of use of many ICTs was not very important as ITOs viewed it. It could be a pointer to the fact that more ITOs were aware of the existence of many mobile technologies than did ROs and AOs.

Seven NAZ archivists and three directors were asked through interviews to comment how generic advantages of email enhanced email use in Zimbabwe's central government. The majority (6; 85.7%) of archivists, confirmed the positive role of generic advantages in enhancing use of email in central government. One of them, NAZ4, indicated that Zimbabwe's central government was experiencing diffusion of email which was simple, compatible with public service ideals and which had relative advantages over earlier ICT applications. Another archivist, NAZ5, stated that the GoZ always emphasised cost cutting measures in doing business, thus, use of cheaper ICTs like email was the way to go. He made this remark;

For the GoZ, cost is a major factor. The government has adopted cheaper but efficient ways of doing business. This has resulted in the adoption and use of cheaper ICTs like email as opposed to the continued use of traditional means of information and communication.

D1 and D3 agreed that email had advantages over other ICTs, for example, in terms of cost, speed and audit trail. D2 did not comment over the matter.

Evidence from questionnaire respondents and interviewees showed that use of email in Zimbabwe’s central government was greatly boosted by the generic advantages that email had relative to other ICT applications. Thus, generic advantages of email as well as e-government motivated use of email while the roles of m-government, the regulatory, policy and procedural frameworks were not very visible.

4.3.4 Generic limitations of email as discouraging the use of email

Although there was a rise in use of email, there were some factors that still discouraged some officers in some government ministries from using email as an ICT application. Through questionnaire responses, the following were noted as factors discouraging use of email; information overload, lack of interpersonal communication, no guarantee that a message sent was seen or read, lack of privacy and the fact that email wasted a lot of productive time within an organisation. These results are presented in Figure 4.10.

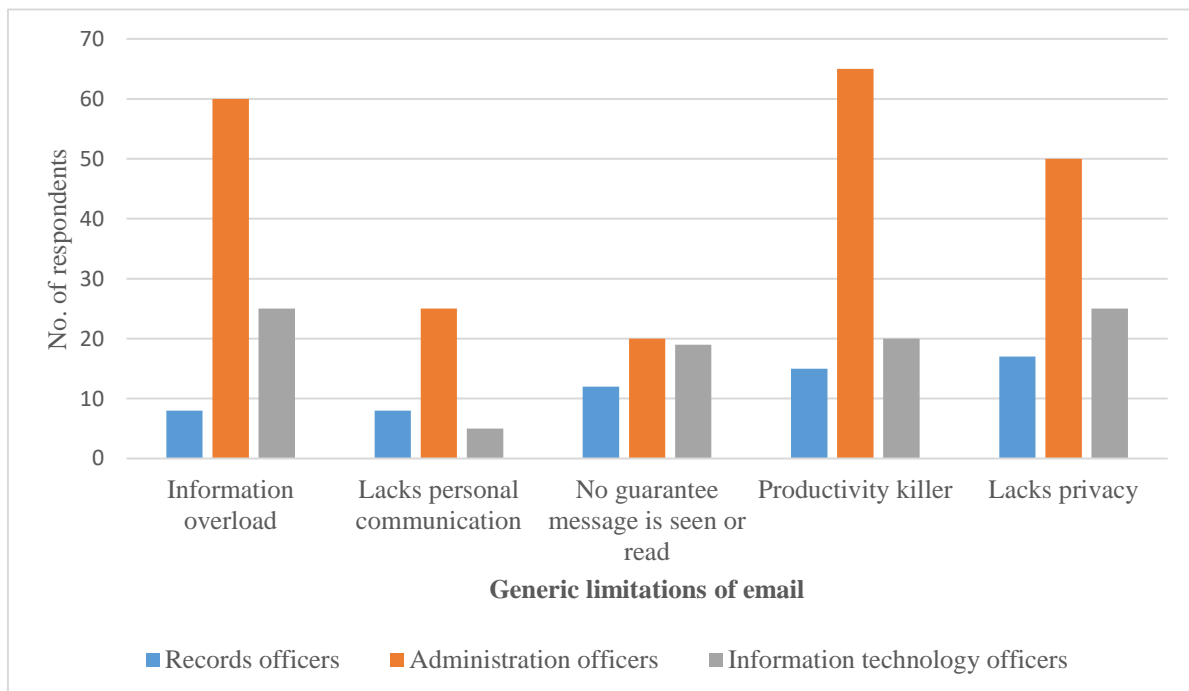


Fig. 4.10: Generic factors discouraging use of email in Zimbabwe’s central government

Information overload was a major cause for concern among AOs. This was expressed by 60 (75%) AOs while only 8 (10%) ROs and 25 (31%) ITOs saw it as an issue. The issue of email information overload was also raised by interviewees, for example, NAZ6. The participant stated that the challenge of information overload mainly faced AOs who bore the brunt of the ministry's electronic information workload through the administrative work that they performed. He added that information overload could have been a worry to ROs if they had electronic records management systems. No government ministry in Zimbabwe had an electronic records management system at the moment.

Another discouraging factor was lack of interpersonal communication. This emanated from the absence of one-on-one interaction where upon conversing, officers personally and warmly interacted. This was cited by 8 (10%) ROs, 25 (31%) AOs and 5 (6%) ITOs. Nevertheless, the fact that very few respondents cited this as a stumbling block shows that the impact of the limitation on email use was rather minimal. The purpose of communication is to exchange messages. Effective communication entails the passing on of the message to the intended recipient and getting feedback from him or her. Thus, one of the disadvantages of email as cited by respondents was lack of guarantee that a message sent was positively received and acted upon. A message can be sent and 'sits' in the email inbox for a long time, thus militating against the ethos of effective communication. This limitation was cited by 12 (15%) ROs, 20 (25%) AOs and 19 (24%) ITOs.

There were contrasting views about email being a major distraction at work. While AOs saw it as a major issue, ROs and ITOs did not regard email as much of a 'productivity killer'. A total of 65 (81%) AOs, 20 (25%) ITOs and 15 (19%) ROs saw email as a 'productivity killer'. As expressed by NAZ4, most AOs see email as time-consuming owing to the fact that they received and sent the highest number of email, owing to the nature of their day-to-day work.

Lack of privacy of email was cited as an issue for concern mostly by AOs (50; 63%). Only 17 (21%) ROs and 25 (21%) ITOs saw lack of privacy as a stumbling block to use of email in Zimbabwe's central government. Privacy concerns in using email in official business was corroborated by five (71.4%) NAZ archivists in interviews. NAZ7 indicated that privacy issues mostly affected AOs than ROs and ITOs because their work mostly involved receiving and parceling of a lot of sensitive

information. NAZ7 and NAZ3 also stated that most ROs and ITOs did not see lack of privacy as a major challenge because these two categories of officers had more superior knowledge about information security measures and mechanisms than AOs.

4.4 Management of email in Zimbabwe's central government

The third objective of the study was to examine how email was managed in Zimbabwe's central government. This objective was divided into four parts, namely; examining reasons for managing email; establishing personnel responsible for managing email in Zimbabwe's central government; examining email management strategies used and assessing the role played by NAZ in helping central government manage email. Each of these parts were dealt with in turn, starting with an examination of reasons why the central government of Zimbabwe managed official email.

4.4.1 Reasons for managing email in Zimbabwe's central government

ROs, AOs and ITOs were asked if it was important to manage email and to give reasons to support their responses. A total of 177 (73.75%) respondents indicated that email was supposed to be managed properly and professionally. A total of 41 (17.08%) saw managing official email as not important, while 22 (9.17%) had no idea whether or not it was important to manage email. D1 through interviews stated that there was generally a misconception in central government that paper records were the only official record rendering email and other electronic records as supportive and secondary records. He remarked;

The fact that paper is still regarded as the official record in government business has resulted in electronic records being viewed as unofficial and thus undeserving of proper and professional management. NAZ has a role to play in making the public sector aware that official government records come in different formats and all formats deserve to be managed professionally and properly.

As stated above, a total of 177 questionnaire respondents saw managing email as important. These 177 respondents were each asked to state one reason why they believed email was supposed to be properly and professionally managed. Their responses are shown in Table 4.13.

Table 4.13: Reasons why email should be properly and professionally managed

Reasons	ROs	AOs	ITOs	Totals
Email is official record	8(4.52%)	5(2.82%)	9(5.08%)	22(12.43%)
Email accumulates and quickly fills inbox	10(5.65%)	13(7.34%)	11(6.21%)	34(19.21%)
To enhance retrieval	10(5.65%)	6(3.39%)	6(3.39%)	22(12.43%)
To ensure security	13(7.34%)	10(5.65%)	22(12.43%)	45(25.42%)
To control access	15(8.47%)	8(4.52%)	10(5.65%)	33(18.64%)
To ensure there is information for posterity	14(7.91%)	3(1.69%)	4(2.26%)	21(11.86%)
Totals	70(39.55%)	45(25.42%)	62(35.03%)	177(100%)

The issue of security came first with 45 (25.42%) respondents, followed by quick accumulation with 34 (19.21%) respondents followed by access concerns with 33 (18.64%) respondents. Minor reasons why email was supposed to be managed were the issue of it being official record (22; 12.43%); to enhance retrieval (22 respondents; 12.43%) and the issue of ensuring there is information for posterity (21 respondents; 11.86%). It was notable that security issues were a major issue with ITOs than with ROs and AOs, probably owing to the fact that ensuring ICT security is part of the duties of ITOs. It was also notable that the issue of information for posterity was a major concern for ROs than any other category of officers, probably owing to the fact that permanent preservation of records or archives is part of the duties of ROs. The other four reasons were fairly distributed amongst the respondents.

Interviewee D3, an IT Deputy Director in one government ministry, also reiterated that email was official record and hence was supposed to be managed properly. Nonetheless, he called upon the Records section of different ministries to greatly assist central government officers in the proper and professional management of email since it was rather an emerging technology in the public sector. Personal observation by the researcher in 10 ministries where internal access was granted revealed

the existence of some email policies, email procedures manuals and email classification schemes, all pointing to the importance some ministries attached to professional management of official email in Zimbabwe's central government.

4.4.2 Officers managing email in the central government of Zimbabwe

The second sub-research question under Objective 3 probed who amongst officers in central government were responsible for managing email. The views of questionnaire respondents are portrayed in Figure 4.11.

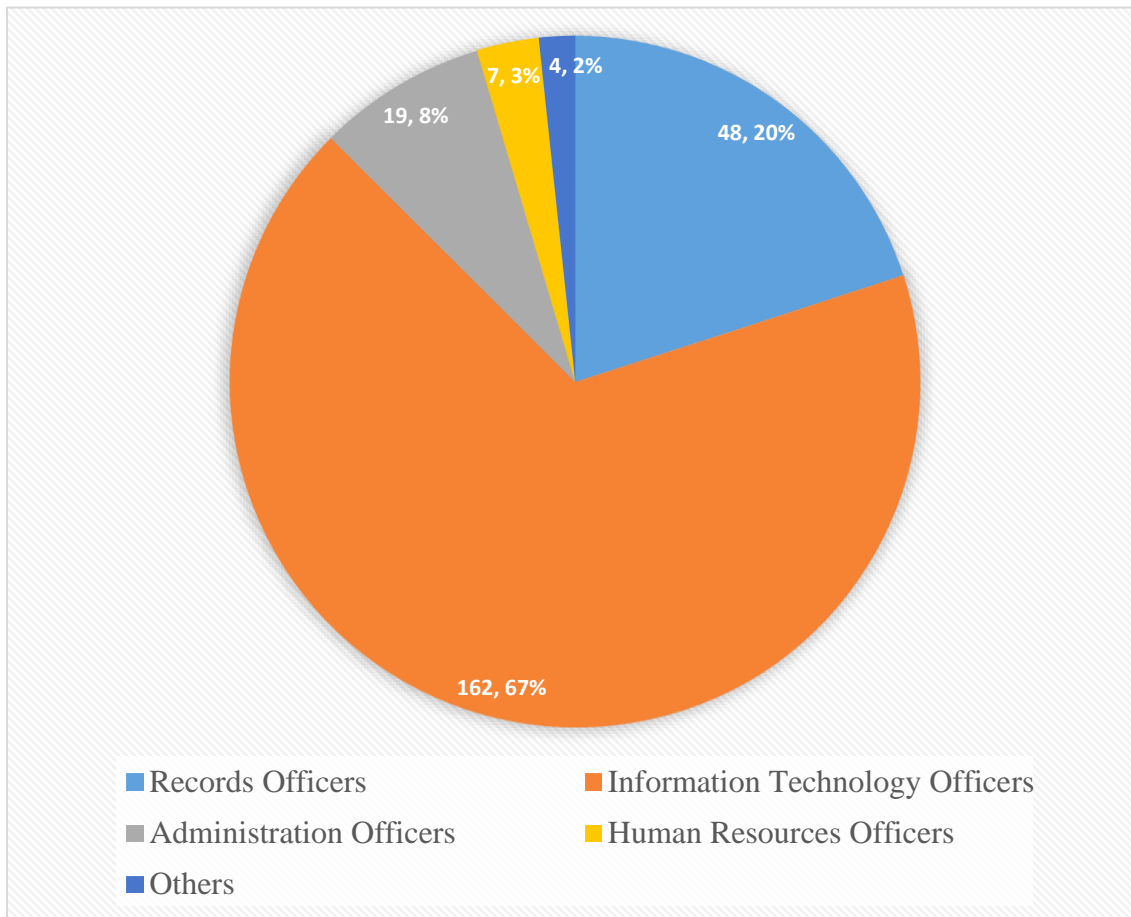


Fig. 4.11: Officers responsible for managing email in Zimbabwe's central government

Most (162 67%) questionnaire respondents indicated that email was managed in central government by ITOs. This was followed by ROs, as stated by 48 (20%) respondents. Very few AOs (19 8%) and Human Resources Officers (7; 3%) managed email in central government. Four (2%) respondents indicated that email was managed by “Other officers”. The fact that it was revealed more ITOs managed email than did ROs was rather surprising, but nonetheless it was corroborated by interviewees.

Five (71.4%) NAZ officers who participated in interviews confirmed that email was mostly managed by ITOs but they hastened to state that this arrangement was rather improper. The interviewees stated that issues of records, electronic records and email were supposed to be managed solely by records officers, of course with assistance from fellow officers. One archivist, NAZ6 stated;

IT officers straddle into records officers’ domain and this breeds confusion within government circles. It should be noted that IT officers have ICT skills and not records management skills and this is why email is poorly managed as official records.

To make matters worse, it was revealed by NAZ3 that “there is little collaboration, if any, amongst officers tasked with managing electronic records, inclusive of email”. The archivist stated that the ideal position in managing email is collaboration between ROs and ITOs, which would mean a combination of ICT and records management skills, but with records officers playing the leading role.

The allocation of important duties amongst officers in central government is a strategic issue. As such, this study roped in directors of NAZ and central government to give their views why ITOs were mostly entrusted with managing email than any other officers in central government.

D1 stated that the issue of skills and training should be considered in determining who manages what. He stated;

Government should consider training and skills in allocating duties to different officers. Email is a record and as such falls under the purview of records officers. If it so happens that records officers have deficiencies here and there in managing email, they should be given due training rather than sidelining them for other non-records professionals which may not bring forth the best results.

D2 stated that indeed email was managed mostly by ITOs while paper records were managed mostly by ROs. She reiterated that ITOs were better placed to manage email because they possessed superior ICT skills. She further stated that there was need for collaboration in managing email between ROs and ITOs in the interim whilst ROs acquire ICT skills which they may currently lack. She went on to say that once ROs have the requisite ICT skills, management of email, like that of any other records, should be given to ROs for proper and professional management of email as an official government record.

D3 was rather defensive of the current set-up where email was mostly managed by ITOs. He stated that email is a special type of ICT which involved a lot of ICT expertise and skills that most ROs did not have. Thus, for him, it was right that ITOs manage email in central government.

4.4.3 Email management strategies

A strategy is a special way of doing something in order to make sure intended objectives are achieved. This section outlines strategies that Zimbabwe's central government used in managing official email. Amongst strategies examined here are inbox management, use of official email accounts, classification and filing of email, appraisal, security, preservation, disposal and management of email of officers who leave the organisation.

4.4.3.1 Use of official email accounts

The first email management strategy was probing use of official email accounts versus use of personal email accounts for official business. The researcher probed ROs, AOs and ITOs to find out if they had official email accounts and if they used them for official business. The following results as displayed in Table 4.14 were obtained.

Table 4.14: Officers who possessed official email accounts

Category of officers	Yes	No	No response	Totals
ROs	20(8.33%)	45(18.75%)	15(6.25%)	80(33.33%)
AOs	15(6.25%)	60(25%)	5(2.08%)	80(33.33%)
ITOs	65(27.08%)	12(5%)	3(1.25%)	80(33.33%)
Totals	100(41.67%)	117(48.75%)	23(9.58%)	240(100%)

The majority of respondents (117; 48.75%) indicated that they did not have official email accounts, while 100 (41.67%) had official email accounts. It was also established that the majority of those with official email accounts were ITOs, that is, 65 of them as opposed to 20 ROs and 15 AOs.

Upon being quizzed whether officers in central government had official email accounts, four interviewees, NAZ1, NAZ4, NAZ5 and NAZ6 stated that most officers in central government did not have official email accounts and that they many times used personal email accounts for official business. Their views are supported by one document, a records survey report by the NAZ to Ministry D where the ministry was urged to use official email accounts rather than personal email accounts in using and managing email. Interviewee D3 who headed the IT department in one government ministry stated that IT staff in central government were responsible for allocating official email accounts to all officers in government. He added that the majority of officers in central government had official email accounts but they were still more comfortable using their own personal email accounts than using official email accounts. In short, D3 implied that officers in central government resisted change as they were more comfortable operating the conventional way.

The study probed to see if officers in different ministries ever used personal email accounts for official business. Most ROs (58; 73%) and most AOs (60; 75%) used personal email accounts for official business. Very few ITOs (14; 18%) used personal email accounts for official business. Interviewee D1 indicated that use of personal email accounts was retrogressive and resulted in the loss of a lot of email. D2 also indicated that use of personal email accounts exposed government information, putting

to risk quite a number of records of a sensitive nature. She stated that the use of personal email accounts for official business was highly discouraged and her ministry was in the process of making it an act of misconduct.

4.4.3.2 In-box management

In-box management is another email management strategy that was examined in Zimbabwe’s central government. It involves checking the email in-box, reading, responding to incoming mail and maintaining a reasonable size of the inbox. Respondents were firstly asked the times of the day when they checked their in-box and the following results were obtained.

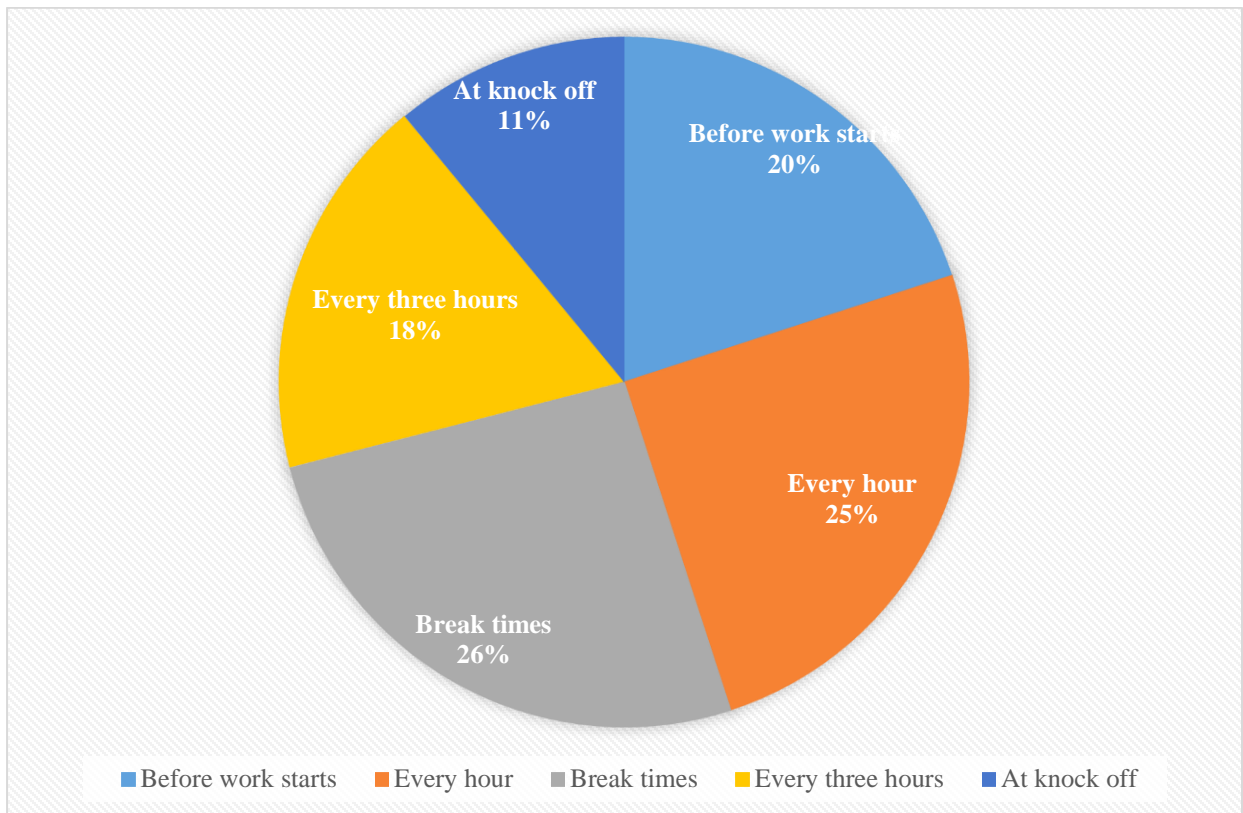


Fig. 4.12: Email inbox checking times

Most (26%) officers checked their inbox during break times, that is, during the 1000 - 1030 hours tea break, 1300 - 1400 hours lunch time and 1500 – 1530 hours tea break. This was followed by checking

the in-box every hour, which was indicated by 25% of respondents, followed by checking the in-box before work starts in the morning, then every three hours (18%) and lastly at knock off (11%). In-box checking behavior influences workflow since some email sent need urgent attention. AOs had the largest contribution towards checking their email every hour.

Respondents indicated that replying to email depended upon the urgency of the matter. It should be noted that not all email sent warrants replying to. However, for email that warranted replies, the following were indicated as the response times, ‘soon after reading’ (10%); to ‘30 minutes later’ (15%); to ‘1 hour later’ (30%) to ‘when free’ (32%) to ‘end of day’ (6%); to ‘after a couple of days’ (2%) to ‘never reply at all’ (5%). These results compelled the researcher to find out the size of in-boxes that respondents maintained. The results are succinctly shown in Table 4.15.

Table 4.15: Size of email in-boxes maintained by ROs; AOs and ITOs

No. of emails	0 – 19	20 – 39	40 - 59	60 – 79	80 - 99	Total
Records officers	5	10	45	15	5	80
Administration officers	8	14	43	8	7	80
Information technology officers	3	40	29	6	2	80
Total	16	64	117	29	14	240

Generally, no categories of officers maintained a clean in-box. Nevertheless, ITOs fared best with only 3 (4%) officers in the 0 to 19 email category. They were followed by ROs with 5 (6%) officers and AOs with 8 (10%). The modular class was the 40 to 59 emails, meaning to say officers generally took time to clear their inboxes. The researcher went on to establish the average size of in-box maintained by an individual officer by computing the mean for grouped data as shown in Table 4.16.

Table 4.16: Computation of average size of each officer’s email in-box

Class interval	Frequency (f)	Midpoint (x)	Fx
0 – 19	16	8	128
20– 39	64	32	2048
40 – 59	117	58.5	6844.5
60 – 79	29	14.5	420.5
80 – 99	14	7	98
	n = 240	-	$\sum fx = 9539$

$$\begin{aligned}
 \text{Mean for grouped data} &= \frac{\sum fx}{N} \\
 &= \frac{9539}{240} \\
 &= 39.7 \\
 &= \underline{\underline{40 \text{ emails}}}
 \end{aligned}$$

This means, on average, each officer maintained an in-box with 40 emails. This is rather a large inbox size given that some of the emails may be important and in need of urgent attention.

Most (4; 57.1%) NAZ interviewees corroborated that many times, officers in central government had large inboxes of unread email. They indicated that keeping large in-boxes was unadvisable as it often resulted in loss of records as well as failure to see important from unimportant email which might need urgent attention. NAZ5 stated that keeping large inboxes was worsened by a situation where most officers used personal accounts, where both official and non-official mail was mixed. She commented;

Most in-boxes are normally cluttered with emails. The size of in-boxes was worsened by officers mixing non-official email and official email and this made it very difficult for officers to fish out email that needed urgent attention from that which did not.

Personal observation by the researcher in government ministries supports NAZ5's views as the researcher failed to estimate the volume of official email in two separate email accounts of officers where personal and official email were mixed. Both email accounts used the personal Gmail account. The researcher did not have the opportunity to view email in-boxes on the official email accounts.

4.4.3.3 Classification and filing of email

ROs; AOs and ITOs were asked about the classification methods they used for email. Results of the survey showed that the functions-based classification system was the commonest in the case of email. This was indicated by 80 (33.33%) respondents. This was followed by subject-based classification system which was indicated by 44 (18.33%) respondents. A total of 79 (32.9%) respondents indicated that did not classify email at all.

Overall, classifying email helps officers to file email appropriately and in a manner that enhances quick and easy retrieval. The fact that email was largely managed by ITOs, who did not closely collaborate with ROs resulted in simplified filing of records. Common filing methods used in central government were filing on the email system, on 'My Documents', on folders created on the computer and manual filing. There was no filing on records management systems like EDRMS and ECM in Zimbabwe's central government as none existed.

As revealed above, 80 and 44 respondents classified email using the functions-based and subject-based classification systems, respectively, and thereafter filed email. This means a total of 124 (that is, 80 + 44) respondents filed email. The study probed to see their frequency of filing email. Figure 4.13 shows the results that were obtained.

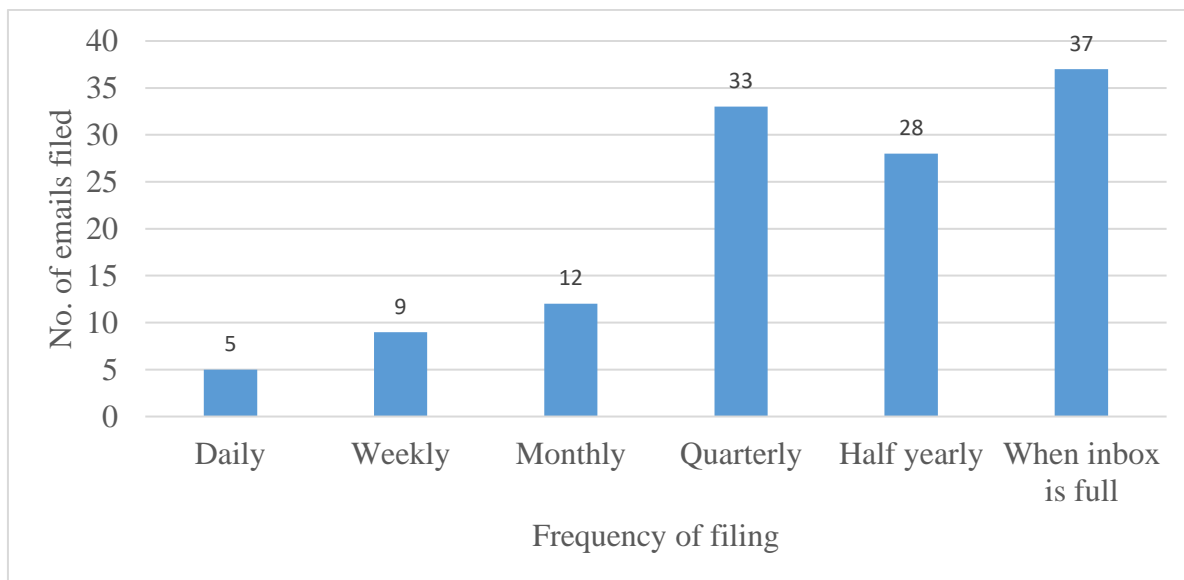


Fig. 4.13: Frequency of filing email by ROs and ITOs

Filing on a daily basis were five (4.03%) respondents, filing weekly were nine (7.3%) respondents, filing monthly were 12 (9.7%) respondents, filing quarterly were 33 (26.6%) respondents, filing once in six months were 28 (22.6%) respondents and filing when inbox was full were 37 (29.8%) respondents. The commonest filing frequency was “when inbox was full” followed by quarterly and half-yearly filing. Very few officers filed on a regular basis as shown by very few filers on a daily, weekly and monthly basis. This meant the culture of filing of email was sporadic and largely depended upon individual officers.

Three of the seven NAZ archivists (42.9%), who with other archivists, conduct records management surveys in central government, indicated that most officers in central government did not file email and the few who filed did so less frequently. NAZ5 indicated that official email inboxes of officers in central government were usually cluttered with unclassified and unfiled email, which made it difficult to retrieve and access email when required for administrative purposes. NAZ1 stated that failure to file and filing after a long period of time was as a result of lack of email policies in central government as well as the lack of its enforcement where it existed. He remarked;

Email issues seem to be unofficial in central government. As such, many issues to do with use and management of email largely depend upon respective officers, who also heavily rely on

their intuition and limited skills. Thus, it's not surprising that different officers in different ministries file email whenever they please.

Another archivist, NAZ2, indicated that infrequent and non-filing of email was caused by lack of classification and filing skills. She stated that;

You should bear in mind that not all officers in government are records officers. Many are not and many do not have working knowledge of records management. Thus, filing of email may be done when a problem arises, like when the inbox is full.

Poor classification and filing of email in Zimbabwe's central government was thus a challenge which needed to be addressed lest loss of records as well as lack of access and difficulties in retrieval of email could continue unabated.

4.4.3.4 Managing email metadata

For a record to be complete and authentic, it should have context, structure and content. Questionnaire respondents were asked whether or not they captured email metadata when copying, preserving and transferring email messages. Table 4.17 shows responses of ROs; AOs and ITOs as regards management of email metadata.

Table 4.17: Responses to management of email metadata

Category of officers	Yes	No	No response	Totals
ROs	23(19.58%)	50(20.83%)	7(2.92%)	80(33.33%)
AOs	15(6.25%)	62(25.83%)	3(1.25%)	80(33.33%)
ITOs	34(14.17%)	40(16.67%)	6(2.5%)	80(33.33%)
Totals	72(30%)	152(63.33%)	16(6.67%)	240(100%)

While 72 (30%) of respondents indicated that they managed email metadata, the majority of respondents (152; 63.3%) indicated that they did not manage email metadata. Failure to manage email metadata was highest amongst AOs as opposed to ROs and ITOs. It was also noted that a sizeable number of ROs (50; 20.83%), who are records professionals and ITOs (40; 16.67%), who as stated

in this study, played the most active role in managing email, indicated that they did not manage email metadata. This implied email that was filed and preserved could be incomplete and fragmented records as most of them did not have metadata, for example, date, time of sending, name of sender and list of recipients. None of the 72 (30%) respondents who indicated that they managed email metadata could state the international records management standard they used in managing email metadata.

NAZ archivists were asked through interviews what email metadata was and what its importance was. All 7 (100%) participants (NAZ1 – NAZ7) were aware of what email metadata was and were able to give examples of email metadata. They were also able to state the importance of email metadata, without which email could be incomplete and misleading. NAZ4 indicated that records metadata were supposed to be managed in line with the ISO 23081 standard. He nevertheless indicated that it was rather too ambitious to ask non-records officers about records metadata standards as he remarked;

Even some archivists may not have an appreciation of managing email metadata let alone having knowledge about the international standard for records metadata. While some records officers in central government may be aware that complete records should include contextual material, they wouldn't care about the names of such standards. What more would you expect from non-records officers?

Personal observation by the researcher in Ministry K showed existence of email print-outs many of which did not have contextual material or metadata. The fact that metadata was largely left out in processing email implied that email that was preserved, migrated, transferred and copied was largely fragmented, incomplete and less usable as authentic records. An email attachment printed to paper but without the name of the sender, date and time of sending may mean very little for a government ministry when reviewed five years from now.

4.4.3.5 Email security and privacy

As indicated earlier on in sub-section 4.3.4, the issue of lack of privacy discouraged, though to a lesser extent, some officers from using email. Thus, issues of security and privacy of email were crucial management strategies which this study interrogated. Through multiple response questions,

respondents were asked email security measures they used in their ministries to secure email. The following were stated as the major security measures as shown in Figure 4.14.

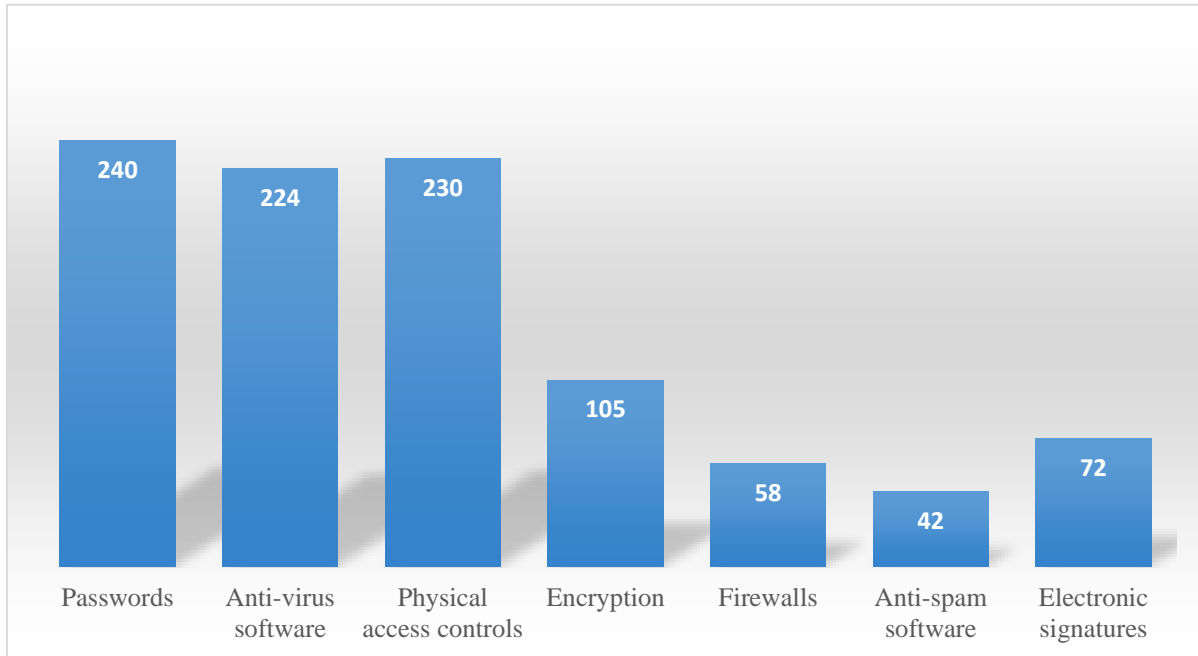


Fig. 4.14: Email security measures used in Zimbabwe's central government

Passwords were used in all ministries, where ITOs were responsible for making sure computers had passwords. Anti-virus software was used in many ministries as indicated by 224 (93%) respondents. This was specifically meant to prevent computer virus and worm attacks which normally delete or re-modify messages and attack computer hard drives. A total of 230 (96%) respondents indicated that their ministries used physical control measures to bar unauthorised people from accessing computers and email messages. Measures like encryption and firewalls were less frequently used in maintaining authenticity of email as they were indicated by only 105 (44%) and 58 (24%) respondents respectively. Use of anti-spam software, to fight receipt of unsolicited mail and spam that cyber criminals or spammers send was indicated by 42 (18%) respondents. Use of electronic signatures was also limited as it was indicated by 72 (30%) respondents. The issue of electronic signatures is fundamental to the authenticity of email messages. As such, it has been dealt with on its own in Section 4.4.3.6 below.

The Administration Director (D2) and IT Deputy Director (D3) were asked through interviews about security and privacy issues to do with records management in general and email in particular. D2 who is responsible for general security issues, buildings, maintenance of buildings and other infrastructure indicated that for the sake of security, each ministry in central government ensured security physically by mobilising government security personnel or commissionaires, mounting screens on office windows and doors as well as sticking “No entry to unauthorised staff” signs. Personal observation revealed many records offices had “No entry to unauthorised staff” signs as well as secured doors and windows.

D3 indicated that most ministries now had biometric access into offices and corridors as well as camera circuit television (CCTV) monitoring as security measures within their premises. He also indicated that in his ministry, theft of gadgets like computers and phones had drastically gone down following installation of CCTVs and biometric access controls. Information is prone to theft, deletion, edition and modification. This makes it important for central government to secure not only desktop computers, laptops and servers that hold the information and the emails, but also the buildings, offices and surroundings that may provide access and access points to the ICT gadgets.

4.4.3.6 Use of electronic signatures

As indicated in the chart above, only 72 (30%) respondents claimed that they used electronic signatures as an email security measure. They were distributed as 27 (37.5%) ROs, 10 (13.9%) AOs and 35 (48.6%) ITOs. Respondents were asked what constituted their electronic signatures and the most notable features that were spelt out were address, title of officer, phone number and alternative email address. The researcher discovered that what 20 (25%) respondents labelled as electronic signatures were in fact digital copies of scanned ordinary signatures. The discovery was made after the respondents failed to spell out elements which comprised their electronic signatures. It was discovered that electronic signatures were not enforced in all the ministries. Officers who used them did so out of own volition.

NAZ interviewees were asked about the importance of e-signatures as a security measure. Many NAZ interviewees (71.4%) indicated that e-signatures were a necessary security measures to combat email

hacking, email spoofing and email bombing as seen in developed countries although cybercrime was still low in Zimbabwe. This was supported by NAZ2 and NAZ5. NAZ2 remarked;

I have an electronic signature myself, meaning I appreciate the importance of electronic signatures. But I never check email signatures of emails that I receive. I read the message and take it as it is, without scrutinising whether an electronic signature is there or not.

NAZ5 remarked;

Many officers in Zimbabwe's central government do not have electronic signatures. One, they cannot install them without specialist assistance. Two, the signatures are generally not enforced and as such, people normally do not mind if they have them or not. May be information technology officers should enlighten people about this security measure.

The issue of e-signatures is rather emerging in Zimbabwe's central government and as such require support from strategic levels of administration. D3 stated that his ministry had started using e-signatures but hastened to add that the development was currently not enforced.

4.4.3.7 Appraising email

Records appraisal is one other email management strategy which was examined in this study. Email, like any other types of records, should be appraised to determine its value for disposal purposes. Questionnaire respondents and interviewees were asked whether email was appraised or not in the central government of Zimbabwe. A total of 59 (24.6%) respondents indicated that they appraised email in order to determine its disposal status. They were distributed as follows; 45 ROs; 6 AOs and 8 ITOs. This implied that email was largely not appraised in central government, raising questions as to how important email was separated from unimportant email. The majority of NAZ archivists (6; 85.7%) indicated that appraisal of records in electronic form, inclusive of email, was a challenge in the entire public sector as shown in Figure 4.15.

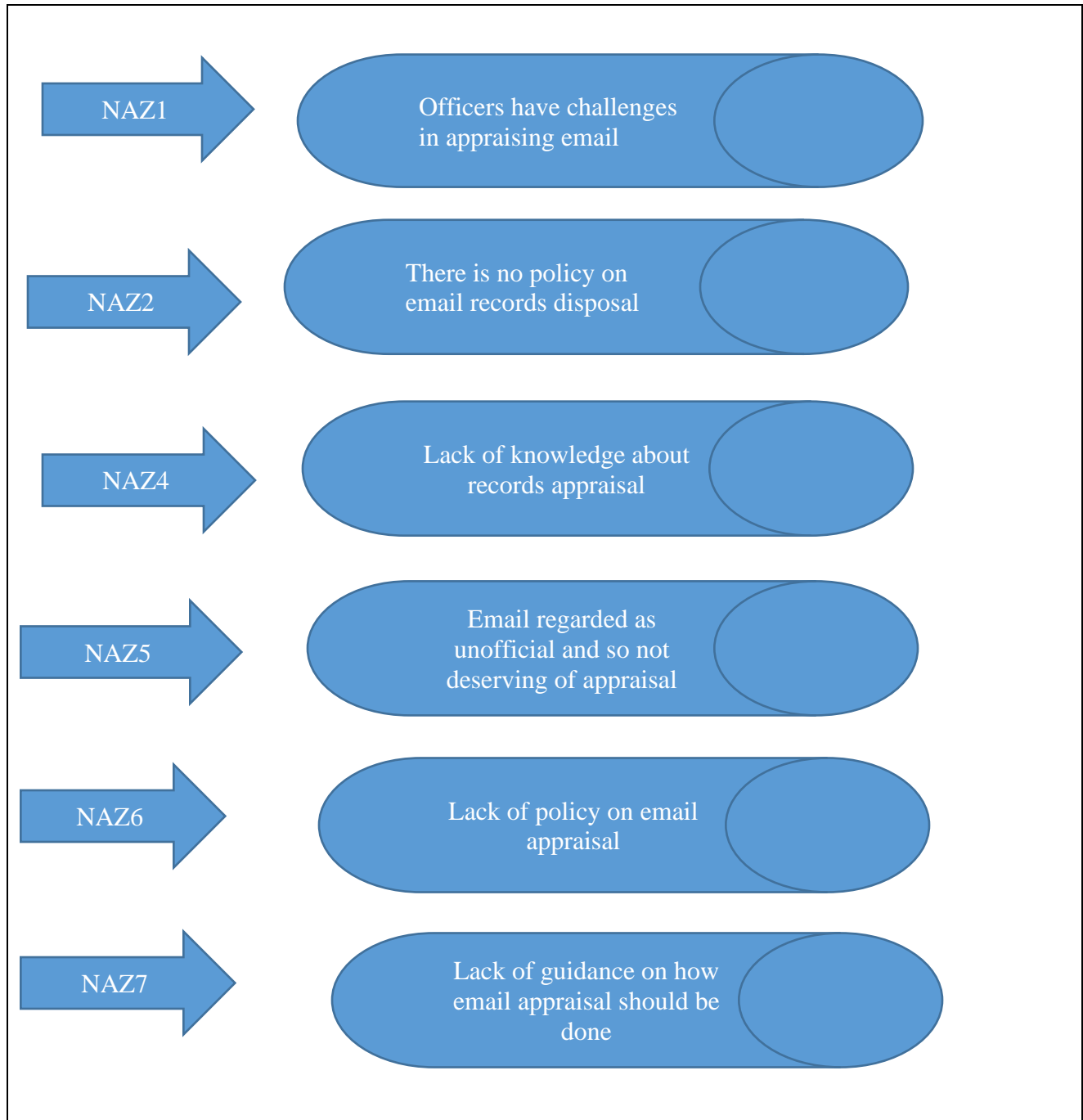


Fig. 4.15: Reasons why appraisal of email was not normally conducted in central government

D1, who is tasked with the monitoring and implementation of the NAZ Act (1986) was asked to comment about appraisal of email in central government. He indicated that staff lacked skills to appraise records in general and more so, records in electronic form. He further outlined that further training in electronic records management would greatly help to counter this challenge. Thus, the six

NAZ archivists and D1 corroborated questionnaire respondents' views that email was largely not appraised in Zimbabwe's government ministries, raising questions about the disposal of email in central government.

4.4.3.8 Disposal of email

Disposal of email involves destruction of ephemeral email and transfer of important emails for preservation. Questionnaire respondents were firstly asked about destruction of email. All 240 respondents in the study agreed that they had at some point in their working life deleted official emails. They were further asked what criteria they used to determine which emails were supposed to be destroyed and which ones were supposed to be preserved. Figure 4.16 shows responses of all the respondents.

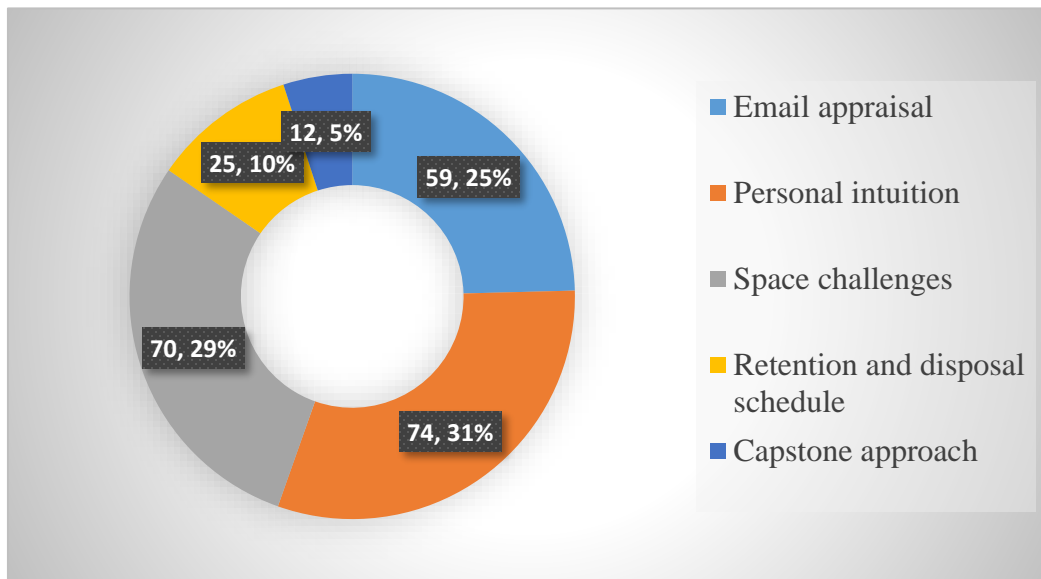


Fig. 4.16: What guides officers in destroying and preserving email in Zimbabwe's central government

Most (74; 31%) respondents used personal intuition in order to decide which email was supposed to be destroyed and which one was supposed to be preserved. This showed lack of official position in many ministries as the fate of official email was left in the hands of individual officers, some of whom did not have appreciation for professional records management. The second commonest determinant

was deleting messages simply because the inbox was full which was indicated by 70 (29%) respondents. Again, this showed lack of official control in the management of email which left official records at the mercy of circumstantial situations while proper records destruction procedures existed. Fifty-nine respondents (25%) stated that they appraised email in order to determine its disposal, 25 (10%) used the retention and disposal schedule and lastly, 12 (5%) used the Capstone approach. Interviewees were asked to comment about the disposal criteria used in central government. All seven (100%) NAZ archivists who participated in the interviews pointed out that the prevailing situation was misguided and it resulted in a lot of valuable emails being destroyed. They indicated that this was a sign of poor records management and urged central government to seriously address the management of email. NAZ4 made this remark;

Disposal criteria in central government is largely ill-informed. A lot of important email is being destroyed and at the same time, a lot of junk is being preserved, which is an unnecessary cost to government. There is urgent need for email policy to arrest the prevailing situation.

Respondents were also asked about their email preservation behavior. Long term preservation measures that were posed by the researcher were preservation on the email system, cloud storage, preservation in servers, EDRMS, ECM and printing to paper. Figure 4.17 shows responses that were obtained.

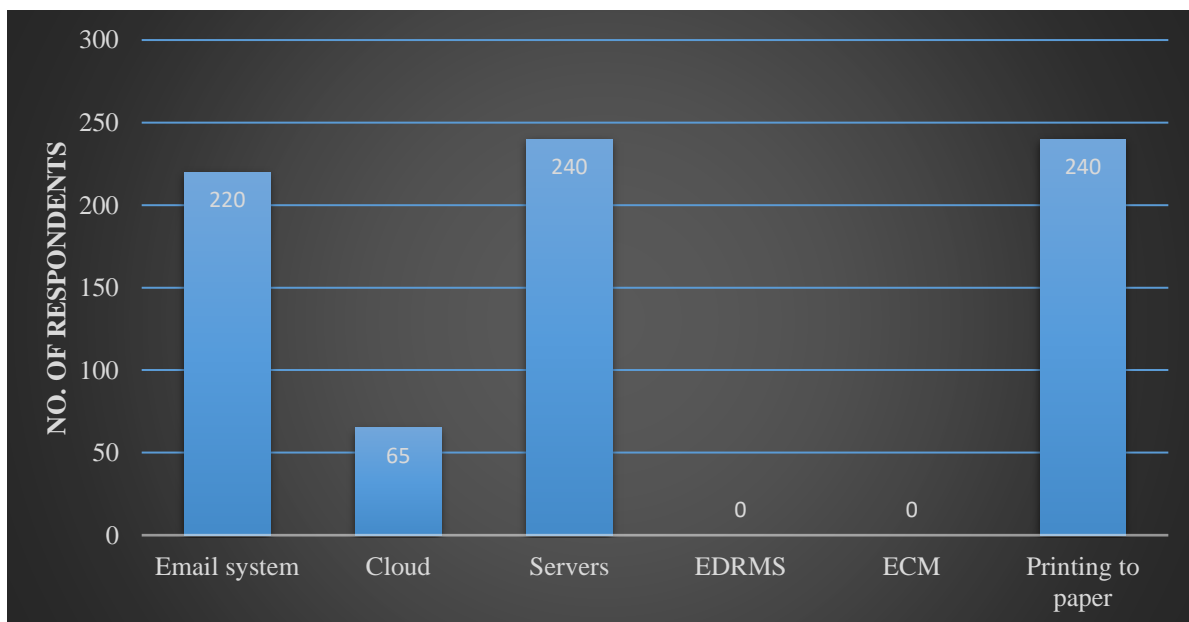


Fig. 4.17: Email preservation methods used in Zimbabwe’s central government

Long-term preservation of email was through transferring important messages to servers which was indicated by all (100%) respondents. Personal observation confirmed the widespread use of servers in central government, some of which were quite big with capacities of 5 to 10 terabytes. This showed they had much space and so could accommodate a large amount of electronic records, at least for the mean time. Printing to paper was also common as all (100%) respondents indicated that it was a long term preservation method in their ministries. Also common was preserving on the email system which was indicated by 220 (91.7%) respondents. Though a cheaper preservation method, one NAZ interviewee, NAZ3, stated that not all ministries depended on the email system because it fills up in quickly and it is liable to email deletion by officers who did not see the value of preserving email as records. Cloud storage ranked very low with 65 (27.4%) respondents. The main reason for low use of cloud storage as explained by NAZ7 was;

The Government of Zimbabwe has not authorised any public sector institution to use the cloud, especially for privacy and security reasons. Those who use it do so on their own and risk being censured by authorities. Thus, use of the cloud, which is gaining popularity amongst individuals, is not official government position.

No ministry used electronic records management systems like EDRMS and ECM in preserving and managing email. Interviewees were asked to comment about the lack of use of EDRM and ECM records management systems. Most NAZ archivists, that is, 5 (71.4%) explained that many people in Zimbabwe's central government currently had no knowledge of these systems. Transfer of email into the archival system was through printing to paper. The researcher confirmed this assertion as he saw hordes of email print-outs in one ministry and was told some of them were going to be transferred to Harare Records Centre in due course. Thus, electronic transfer of email in Zimbabwe's central government was currently unheard of. One interviewee (NAZ6) commented;

Issues of EDRMSs, ECMs and TDRs (Trusted Digital Repository) are in their infancy in Zimbabwe's public sector, but they are gaining ground in the private sector. However, NAZ is making inroads into introducing these systems into the public sector amid much speculation from users and senior public service management.

4.4.3.9 Managing email whilst out of office

Questionnaire respondents and interviewees were also asked whether central government managed email whilst out of office or not. This strategy involves setting up an automated system that notifies clients who sent in emails that the receiver is away from his or her work station and that the recipient will respond to the email once he or she is back in office. No AO was aware of this automated strategy. Only 15 (6.3%) ROs and 35 (14.6%) ITOs were aware of this email management strategy. However, all of them indicated that the system was not installed for official use in their ministries. Eight (3.33%) ITOs indicated they used the system in their personal email accounts for private business.

Through interviews, NAZ archivists were asked about this ‘the out-of-office’ email management technology in Zimbabwe’s central government. Most (6; 85.7%) NAZ interviewees stated that it did not officially exist in central government, while one (14.3%) was not aware whether or not it existed. One of the archivists (NAZ4) who stated that the technology did not officially exist in central government, stated that it was because Zimbabwe’s central government was slow in adapting to new technologies. Another interviewee, NAZ3, indicated that Zimbabwe was facing a plethora of economic challenges and this explained why central government was rather a laggard in as far as adoption of some ICTs was concerned.

4.4.3.10 Managing email of officers who leave the organisation

Questionnaire respondents were asked if central government managed email of staff that left the organisation. A total of 157 (65.4%) indicated that when an officer left employment, there was no official handover of his or her email records to staff that remained in the organisation or staff that replaced them. Eighty-three (34.6%) respondents indicated that email of leavers was handed over to officers who remained in the organisation or who succeeded those who left the organisation.

All seven NAZ archivists who participated as interviewees indicated that there was need for central government to manage email of staff which left the organisation as this was the norm in the case of paper records. This implied email of staff which left the organisation could be lost, destroyed, stolen, misplaced and abused. NAZ2 commented that the different treatment given to paper and electronic records indicated how the public sector attached importance to paper records and not to electronic records. NAZ7 also commented that;

It is high time such email management strategies are roped into the public sector since a lot of email of value gets lost through such negligence. One cannot talk of accountability when one leaves an organisation with the organisation's email, including sensitive and top secret messages. Central government needs to take urgent attention to stop this rot.

4.4.4 NAZ involvement in email management in Zimbabwe's central government

ROs in Zimbabwe's central government were asked whether NAZ was playing an active role in assisting them manage email. A total of 52 (65%) ROs stated that NAZ was assisting them to manage email properly and professionally. Nonetheless, 21 (26%) ROs stated that NAZ was not helping them manage email while 7 (9%) did not give their responses. ROs who stated that they were getting assistance from NAZ to manage email were asked to state one area in which NAZ was assisting them. Thirteen (25%) ROs stated that NAZ was assisting them in the area of transitioning from paper to electronic records management; 12 (23%) stated that NAZ was assisting them in coming up with a retention and disposal schedule for electronic records; 10 (19.2%) stated that NAZ was assisting them in procuring an electronic records management system; nine (17.3%) stated that NAZ was assisting them in securing email and email systems; six (11.5%) indicated that NAZ was assisting them in coming up with a records policy that included the management of email and two (3.8%) indicated "Other areas".

The fact that NAZ was assisting central government was corroborated by all the seven NAZ archivists and D1. All NAZ archivists indicated that NAZ had shifted its policy towards management of electronic records, of which email is a subset. Each archivist was asked to state one area where NAZ was assisting central government in managing email properly and professionally. Figure 4.18 shows the responses of the seven archivists.

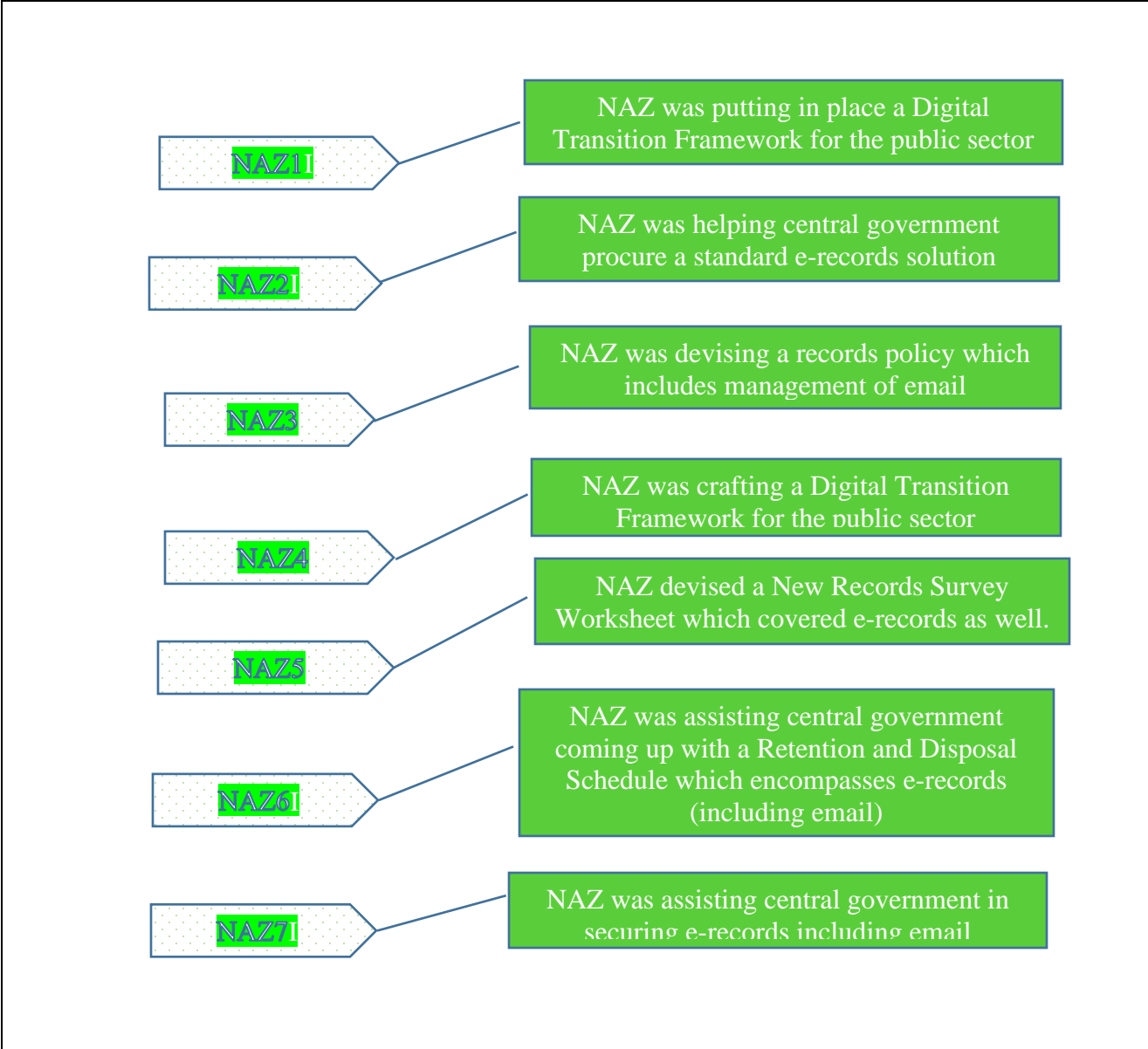


Fig. 4.18: NAZ archivists’ responses on NAZ assistance to central government in managing email

The issue of the Digital Transition Framework (DTF) was the most cited area where NAZ was helping central government better manage email. It corroborated views of 25% questionnaire respondents who indicated that NAZ was guiding them in properly transitioning from a paper to an electronic records management regime. Interviewee NAZ4, a Principal Archivist, explained that the DTF, also called the Public Sector Digital Records Management Framework, adopted in 2017, was a strategy

adopted by NAZ to guide the transition by the public sector from paper records management to electronic records management. Through documents reviews, the researcher discovered that NAZ was indeed in the process of assisting the public sector to systematically prepare for and embrace the management of digital records, inclusive of email. The following were revealed as the purposes of the Public Sector Digital Records Management Framework;

- (i) To provide guidelines for identifying and implementing appropriate digital records management systems.
- (ii) To harmonise emerging electronic records management systems with paper-based record-keeping systems already in use.
- (iii) To standardise the way records are managed across public institutions in order to make information sharing and exchange possible.
- (iv) To enhance resource sharing for public sector efficiency and cost effectiveness.
- (v) To provide a platform that continues to support acquisition and preservation of documents of historical significance.

(Public Sector Digital Records Management Framework 2019:1).

The other area in which NAZ was assisting central government in managing email was the procurement of an electronic records solution, namely, the EDRMS. This was stated by NAZ2 and it indeed corroborated views of 19.2% of questionnaire respondents. NAZ2 gave the following remark;

NAZ has traditionally been blamed for not doing enough in as far as electronic records are concerned. This is now a thing of the past. NAZ is moving out of its cocoons to shape the way forward for the management of electronic records. In the process, the issue of email would be addressed since email is one of the most popular type of electronic records. As we are speaking now, Zimbabwe is on the verge of procuring a customised EDRMS, which would definitely change the face of electronic records management, including that of email.

NAZ3 stated that NAZ was helping central government in coming up with a national records policy which covered the management of email as well. NAZ3 explained that beginning in 2019, NAZ crafted a draft records policy for the public sector. The draft policy catered for both the management of paper and electronic records, which also includes email. The archivist revealed that contentious

issues about email like classification, filing, creation, receipt, access, retention, use, appraisal, maintenance, preservation, retrieval, security and disposal of email as official records are covered in the draft records policy. Documentary evidence revealed that the draft policy also had a section dedicated entirely to email management, meaning to say, NAZ was in the process of helping Zimbabwe's central government to properly and professionally manage email as official public records. NAZ3 commented;

Intricacies faced in managing email are set to end very soon as the draft records policy is about to be officially launched. In 2019, the draft policy was presented before key and general stakeholders. In 2020, the draft would be presented before the policy department of the Ministry of Home Affairs and Cultural Heritage under whose tutelage NAZ department falls. Once the policy is in place, all email issues, prospects and challenges would be ironed out.

NAZ5 indicated that NAZ was helping central government manage email by devising a new records survey worksheet, which unlike the old survey worksheet, now covers issues of electronic records management including email. Documentary evidence has shown that the new records survey worksheet addresses among other issues the management of paper and electronic records focusing on capture and registration of records, classification, retention and disposal, transfer, access and security, ICT infrastructure, policies and guideline as well as knowledge and skills. NAZ5 commented;

We have moved from a records survey worksheet that had one question on electronic records out of 12 questions. Now, every facet of the questionnaire addresses manual records alongside electronic records. Even in the deliberations made during the survey, NAZ offers advice on management of all formats of records including email. The new records survey worksheet was rolled out at the end of 2019 and as such, many public sector institutions may not be aware that NAZ is now addressing some of the concerns that they have had for a long time.

A copy of the new records survey worksheet used by the NAZ is shown in Appendix XVII.

Other areas where interviewees stated NAZ was assisting central government included security of email and development of a retention and disposal schedule for the entire public sector which included management of electronic records, inclusive of email. The researcher had access to

documentary evidence in Ministries B, D and J where their updated retention and disposal schedules showed how their electronic records were supposed to be disposed.

D3 was rather apprehensive about the role that NAZ was playing in helping central government better manage email. He stated that the role of NAZ in email and other electronic records was not coming out very clearly. He stated;

The role of NAZ in electronic records management is rather vague. The IT department of government ministries sometimes stretch to find their own means to manage electronic records without input or guidance from NAZ. The dividing line between IT and records officers in electronic records management is rather invisible.

The views of D3 were supported by D2 who also felt that NAZ was not doing enough to assist central government on how email was supposed to be professionally managed. D2 stated that central government and NAZ interacted on a number of platforms, for example, on the conducting of records management surveys as well as the secondary storage of semi-current records. However, as regards issues of email, she indicated that NAZ role was rather not very visible.

D1 revealed in an interview that NAZ was getting a lot of support from the government and this had given the institution space to maneuver in areas like records management policy, digital transition framework and electronic records management skills development. He stated that NAZ was making an impact along these lines and these cascaded throughout the entire public service. Nonetheless, he bemoaned the slow progress with regards to review of the NAZ Act (1986) which was dragging progress in enlightening central government on the management of electronic records. It is the researcher's contention that the divergent views of D1 on the one hand and D2 and D3 on the other, stemmed from lapses in the NAZ Act which needs review with focus on electronic records management. The reviewed Act should spell out who is responsible for managing what within the public sector. Currently, the NAZ Act (1986) is silent about the issue of electronic records and giving responsibility for managing email and other electronic records to ITOs is rather an impromptu and unsubstantiated decision made within central government without much ado and forethought on its impact and repercussions.

4.5 Email management challenges in Zimbabwe's central government

The fourth objective of the study involved determining challenges faced in managing email in Zimbabwe's central government. This objective was tackled by addressing the following two sub-research questions;

- (i) What challenges militate against the management of email in Zimbabwe's central government?
- (ii) How do these challenges affect email as a record?

All 240 questionnaire respondents were asked to indicate challenges they faced in managing email in their ministries. Questionnaires responses are shown in Table 4.18.

Table 4.18: Email management challenges faced in Zimbabwe's central government

No.	Challenges	Frequency	Percentage
1	Absence of a clearly representative regulatory framework	218	90.8
2	Absence of email policy framework	216	90
3	Dispersal of email throughout the organisation	215	89.6
4	High costs of infrastructure	198	82.5
5	Outdated infrastructure	181	75.4
6	Failure to regard email as official record	176	73.3
7	Lack of email use and management skills	176	73.3
8	Lack of a budget for records management work	162	67.5
9	Infrastructure breakdowns and high maintenance costs	130	54.2
10	Lack of support from top management	120	50
11	Absence of email procedures manual	120	50
12	Records management function is looked down upon	116	48.3
13	Other	25	10.4

The most commonly cited challenges were absence of a legal framework for email (90.8%), absence of an email policy (90%), dispersal of email within the organisation (89.6%), high costs of

infrastructure (82.5%), lack of email management skills (73.3%) and failure to regard email as constituting official records (73.3%). The issue of lapses in the legal framework has been indicated by D1 above, where he cited that without legal guidance and recourse, email management was bound to be problematic. Four NAZ archivists also saw lack of a properly constituted legal framework for electronic records as a big challenge that affected the management of email in Zimbabwe's central government.

NAZ4 stated that during records surveys in central government, NAZ archivists normally see email records dispersed throughout the organisations. He added that dispersal implied the existence of a decentralised records management system, but the challenge with email was lack of coordination among the various officers, units and departments who sent and received email within a single ministry. There were no mechanisms for officers responsible for managing email to see where official email is and how to coordinate its destruction, transfer and preservation process.

Four (57.1%) NAZ archivists expressed through interviews that lack of skills in electronic records management implied that officers in central government were bound to find managing email a mammoth task. D1 also agreed that there were email management skills challenges which emanated from poor electronic records management within the public sector. He added that there was supposed to be a bottom-top approach to solving email skills challenges where polytechnic colleges and universities in Zimbabwe were supposed to holistically offer such skills in their curricular.

D2, an Administration Director in central government, stated that ICT infrastructure was a challenge in central government. This included issues of cost and obsolescence. She added that a successful email management programme required massive investment in modern and state-of-the-art infrastructure. While this was the ideal position, she revealed that the GoZ was currently inundated with a myriad of economic challenges. Procurement of modern ICT infrastructure was thus limited.

The least cited challenges were lack of senior management support for records management (120; 50%); lack of email records procedures manuals (120 50%) and the fact that the records management function was looked down upon in central government (116 48.6%). Lack of senior management support was cited by one NAZ interviewee and so were lack of email procedures manuals and the

fact that records management work was looked down upon in central government. Lack of senior management support affected, among other things, channeling of financial resources to the records management function. NAZ3 made the following remark;

Many times there is no budget for records management activities within many organisations. What normal happens is that during the budgeting phase, records management issues are roped in, but during the funds allocation phase, there is nothing for records. Even if funds may be set aside for records management, sometimes they are viremented and this has a lot to do with the way management values the records management function.

D3 who also indicated that records management work was looked down upon stated that there was need for senior managers to treat records officers as professionals like they did with officers in other functional areas, lest records officers lost confidence and self-worth both of which affect the way they conduct their work. D2, the Administration Director, was asked why the records function fell under the Administration department and whether this was a fair deal for the records management function. Her response was that it was unfortunate the records function had not grown to become a full-fledged department and as such was still structured within the Administration department. Nonetheless, D2 indicated that the records function suffered a lot of setbacks as a result of this arrangement as the Administration Directors who headed the records function many times did not have full understanding and appreciation of the records management function as key to central government operations and success. D1 also stated that the current organisational structure did a lot of disservice to the records function, where it affected among other things, and distribution of financial and material resources. D1 stated that for the records function to be more visible and vibrant, there was need for a full-fledged records department with a Records and Information Management Director.

Interviewees also raised two new challenges that had not been indicated by questionnaire respondents. These were resistance to change and lack of collaboration between ROs and ITOs. Three NAZ archivists raised the issue of resistance to change. One of them, NAZ2 stated that “Even if an organisation has official email accounts, very few use them. People are more comfortable using their private email accounts”. This indicated resistance to change, which made it difficult for those tasked with managing email to capture incoming and outgoing email into the ministries’ records keeping

system. Lack of collaboration was indicated by one NAZ interviewee (NAZ6) who explained that while ITOs possessed requisite ICT skills, they largely lacked records management skills and that while ROs had records management skills, they largely faltered when ICT skills were considered. He explained that the skills gaps that different officers had in managing email made proper and professional management of email a daunting task within Zimbabwe’s central government.

Lastly, ROs; AOs; ITOs and NAZ archivists were asked how challenges they cited above affected email as a record. Questionnaire responses are shown in Table 4.19.

Table 4.19: How challenges cited affected email as a record

Effect of challenge	ROs	AOs	ITOs	Totals
Poor access	25(10.42%)	19(7.92%)	23(9.58)	67(27.92%)
Mix-up of email	14(5.83%)	21(8.75%)	11(4.58)	46(19.17%)
Lack of privacy	10(4.17%)	20(8.33%)	13(5.42)	43(17.92%)
Unauthentic record	12(5%)	5(2.1%)	9(3.75)	26(10.83%)
Incomplete record	9(3.75%)	7(2.91%)	12(5)	28(11.67%)
Loss of email	7(2.91%)	8(3.33%)	10(4.17)	25(10.42%)
Other	3(1.25%)	0(0%)	0(0)	3(1.25%)
No response	0(0%)	0(0%)	2(0.83)	2(0.83%)
Totals	80(33.33%)	80(33.33%)	80(33.33%)	240(100)

Poor access was the most frequently cited effect as indicated by 67 (27.9%) respondents. This showed the importance of access in records management where a record that is not accessible is as good as it does not exist. The second commonest effect was mix-up of email with 46 (19.17%) respondents, which meant email could hardly be accessed when needed. Third was lack of privacy which was cited by 43 (17.92%) respondents followed by incomplete records; unauthentic records and loss of email. These effects generally bordered on lack of access and lack of authenticity.

Most (6; 85.7%) NAZ archivists who participated in the study as interviewees were mostly concerned about two issues, that is, poor access and lack of authenticity of email as reliable government records. For them, poor access was a result of mix-up of email and the dispersal of email within the organisation. Lack of authenticity emanated from fragmented or incomplete records and exposure to deletion and modification caused by privacy challenges. Thus, Zimbabwe's central government needs to improve on how they manage email lest the status of email as a record relatively diminishes when compared to records in other formats, especially records in paper format.

4.6 Summary

There is a rise in use of email in Zimbabwe's central government. Email is now the most popular ICT application for sending and receiving information, even though this does not mean electronic records are replacing paper records in Zimbabwe's central government. Government ministries in Zimbabwe were motivated by e-government as well as by generic advantages of email in using email as an ICT application. M-government did not have a significant impact in enhancing email usage in central government. There was high usage of email regardless of the absence of a truly supportive regulatory, policy and procedural framework and despite the presence of generic limitations of email. Most respondents saw email as not official records and thus saw it as not deserving of proper and professional management as was the case with paper records. In most ministries, ITOs followed by ROs were tasked with managing their ministries' official email. There were email use and management skills' deficiencies which resulted in officers managing email as they saw fit and in line with their intuition, limited skills and available resources. Management of email was in its nascent stages and faced with many teething problems emanating from government itself, staff skills' gaps, policy, and resource issues. Nonetheless, NAZ has started to play an active role in helping central government better manage email, and the sooner the assistance becomes more visible, the better for currently a lot of official records sent and generated through email are largely mixed up, misfiled, lost and difficult to access and retrieve. The successive chapter discusses the findings which were presented in this chapter.

CHAPTER FIVE

DISCUSSION AND INTERPRETATION OF RESEARCH FINDINGS

5.1 Introduction

This chapter discusses and interprets research findings which were outlined in the previous chapter. In discussing and interpreting research findings, the chapter comments on email use and management in Zimbabwe's central government and compares it with those in other countries or settings, benchmarks findings with international best practices and against literature review and the conceptual frameworks of the study. The chapter also brings into perspective the researcher's personal reflection as derived from pluralism, an ontological perspective of mixed methods research which is entrenched in the existence of multiple realities and multiple interpretations. This is in line with the views of Creswell and Plano Clark (2018:324) who argue that in the case of mixed methods research, data interpretation involves indicating the research results, advancing the larger meaning of the research results in the light of the research problem, hypotheses, literature review, comparisons with past studies and personal reflections of the researcher. Perry (2012:30) avers that data discussion and interpretation complete the jigsaw puzzle which addresses the research problem at hand and enables readers to grasp research findings and comprehend them in the light of wider disciplinary and related context. In the present study, data were discussed and interpreted in line with the four objectives of the study as presented and analysed in Chapter 4.

5.2 Prevalence of use of email in the central government of Zimbabwe

The first objective of the study was to establish the prevalence of use of email in Zimbabwe's central government. The first sub-research question under Objective 1 asked questionnaire respondents and interviewees whether or not electronic records were replacing paper records in Zimbabwe's central government. The sub-research question was posed in order to establish the actual contextual position of electronic records, within the records management system of Zimbabwe's central government. The study established that although electronic records (of which email is a subset) were becoming very popular, paper records were still more predominantly used in Zimbabwe's central government as shown by 127 (52.9%) questionnaire respondents and five (71.4%) NAZ archivists-interviewees.

The dominant position of paper records has also been shown in another local study in Zimbabwe by Bhebhe (2015:108) who stated that although there was a steady increase in use of ICTs in records management, many government ministries in Zimbabwe were still operating traditionally, that is, by using paper as the main records format. It is rather too ambitious to think of electronic records as dominant over paper records given that the GoZ adopted e-government, the cornerstone of the electronic records management programme, in 2011. This implies that serious effort at establishing an electronic records management programme is just nine years old! This contrasts sharply with paper, a records format which originated in China in second century AD (Muller 2013:29) and which has been in use in Zimbabwe from pre-colonial times. In support of the dominant role of paper records, Matangira (2016:6) opines that the paper-based records system of the colonial era is rather still intact in Zimbabwe where traditional manual records systems were still firmly entrenched and where government was slow in incorporating ICTs in the management of records and archives. This means that although there was a steady rise in use of email in Zimbabwe's central government, such usage was not comparable to that of paper records.

The second sub-research question under Objective 1 quizzed the types of records normally sent and received through email in Zimbabwe's central government. It was revealed that almost all types of records within central government were communicated through email. Nonetheless, whilst minutes of meetings, memoranda, correspondences, reports and policies were the most popularly cited records, it was also revealed that sensitive and classified records were least communicated through email. The scenario in this study was affirmed by studies by Mutsagondo (2017:78) and Sibanda (2017:55) in the Midlands and Mashonaland West provinces, respectively. Both studies showed that the commonest types of electronic records in government ministries were administrative records, namely, correspondences, reports, memoranda, policies, minutes of meetings and circulars. These were records used and maintained by many action officers, regardless of their position in the ministry. Thus, they comprised the bulky of records which were sent and received through email within Zimbabwe's central government. The prevalence of use of email in day-to-day communication in government, in general, is supported by Prexawanprasut and Chaipornkaew (2017:783) who opine that employees and their clients mostly communicate through email and that whenever employees need to communicate, their first preference is to use email.

Sensitive records like human resource records and finance records were least communicated by email. This borders on records privacy and security as argued for by scholars like Choudhary and Ghusinga (2013:42) and Mammo (2012:6). One of them, Mammo (2012:6), holds that organisations should conduct a risk assessment of electronic records as different types of records have different risk indices, bearing in mind that electronic records are more prone to unauthorised access, unauthorised modification and alteration than records in paper format.

The third sub-research question under Objective 1 sought to establish whether or not email was the most frequently-used ICT for sending and receiving information in Zimbabwe's central government. It was established that email had become the most popular ICT for sending and receiving information in Zimbabwe's central government as expressed by 177 (73.75%) respondents, five (71.4%) NAZ archivists who participated as interviewees and D2 (an Administration Director in central government). The situation in Zimbabwe's central government was similar to that in subsidiary bodies in Zimbabwe where Sigauke, Nengomasha and Chabikwa (2016:21) revealed that there was a high usage of email in state universities in Zimbabwe, where as much as 50% of records were generated or communicated through email. Regionally, a similar situation was observed by Rakemane and Serema (2018:156) in Botswana where the frequency of use of email relative to other electronic records stood at 38.6%. Email supremacy has also been seen overseas by Pignata, Lushington, Sloan and Buchanan (2015:159), for example in Britain and Australia, where they maintained that email had drastically changed the nature of communication and had supplanted other modes of communication like telephones and telegrams. The fact that there was increased use of email in Zimbabwe implied that there was supposed to be controlled and responsible use and management of the ICT to promote accountability, transparency and good governance as well as to foster quick and informed decision making within central government.

The last research question under Objective 1 asked questionnaire respondents the average volume of email sent and received in a single working day. It was seen that on average, each RO, AO and ITO received 27 official emails per day and sent 27 official emails per day. The fact that on average, each respondent handled 54 emails (27 received + 27 sent) per day, means officers in Zimbabwe's central government were generally engrossed with working with email in a single day. This must have been taxing given that officers in central government had other official non-email duties to perform. The

fact that email has become part and parcel of officers' daily routine is supported by Phrasee (2020:1) who states that on average, one officer received 96 emails per day and sent 30 emails per day in 2019, in a world with over 2.6 billion active email users with 4.6 billion email accounts. Another scholar, MacKay (2019:1) estimated that 132 million business emails were sent per day in the world in 2017. One can safely say that the Zimbabwean scenario was in sync with international trends.

5.3 Motivation for using email in the central government of Zimbabwe

The second objective of the study was to find out the factors that motivated Zimbabwe's central government in using email in official business. Four sub-research questions were posed in pursuit of this objective. Motivating factors are factors that encouraged officers in central government to preferably use email as an ICT of choice. The study established that e-government and generic advantages of email were the major motivating factors in the case of email. It also established that the contribution of m-government, the regulatory, policy and procedural frameworks was rather minimal. It was also established that generic limitations of email discouraged to some extent, the use of email in Zimbabwe's central government.

The first motivational factor for the rise in use of email identified in this study was the adoption of e-government by the GoZ. This was stated by the majority of questionnaire respondents, that is, 62 (77.5%) ROs, 50 (62.5%) AOs and 60 (75%) ITOs, five (71.4%) NAZ archivists and D3, the IT Deputy Director in central government. E-government, which was adopted in Africa in 1996 (Hafkin 2009:3) and in Zimbabwe in 2011 (Mambo 2015:1) is a recent phenomenon in local circles. However, as Ambira (2016:23) and Othman and Razali (2018:10) argue, e-government has greatly boosted the use and management of electronic records as it has availed ICT infrastructure, policies and skills that enabled people to use, process, retrieve, manage, preserve and dispose records in electronic form. Amongst these electronic records is email.

Through pursuit of e-government, Zimbabwe has witnessed a rise in the number of Internet Service Providers, increase in Internet bandwidth, increase in mobile Internet subscriptions and the introduction of the first national ICT policy in 2007 and the second one in 2016 (MICT 2016:11). The country has mobilised the G2B, G2C, G2G and G2E dimensions, where email has been used as an ICT application. Fixed ICT infrastructure that boosted e-government and subsequently email were

desk top computers, servers and fixed telephone network. As GoZ expands the e-government programme, increase in use of ICTs including email also increase. On a regional level, scholars like Okae and Gyasi (2013:26) and Sethunya (2015:11) as well as Desai, Hart and Richards (2015:320) on a global level, state that use of email is motivated by many factors, amongst them being the rise of e-government as there is improved ICT infrastructure procurement, development and mobilisation as well as development of ICT skills.

While e-government contributed to the rise in use of email in Zimbabwe's central government, there were scenarios where GoZ failed to take fully advantage of e-government. Firstly, the study has shown that Zimbabwe's central government currently does not have EDRMS and ECM records management solutions. Mutimba (2014:1) defines an EDRMS as an automated system that manages both documents and records inclusive of scanned documents, spreadsheets, images, word documents and email. Rakemane and Serema (2016:165) argue that EDRMS has the capability to manage word processed documents, and email. Such management encompasses capture, receipt, storage, preservation and migration of email. The fact that no government ministry had an EDRMS implied that the administrative efficiency and effectiveness that is brought about by use of an EDRMS currently does not exist in Zimbabwe's central government. This meant the use and management of email in central government was still below current international bench-marked standards.

Zimbabwe's central government also had not adopted the use of another trending electronic records management solution, namely, the ECM. Jaakonmäki, Simons, Müller and vom Brocke (2018:705) hold that the ECM is a dynamic combination of strategies, methods and tools used to capture, manage, store, preserve and deliver information which supports key organisational processes throughout its entire lifecycle. ECM is the latest phase of electronic records management solutions on offer. Its absence in Zimbabwe's central government meant that central government was failing to take advantage of the latest opportunities in using and managing electronic records, including email. While the non-usage of both the EDRMS and ECM was a reality, there was no evidence that it resulted in diminished usage of the ICT application. However, it is the researcher's contention that by the absence of these trending solutions, email was not managed in a proper and professional manner in line with current international records management trends.

Also motivating the use of email in Zimbabwe's central government were generic advantages of email as an ICT. The study revealed that Zimbabwe's central government was greatly motivated by the generic advantages of email. All the three categories of respondents, that is, ROs; AOs and ITOs, indicated that rise in use of email in central government owed much to some of the advantages of email like ease of use, low cost, speed of processing and sending information and presence of an audit trail. The innovation diffusion theory best explains why email was now widely used in Zimbabwe's central government. Email came into being in 1972 according to the Tomlinson origins argument (Pignata, Lushington, Sloan and Buchanan 2015:160) or in 1978 according to the Ayyadurai origins argument (Aamoth 2013:1) or the 1980s according to the DARPA origins argument (Nightingale, Song, Michelson and Field 2012:19). From the 1970s or 1980s, email technology has been diffusing to become a common ICT in Zimbabwe's central government. This diffusion has also been assisted by the diffusion of e-government from 2011. Three of the five constructs of the innovation diffusion theory, that is, complexity, compatibility and relative advantage help to explain why use of email in central government had grown remarkably.

The first construct of the innovation diffusion theory that contributed towards the rise in use of email in central government was complexity. Dearing and Cox (2018:185) define complexity as the absence of complications on new technology that makes people easily adopt the new technology. The argument advanced by proponents of the innovation diffusion theory is that the simpler it is to understand and use new technology, the quicker it is adopted. A total of 45 (56%) ROs, 55 (69%) AOs and 55 (69%) ITOs indicated that email was commonly used in Zimbabwe's central government because it was easy to use.

The second construct is compatibility. Scott and McGuire (2017:121) define compatibility as the degree to which an innovation fits with established ways of doing things. Zimbabwe's central government like the rest of the public service has its norms, dos and don'ts. For example, a record is created for every important transaction; a record is created and maintained in support of important decisions and an important record is archived. Email fits very well into the conventional administrative practice in government, making a high degree of compatibility and resultantly a high rate of adoption and usage. The issue of audit trail is one aspect that defines the conventional way of doing things in central government. This study revealed that 45 (56%) ROs, 30 (38%) AOs and 50

(63%) ITOs saw audit trail as one advantage that was brought about by email relative to other ICTs like telephones and letters (snail mail).

The third and last construct that promoted email usage under generic advantages of email in central government is relative advantage. Dibra (2015:457) states that by relative advantage, one considers the economic, social prestige, comfort, convenience and satisfaction that technology has relative to other similar or related technologies. This study revealed that email has advantages in terms of speed, as expressed by 42 (53%) ROs; 58 (73%) AOs and 62 (78%) ITOs. Vdovin (2020:2) states that once one finishes composing an email message, sending it is as easy and simple as clicking a button. The other advantage is cost as email is cheaper than many other ICT applications. This was shown in this study by 40 (50%) ROs, 70 (88%) AOs and 58 (73%) ITOs. The issue of low cost in as far email is concerned has also been raised by Chihambakwe, Wutete and Sigauke (2017:1) who hold that relatively, email outperforms telephone, face to face, facsimile and letters as a mode of communication in terms of cost and convenience. Vdovin (2020:2) metaphorically describes email as a “free tool” as he explains that “once you are online, there is no further expense that you need to spend in order to send and receive messages”. Another scholar, Palme (2019:32) emphasises the issue of low cost as a major relative advantage of email. He holds that email costs less than a phone call when one has to reach more than one person.

Although 81% of ITOs saw otherwise, the majority of respondents, that is, 45 ROs (56.3%) and 42 (52.3%) AOs revealed that m-government largely did not contribute to the rise in use of email in Zimbabwe’s central government. M-government is a subset of e-government, where mobile technologies are used by government in providing information and other services to clients. The rise in use of email through m-government emanates from the fact that mobile devices like cellular phones, smart phones, tablets and laptops can be used to send and receive emails, whenever and wherever there is Internet connection. Okae and Gyasi (2013:26) are some of the scholars who appreciate the positive role of m-government in email usage as they state that by 2013, Africa had over 600 million mobile phones which were used, among other tasks, to go online.

The impact of m-government on email usage was comparatively lower than that of e-government as the study was set in the city (Harare) where there are a lot of fixed ICT infrastructure. Okae and Gyasi

(2013:26) explain that m-government is more popular in rural areas where there is poor fixed ICT infrastructure, where the Internet can be accessed through use of mobile technologies like laptops, mobile and smart phones. More ITOs than ROs and AOs appreciated the positive role of m-government because issues of mobile technology and devices fell directly under the purview of ITOs as enablers of government ICT systems.

Also scoring lowly in promoting the rise in use of email in Zimbabwe's central government were the regulatory, policy and procedural frameworks. Comparatively, fewer questionnaire respondents (80 33.3%) saw the NAZ Act as important in promoting the use of email in Zimbabwe's central government. Similarly, only two (29.6%) NAZ archivists saw the NAZ Act (1986) as helpful in encouraging use of email in Zimbabwe. Even the Director of NAZ (D1) who is responsible for the administration of the NAZ Act (1986) in Zimbabwe stated that the NAZ Act (1986) was skewed more in favour of paper records than electronic records. This made the Act less useful in promoting and supporting the use of email in Zimbabwe's central government. The issue of the NAZ Act (1986) being skewed more in favour of paper records than electronic records has also been raised in other studies, for example, a study by Huni and Dewah (2019:133) as well as Mutsagondo and Chaterera (2016:255) where both studies called for the revision of the Act in order to holistically accommodate the management of electronic records, including email, in the national archival law.

Mutsagondo and Chaterera (2016:254) opine that the law supports people's day-to-day work and activities and make them work legally and authoritatively. Thus, without a supportive role, the NAZ Act (1986) failed to support the controlled and proper use of email within central government. This situation is not only seen in Zimbabwe. A study by Marutha (2011:147) in Limpopo province of South Africa as well as a study by Kalusopa (2011:186) in Botswana revealed that national archival laws of the respective countries were largely unknown and unused by action officers in managing electronic records and were therefore less helpful in promoting professional and proper use of electronic records.

The study also interrogated the role played by the ICT and email policies in the rise in use of email in Zimbabwe's central government. Policies are there to guide action. ICT policies guide records users on the best possible way to manage ICT infrastructure and networks in using and managing

email. Similarly, email policies are there to guide records creators and users on managing email through processes like email creation, receipt, maintenance, appraisal, preservation, destruction and transfer. The study revealed that most government ministries did not have ICT policies (as indicated by 52.9%) and also that most government ministries did not have email policies (as indicated by 65.8%). The same views with regard to email policies were corroborated by 57.1% NAZ archivists, D1 (NAZ Director) and D3 (IT Deputy Director in central government). The absence of such guides in many government ministries implied that use and management of email was rather haphazard and uncontrolled.

The existence of a records management policy is a necessary, though not sufficient condition, for a proper and successful records management programme. Local and international examples help to support this assertion. A local study in Zimbabwe on management of pension records at the National Social Security Authority (NSSA) by Charewa (2020:54) revealed that one of the greatest impediment to management of pension records was the absence of a records management policy. Elsewhere, Maseh (2016:94) noted the existence of this challenge in Kenya and so did Rakemane and Serema (2018:159) in Botswana and Mutsagondo (2017:131) in Zimbabwe. Nonetheless, a few African countries have national records management policies. Amongst these are South Africa (Katuu and Ngoepe 2015:137) and Eswatini (Tsabedze and Kalusopa 2018:40). These countries greatly relied on these national records policies in managing records regardless of their format. Seow, Chennupati and Foo (2005:48) attached the successful management of email in Malaysia to the existence of an email policy, a records management tool whose importance was confirmed by 85% of respondents in that study. Zimbabwe is supposed to take a leaf from these countries so that records in any format are managed in accordance with set national records management guidelines. Without records management policies, officers are bound to manage records according to their intuition, limited knowledge and available resources, all of which may not bring forth desirable results.

This study revealed that only 41.7% of questionnaire respondents stated that their ministries had email procedures manuals. The existence of a few email manuals in government ministries in Zimbabwe was also confirmed by 71.4% of NAZ interviewees, as well as through personal observation, in a few ministries, and corroborated as well by D1 and D3, directors who participated in the study as interviewees. A records procedures manual is important as it shows officers step-by-step the

processes they are supposed to go through in undertaking some records management activities. The importance of a records procedures manual is highlighted by ISO 15489 (2016:8) which propounds that organisations should develop and implement records procedures manuals regardless of the format of the records in question. A study by Charewa (2020:56) at NSSA in Zimbabwe shows that a records procedures manual is a very important records management tool, which can make a positive difference in the absence of a records management policy. She revealed that although NSSA did not have a records management policy, it greatly relied on the records procedures manual to manage its pension records. The availability of the records procedures manual in the few government ministries in the current study was a motivational factor in their use of email as an ICT application. Government ministries without such a records management tool, more so, without a records policy found themselves in the deep-end, resulting in using what Mutsagondo and Chaterera (2016:256) dubs “a hit or miss approach” to managing electronic records.

The study also revealed that there was limited use of the records procedures manual in ministries where the manual existed. One participant in this study stated that the existence of the records procedures manual was a “window dresser” to comply with auditor requirements. This situation has also been seen elsewhere, for example in Eswatini, where Tsabedze and Kalusopa (2018:50) revealed that only 25.7% respondents used the records manual in their day-to-day work while others did not use it despite the fact that they were aware of its existence within the organisation. The records and information regulatory authority in Zimbabwe, the NAZ, is responsible for crafting national records manuals for use by the public sector. The failure to deliver on their mandate sometimes led some government ministries to develop their own records procedures manuals, which sometimes were not up to standard as the study revealed. This implies that despite its substantive use in Zimbabwe’s central government, email was largely used and managed in an unorderedly and haphazard manner.

While generic and inherent factors motivated the rise in use of email in Zimbabwe’s central government, generic limitations of email worked to the contrary. Generic limitations of email tackled as the fourth and last sub-research question under Objective 2 revealed that some officers in central government were swayed from entirely relying on email as an ICT application. The commonest limitations of email cited in this study which discouraged use of email were information overload,

lack of personal communication, lack of guarantee that message sent is seen or read, lack of privacy and that email wastes a lot of productive time.

Though not necessarily resulting in reduced use of email in Zimbabwe's central government, email overload was an issue for concern by respondents in the present study. Email overload refers to a situation where there is a massive amount of unread email in one's inbox, a situation that can make an officer distraught and nervous. In this study, 8 (10%) ROs, 60 (75%) AOs and 25 (31%) ITOs saw information overload as a factor that sometimes discouraged officers in central government from using email. Commenting on the severity of this limitation, Vdovin (2020:4) states that email overload normally results in some messages being deleted without being read or left unread as an officer may be extremely overwhelmed. If this happens, the effectiveness of email as an ICT of choice is greatly diminished. Smit, Bond-Barnard, Steyn and Fabris-Rotelli (2017:1) see information overload as disruptive and as a source of stress, no wonder why Perry (2017:25) labels email overload as "one of life's little irritations".

Also reducing the use of email as an ICT application in Zimbabwe's central government was the fact that email lacked personal communication. This was indicated in this study by 8 (10%) ROs, 25 (31%) AOs and 5 (6%) ITOs. Vdovin (2020:4) describes email as lacking "personal touch" and argues that there are scenarios and situations where email users need to verbally relay messages and/ or hand-write a note to each other. Hand-writing a note implies use of either a letter, memorandum or circular. There is no guarantee in using email that a message sent is seen, read and will be responded to. This has been shown in the present study by 12 (15%) ROs, 20 (25%) AOs and 19 (24%) ITOs. Scholars like Barbour (2016:20) see this lack of guarantee and lack of equivocality as a major drawback of email as an ICT application. Scholars like Smit, Bond-Barnard, Steyn and Fabris-Rotelli (2017:4) argue that there are situations that demand use of telephonic communication in order to build and maintain relationships as communicating exclusively by email may make co-workers become cold and impersonal to each other.

One other drawback of email as expressed in this study is the issue of email being a major distraction which interferes with productivity within an organisation. Vdovin (2020:4) holds that constantly checking one's email inbox is disruptive, yet reality on the ground is that one cannot ignore their

email inbox for a long time. Scholars like Kupritz and Cowell (2011:56) see attending to incoming email time and again as disruptive. They hold that an office worker can spend as much as a quarter of his or her working day reacting to emails, which can be a sheer waste of time, unless he or she works in a customer support area of that organisation. The limitations of email discouraged use of email in central government, a situation which rather discouraged use of email, though to a lesser extent.

5.4 Reasons for managing email in the central government of Zimbabwe

The third objective of the study, that is, “examining how email is managed in the central government of Zimbabwe” was presented and analysed by focusing on four sub-research questions, namely;

- (i) Is it important to manage official email?
- (ii) Who manages official email in government ministries in Zimbabwe?
- (iii) What strategies are used in managing official email in Zimbabwe’s central government?
- (iv) What role does NAZ play in helping Zimbabwe’s central government properly and professionally manage email?

The issue whether or not to manage email is rather contentious, as there are segments within central government that view email as “not important” and thus not deserving to be managed professionally as is the case with records in paper form. Seow, Chennupati and Foo (2005:43) observed that by the turn of the 21st century, email was the worst professionally managed of all records. It seems two decades later, management of email has not improved as it has remained clumsy, chaotic and personally-determined.

This study established that the many respondents held that email was supposed to be properly and professionally managed. This was indicated by 177 (73.75%) respondents as well as by interviewees D1 and D3. Personal observation in central government also pointed at efforts by some ministries at professionally managing email as official records. This was seen through existence of email policies, email procedures manuals and email classification schemes. Various reasons were advanced as to why email was supposed to be managed, amongst them being that email was an official record, email

accumulated quickly, enhancing retrieval and access, ensuring security and ensuring the availability of information for posterity.

One of the reasons for managing email properly and professionally was the fact that email was an official record. Official email, also called business email, is email created and/ or received in pursuit of the official business of the organisation (Mutsagondo and Tsvuura 2017:191). It includes receipts produced as proof of payment, minutes of meetings as evidence a meeting was held and certain decisions made and also include directives to induce compliance among the workforce. Nonetheless, this view was held by very few respondents in this study, that is, 8 (11%) ROs, 5 (11%) AOs and 12 (15%) ITOs. The Government of Canada (2015:2) advances that email which is deemed to have business value should be properly managed, by among other things, organising, classifying and storing it appropriately. Generally, the belief that records produced and received by email are official and therefore important implies such records deserve to be managed properly. Sigauke, Nengomasha and Chabikwa (2016:21) state that respondents in state universities in Zimbabwe had problems in separating official email from non-official email records. The tendency to regard paper records as the only official records, which is common among many officers in the public sector, mislead some officers to regard electronic records as “unofficial” and thus, not deserving of professional management. It is thus, not surprising that only a few respondents in the current study stated that email was supposed to be properly and professional managed because it comprised official records of government.

A total of 10 (14%) ROs, 13 (19%), AOs and 6 (8%) ITOs stated email was supposed to be properly and professionally managed because it accumulated quickly making sorting it in some organised way mandatory. Kavanaugh (2016:4) states that as email fills in the inbox, it makes it difficult for one to see valuable from non-valuable email. This makes it necessary to manage email by classifying and filing it. In addition to the inability to fish out important email from unimportant ones, email overload is a source of stress. One of the theoretical frameworks of this study, that is, the records continuum theory, supports the need to manage email by categorising it. The second dimension of the records continuum theory is “capture and classification”. Griffin, Herzinger and Sesser (2013:632) state that by capturing and classifying records, an organisation is supposed to enter records into its record-keeping system where it is kept as evidence of some transactions. Other scholars like Joanne,

McKemmish and Rolan (2017:6) hold that records need to be categorised or classified as well as indexed in order to enhance their location, access and retrieval. It is important to bear in mind that records are created in order to be used, making their capture and classification important.

The issue of access was also indicated as one reason why email was supposed to be managed properly and professionally. This was indicated by 13 (16%) ROs, 10 (14%) AOs and 14 (18%) ITOs. Access is defined by Millar (2009:52) as the right, opportunity, means of finding, using or retrieving information. Scholars like Chaterera (2017:205) see access as the main reason why records and archival institutions exist. Towing the same line is ICA (2004:59) which holds that the provision of access is the ultimate objective of recordkeeping. If email in central government is not classified, filed and preserved using proper tools, some email may be difficult to access while others may not be accessible, thus defeating the cause for proper and professional management of email.

Another reason advanced by respondents for proper and professional management of email was the need to secure email. This was stated by 13 (16%) ROs, 10 (14%) AOs and 14 (18%) ITOs. Scholars like Muchaonyerwa (2017:65) view records security as an important task as it ensures the integrity of electronic records. She states that records in electronic form are more susceptible to alteration, erasure and deletion than records in paper form, making it important to secure them. Dashora (2011:240) also calls for security of records in electronic form as he avers that cybercrime is now commonplace, for example, email spamming, email bombing, hacking, viruses and denial of service. Thus, Zimbabwe's central government should manage email in order to make it an authentic and secure form of record. The issue of email security has also been highlighted by Kavanaugh (2012:8) who holds that due to the substantive use of email in business, email has become a target of many attacks on the Internet.

Respondents also expressed that email was supposed to be properly and professionally managed in order to enhance its retrieval when needed. A total of 10 (14%) ROs, 6 (8%) AOs and 10 (14%) ITOs saw ease of retrieval as a reason that calls for proper and professional management of email. This rationale has also been advanced by Harvard Records Management Services (2012:1), which holds that like any other type of record, email should be managed to ensure that it is available when needed. It should be borne in mind that records foster decision making within organisations. Thus, they are

sometimes needed at short notice in order to support business decisions that may need to be promptly made. In order to make retrieval easier, there is need to manage email in an orderly manner lest email overload surfaces. Perry (2017:25) argues that unorganised email builds up and becomes “irritating” and “stressful” to action officers.

A total of 14 (18%) ROs, 3 (4%) AOs and 2 (3%) ITOs stated that email was supposed to be managed in order to make sure important email is preserved for posterity. Some email has secondary value. This means that their value transcends their primary administrative importance. Such records end up as archives where they will have research and historical value to wider society. This rationale is supported by one of the constructs of the records continuum theory, that is, pluralism. Huvila, Eriksen, Hausner and Jansso (2014:4) aver that by the pluralist dimension, a record or archive is used by wider society and by different stakeholders as it moves from being individual or corporate memory to become collective societal memory. In the words of Svard (2013:165), these records become “pluralised collective archives”. Also seeing the importance of managing records, including email, for posterity, is Kavanaugh (2012:4) who holds that failure to manage email directly leads to lack of resources for future researchers and scholars.

5.5 Officers managing email in the central government of Zimbabwe

The second sub-research question under Objective 3 asked who was responsible for managing email in Zimbabwe’s central government. The question was posed in order to see if personnel responsible for managing email had the requisite skills necessary for the proper and professional management of email. Most (162; 67%) questionnaire respondents in central government indicated that email was managed by ITOs and followed by ROs, as stated by 48 (20%) respondents. Through interviews, five (71.4%) NAZ officers corroborated questionnaire respondents’ assertion that ITOs were mostly entrusted with managing email in Zimbabwe’s central government.

According to ISO 15489-1 (2016:8), the responsibility for the creation, capture and management of records should be clearly defined, promulgated and assigned. Senior management has to be involved and it should have valid reasons for assigning whoever they assign. The issue of assigning ITOs to manage email ahead of other officers has been seen in some other local and regional studies. In Zimbabwe, Mutsagondo and Tsvuura (2017:192) noted that IT staff in the Midlands province’s public

departments were responsible for managing email. At the Companies and Intellectual Property Authority in Botswana, email was managed by ITOs, despite heated debate questioning their eligibility to perform the task (Rakemane and Serema 2018:159).

Management of electronic records pose many challenges to many organisations as electronic records tend to be widely distributed within a single institution. In the case of email, various action officers receive and send email without the knowledge or intervention of the so-called ‘email managers’ during and after the procession of the email. This complicates the issue of who is responsible as well as at what stage should the responsible officer come into the picture. Cloy (2007:9) states that for internal email, the sender or initiator is responsible for keeping the message that he or she sends. Internal recipients are responsible for keeping a copy of the email they receive. He further propounds that for external email, the sender is responsible for keeping a copy of the message. Receivers of external email are also responsible for keeping the message. However, in cases where an external message is sent to multiple recipients in an organisation, the person responsible for the area of work as well as the records staff are responsible for keeping the message.

While the proposal by Cloy (2007:9) seems attractive in many respects, the question remains as to who is ultimately responsible for managing email at the end of the email sending and receiving process. Some scholars like Mutsagondo (2017:85) state that electronic records are official records and should be managed by qualified records officers who have records management skills. Deficiencies in records management skills among officers managing records including electronic records, is commonplace in Sub-Saharan Africa. For example, in Uganda, Luyombya (2010:119) described such lack of skills as “scary” while in Lesotho, Sejane (2004:119) noted that most public registry officers had high school qualifications. Nonetheless, it should be noted that email, like other electronic records, needs more than mere records management skills. ICT skills are also needed, hence the infiltration of IT staff into the records management domain as shown by the present study. Probably, the best way to break the impasse is by encouraging collaboration and shared responsibility in the case of management of electronic records, including email.

Constructs from the records continuum theory, namely, create, capture, organise and pluralise help to explain how email should be managed in central government. In creating records, the records

continuum theory advances that there should be collaboration amongst officers managing records. The present study showed that there was largely no collaboration between ROs and ITOs in managing email in Zimbabwe's central government. Records continuum theorists like Upward, Reed, MacLean and Atherton state that records and archives should be managed in a continuum and in a consistent manner without separating the roles of records managers and archivists (Svard 2013:165). The same fact is upheld by Afshar and Ahmad (2015:490) who maintain that there should be collaboration, integration and a unified approach to managing records by the different professionals. This implies that the ideal position is whereby ROs and ITOs, as well as action officers within central government collaboratively manage email, with due respect to special assigned roles and responsibilities. In support of this assertion, SRO Guideline (2009:8,15) spells out that effective management of email is a shared responsibility and all members of staff including Chief Executive Officers, records managers, Chief Information Officers, information technology officers, system administrators and individual email users should play an active role in capturing email records as they are created, received and used. The guideline also stresses that management of email must be incorporated into an organisation's staff induction and training policy to ensure compliance by all members of staff.

5.6 Email management strategies

The third sub-research question under Objective 3 quizzed email management strategies that were used in Zimbabwe's central government. Nine management strategies were presented and analysed in the previous chapter. This section discusses and interprets these management strategies in turn.

5.6.1 Use of official email accounts

The first email management strategy examined in this study was the use of official email for official business. This study revealed that 100 (41.7%) respondents did not have email accounts and as a result, they used their private email accounts for official business. The study also revealed that it were mostly ROs and AOs who had and used private email accounts for official business. One of the most celebrated cases where a government official used her private email account for official business with disastrous results was Hillary Clinton's *Emailgate* in 2015 in the United States of America (USA). Clinton used her personal email account for official business despite the fact that she was a Secretary of State and that she had an official email account and despite the 2014 Amendment to the Federal

Records Act which discouraged public employees from using personal email accounts for official use (Dowd 2016:7). Use of official email for official business exposes corporate email to privacy and security risks during the time an officer is in the employ of his or her organisation and after the officer leaves the organisation. Clinton received widespread criticism for failing to use her official email account for official business, which posed a serious security threat to the USA (Dilanian 2016:7). Clinton later apologised to the people of America for the mishap, but the emailgate is reported to have negatively affected Clinton's presidential bid in 2015 (Dowd 2016:7; Dilanian 2016:8), showing how serious the mishap was. Thus, Zimbabwe's central governments needs to guard against failure to observe the management strategy where all government officials use official email for official business. This means interviewee D2's sentiments in this study that officers who use private email accounts for official business should be charged for misconduct carries a lot of weight.

This study has also shown that some officers failed to use official email for official business not because they did not have them but as a result of resistance to change. The case of Clinton in the USA as well as other Secretaries of State like Albright (1997 - 2001) and Powell (2001 – 2005) who also used their private email accounts for official business provides good examples of resistance to change. While Lunenburg (2010:1) argues that resistance to change is caused by uncertainty, fear of the unknown and concern over personal loss, among many other factors, Masvora (2016:4) argues that resistance to change is mainly caused by fear of losing one's job and exposure before the public of one's inability to undertake tasks that are generally thought to be easy. Zimbabwe's central government should identify reasons for resistance to change involving continued use of private email accounts and institute necessary training to effect behavior change.

5.6.2 In-box management

The second email management strategy examined in this study was in-box management. Under in-box management, respondents were asked two questions. The first question asked respondents their email inbox checking times while the second question asked them the average sizes of their email inboxes. Most popular email checking times were break times, checking hourly and checking every three hours. Smit, Bond-Barnard, Steyn and Fabris-Rotelli (2017:4) advise that it is best to check one's email during set intervals, while Vdovin (2020:7) avers that one can have an alert system

activated to remind an officer when it was due to check one's email. Booher (2020:65) revealed checking email hourly was the commonest email checking interval. Checking email frequently reduces chances of missing important email. It also reduces chances of email overload, where an email inbox is so congested with unread emails that an officer may fail to cope with the volume.

Checking one's email very frequently also has its own shortcomings, for example, it is disruptive. MacKay (2019:4) is against officers constantly checking email as he views such action as "a minefield of distractions". He argues that every time one checks his or her email, it results in "context switching" where one switches from his or her current work to attend to the new incoming email. He further argues that such distraction "kills" one's productive time by 20%, that is, about one and half hours in an 8-hour working day. However, checking email when one is free or at knock-off as indicated by 11% of respondents is rather unadvisable as an officer may miss important emails which require urgent attention. A respondent in a study by Turville (2019:2) indicated that he checked his email inbox during downtime, that is, when free, or when waiting for an appointment or sitting in his car or while picking up his children. Such an approach reduces email to a secondary source of information and communication which may not be very useful for business and may need to be discouraged.

This study revealed that no categories of officers maintained a clean in-box. The present study showed that generally, respondents maintained an email inbox of 40 emails. A study by Booher (2020:64) disclosed that a respondent who despite efforts to have a "zero inbox" (a clean in box all the time) ended up with an inbox with 3500 emails. The respondent reportedly deleted all email indiscriminately and started all over on a clean slate. Deleting email without reading is uncalled for as Vdovin (2020:5), who also clamours for a "zero inbox", warns that one cannot ignore email for long as this results in loss of or mix-up of important email. Such email may never be seen, read and responded to, meaning to say, email in such scenarios, defeats its purpose as an authentic and important ICT application.

5.6.3 Classification and filing of email

The third and fourth email management strategies examined in this study were classification and filing. Classification refers to categorisation of email using certain criteria, for example, function,

subject or geographic origin of the email. Filing is whereby related documents are grouped together for easy identification and retrieval. A total of 124 (51.7%) respondents indicated that they classified and filed email in their ministries. Email like records in paper format should be categorised in order to enhance its access and retrieval. This is supported by scholars like Capra, Khanova and Ramdeen (2013:1032) and Kalman and Ravid (2015:2041) who hold that the ideal situation in organisations is that email is managed in the same manner as paper records and with a single classification for both paper and electronic records. In advanced economies like the USA, Florance, Gulbranson and Sayre (2013:10) state that National Archives and Records Administration (NARA) encourages public agencies to use auto-categorisation, where an email is automatically categorised upon receipt. After categorisation, email is supposed to be filed in accordance with set records management standards.

The present study showed that the culture of filing email in Zimbabwe's central government was sporadic and depended upon individual officers. There was generally a low rate of filing of email, with some respondents claiming they filed email once in three months and others, when the email inbox was full. Capra, Khanova and Ramdeen (2013:1032) categorise email users into three groups, that is, non-filers or pilers (those who never file), frequent filers (those who file on a daily basis) and spring filers or spring cleaners (those who file once in one to three months). If this categorisation is anything to go by, respondents in Zimbabwe's central government would best be described as "spring filers", implying filing was done once in a season. It is possible a lot of email could not be accessed and retrieved as a result, meaning to say, although email was substantively used in Zimbabwe's central government, there was a lot of irresponsible use of the ICT application.

5.6.4 Managing email metadata

Managing email metadata in Zimbabwe's central government was the fifth email management strategy examined in this study. Metadata refers to data about data as well as data describing context, content and structure of a record (Klett 2017:12). Examples of email metadata include title, name of sender, date and time the message is sent, reference number and folio (ISO 23081-1 2017:3). This study has revealed that very few respondents (72; 30%) managed email metadata, implying that the bulk of email found in Zimbabwe's central government was either incomplete or fragmented. For email records to be authentic and reliable, there is need to manage email metadata when capturing email, when preserving and when migrating email from one record format to another. The

international standard for email metadata management is ISO 23081. The standard advances that metadata management is important for the following reasons;

- (i) It identifies a record.
- (ii) It describes a record.
- (iii) It authenticates a record.
- (iv) It enhances archiving of a record.
- (v) It helps to locate and retrieve a record.
- (vi) It enhances proper and successful migration of records (MEAC 2013:3; ISO 23081-1 2017: 3).

5.6.5 Email security and privacy

The sixth email management strategy examined in this study was security of email. Records carry with them important and sometimes sensitive information, making security of email a major pre-occupation. Zimbabwe's central government fared very well in as far as securing email was concerned. This was shown by use of an array of security measures like firewalls, passwords, physical access controls, encryption, e-signatures, use of anti-virus software and anti-spam software. Securing electronic records has also been seen in a study by Magama (2017:87) where government ministries in Masvingo Province were pre-occupied with securing electronic records from unauthorised access, viruses, crashing of computers, hacking and deletion of records, migration errors and technological obsolescence. Like in a study by Matangira (2016:133) on records management in post-colonial Zimbabwe, public departments in Zimbabwe also restricted access to public buildings as visitors and clients were vetted by the entrance of government buildings in addition to locking records storage areas and records cabinets. In the case of the present study, physical access controls meant access to computers and servers was restricted to authorised staff, or else there would be data theft, tempering with, altering and deletion of files. The present study showed that 72 (30%) respondents used electronic signatures as an email security measure. They were distributed as 27 (37.5%) ROs, 10 (13.9%) AOs and 35 (48.6%) ITOs. Restricted use of electronic signatures as security measures was also seen in a study by Magama (2017:88) in Masvingo Province of Zimbabwe. This was despite the assertion by Palme (2019:44) that e-signatures are actually more reliable than a signatures on paper, since paper signatures are very easy to forge.

5.6.6 Appraising email

Appraisal of records is a fundamental strategy in information management despite the format of records in question. The seventh email management strategy examined in this study was the appraisal of email, a necessary activity to sift important email from ephemeral email. This study revealed that appraisal of email was rarely conducted in Zimbabwe's central government as only 59 (24.6%) respondents appraised email in order to determine its disposition. This was corroborated by six (85.7%) NAZ archivists and D1 who stated that most officers in central government did not appraise email because they did not have email appraisal skills. Another study by Sigauke, Nengomasha and Chabikwa (2016:17) established that there was poor appraisal of email records in state universities in Zimbabwe. This showed, appraisal of email was rather uncommon and posed challenges as regards proper and professional management of records in Zimbabwe's public sector.

5.6.7 Disposal of email

The eighth email management strategy that was interrogated in this study is disposal of email. This involved destruction of ephemeral or time-expired official email as well as the transfer for preservation of important email. All 240 respondents in the study stated that they had at some point in their working life deleted official emails. However, upon being asked what criteria they used to delete the email, they gave various responses ranging from email appraisal, space challenges, personal feelings, retention and disposal to the Capstone approach. While this study does not prescribe the best approach to destruction of email, it discourages the use of personal intuition which ranked as the commonest method (31%) and destruction due to space challenges, which ranked as the second commonest determinant (29%). Almost similar findings are found in a study by Mutsagondo and Tsvuura (2017:193) in public departments in the Midlands Province of Zimbabwe where 55% of respondents revealed that they destroyed email messages when they faced space challenges on the email system while 18% destroyed email using their own discretion and 27% used records appraisal. Regionally, Keakopa (2008:75) also noted how government officials destroyed email records willy-nilly without sparing a thought about the repercussions of such actions. Use of the Capstone approach was largely unknown, but as the study showed, some officers destroyed email because it came from junior or low-ranking officers and therefore deemed less important. This strategy was also used by state universities in Zimbabwe where email sent or received from senior authorities were automatically retained while that from junior officers was destroyed (Sigauke, Nengomasha and

Chabikwa 2016:17). In the context of the present study, destruction of email using the Capstone approach was used unconsciously as respondents used it without knowledge of its name.

Transfer of email for secondary and permanent preservation constituted the other side of email disposal. The study revealed that Zimbabwe's central government largely preserved email in servers, printing to paper, on the email system and on the cloud. It should be noted that some of these methods, for example, using servers and the email system, were rather short-term. Commenting on such a scenario, in the case of South Africa, Modiba, Ngoepe and Ngulube (2019:2) claim that the preservation of public records in digital form is "still an Achilles heel..." Still in South Africa, Muchaonyerwa (2017:64) discovered that there were no long-term measures to preserve digital records at the Office of the Premier. These records included email since email is one of the commonest type of electronic records.

Preservation of email is important in that at one stage, email moves from being the property of its creators to become societal property, what the fourth dimension of the records continuum theory calls "pluralism" (Joanne, McKemish and Rolan 2017:6). Preservation, more so, long-term preservation of records is important in that it ensures access to records and archives (Magama 2018:18; Matlala 2019:95) and as such calls for effort and mobilisation of material and financial resources. Balogun (2018:1) observes that Britain, the United States, Canada, Australia and New Zealand have invested heavily in digital preservation of records in electronic form, procuring, mobilising and using electronic records management solutions like the EDRMS and the ECM, which currently were non-existent in Zimbabwe.

5.6.8 Managing email whilst out of office

The ninth email management strategy examined in this study is managing email whilst out of office. This strategy involves setting up and using an automated system that notifies clients who sent in emails that the receiver is away from his or her work station and that the recipient will respond to the email once he or she is back in office. The study revealed that the strategy was not currently used in Zimbabwe's central government. It was also revealed that no AO was aware of this automated strategy while only 15 (6.3%) ROs and 35 (14.6%) ITOs were aware of this email management strategy. Even NAZ archivists who participated as interviewees confirmed that such a strategy had

not yet dawned in Zimbabwe's central government. Cloy (2007:12) argues that officers should make appropriate arrangements to deal with email that comes in when one is out of office and that it is good practice to indicate when one will be back in office as well as providing an alternative recipient for incoming emails. According to the Head of Information Compliance (2016:5), it is good practice to use an "out of office message" which provides information including the time that he or she will be back in office and also to provide details about a member of staff who will be available to assist during one's absence.

5.6.9 Managing email of officers who leave the organisation

The 10th and last email management strategy that was examined in this study was managing email of officers who leave the organisation. A total of 157 (65.4%) questionnaire respondents indicated that when an officer left employment, there was no official handover of his or her email records to staff that remained in the organisation or to staff that took over from them. This resulted in loss of information, which sometimes prevented the ministry from making informed decisions. The issue of poor hand-over-take-over was also noted by Tsabedze and Kalusopa (2018:41) in the Eswatini public service where they observed that some officers kept some electronic corporate information in their personal laptops and external storage devices and that they took these ICTs and the information therein home upon retirement or resignation. Cloy (2007:12) and SRO Guideline (2009:13) who see departure of employees at one point due to death, retirement dismissal or other reasons as inevitable, claim that failure to manage email of "leavers" was counterproductive as it led to loss of information, exposure of the organisations' information into wrong hands, where information could be abused for personal aggrandisement. Blouin (2010:45) thus calls for smooth transition to email management when staff leaves and when new staff comes in. Thus, the hand-over-take-over common with regards to paper records should be extended in Zimbabwe's central government to cater for email and other electronic records.

5.7 NAZ involvement in email management

The last sub-research question under email management strategies asked ROs how much support they got from NAZ in order to manage email properly and professionally. In line with Section 6 of the NAZ Act (1986), the NAZ is mandated to manage records management activities in the public sector,

including in central government. This has also been revealed by Sigauke, Nengomasha and Chabikwa 2016:14 in their study on email management in state universities in Zimbabwe. Chaterera (2013:89) also calls for involvement by national archival institutions in overseeing the manner in which records in any format are managed.

This study revealed that 26% of respondents who held that NAZ was not doing enough to help them in managing email properly and professionally. Chaterera (2013:40); Keakopa (2007:174) and Ngulube and Tafor (2006:5) comment that the role played by national archival institutions of developing countries in managing email and other electronic records, was rather marginal. Similar sentiments were expressed by Keakopa (2009:8) in Namibia where she revealed that NAN was not doing enough to assist government departments in managing email. She had this to say; “a lot still has to be done to equip records professionals with skills to take the challenge of managing emails and other forms of electronic records”. Still in Namibia, Nengomasha (2012a:84) stated that NAN was rather passive in helping government manage email properly, a situation that made public institutions in Namibia manage email in whatever way they pleased.

On the contrary, NAZ seemed to be moving out of its cocoons to play an active role in helping central government manage email. This was shown in the study by 65% of ROs who stated that they were getting assistance from NAZ in varying degrees and in different areas like procurement of EDRMS solutions; drafting electronic retention and disposal schedules; securing email and email systems and in drafting an electronic records management policy. Magama and Nduna (2020:91) hold that NAZ is currently in the process of helping the public sector in shifting from a purely paper-based records management system to a hybrid of paper and electronic records. This includes the preparatory work for the procurement of an EDRMS solution, thus confirming the assertion by 19.2% of respondents that NAZ was actively involved in assisting them on the road to an EDRMS solution. The Draft Records Policy (2019:1) also showed that NAZ was focusing attention on the management of electronic records as well as email for use by Zimbabwe’s public sector. Again, this corroborated views held by 11.5% of respondents in the present study.

Zimbabwe’s current stance in assisting central government in management of email is in sync with what is seen in some developed countries like the United Kingdom (UK), Australia and the USA. For

example, the USA through NARA encouraged public agencies to use auto-categorisation of email (Florance, Gulbranson and Sayre 2013:1) and promulgated the Capstone Approach in 2013 where email of senior officials was supposed to be automatically preserved while those of low ranking officials could be destroyed (NARA 2013:7). The UK which Keakopa (2009:9) regards as a model for good email management repealed the Public Records Act in 1958 in order to accommodate in the archival law the management of electronic records as well as to cater for their preservation and it also developed standards and best practices for the management of electronic records, for example, the Electronic Records in Office Systems. Australia through the NAA, also played an active role in helping the public sector manage email by publishing a standard for electronic records management applications (Katu 2012:463) and by providing functional requirements for ECM applications that the public sector could consider in procuring electronic software and solutions.

5.8 Email management challenges and their impact on the professional management of email

A number of challenges were cited as factors that affected the management of email in Zimbabwe's central government. These ranged from factors that directly affected email management like lack of ICT infrastructure, lack of policies and lack of email procedures manuals to factors that indirectly affected email management like lack of senior management support and lack of a budget for records management activities.

5.8.1 Poor legal framework for email management in Zimbabwe's central government

Lack of a clear and representative legal framework was cited as one of the major reasons why management of email was in shambles in Zimbabwe's central government. This was cited by 90.8% of respondents and the majority of interviewees who included NAZ archivists and directors of the NAZ and central government ministries. Parer (2000:1) comments that archival laws are important in ensuring that records and archives are appropriately managed and preserved over time for accountability and historical purposes. This implies that without archival law or without a clearly representative archival law, management of email and that of other electronic records is by "hook and crook". The archival law challenge has been revealed in other studies in Zimbabwe, for example, by Huni and Dewah (2019:133); Mutsagondo and Chaterera (2016:259) and Sigauke, Nengomasha and Chabikwa (2016:17). Deficiencies in addressing the management of electronic records have also been

detected in the Botswana National Archives and Records Service Act (1978; amended 2007); the Lesotho Archives Act (1967); the Eswatini Archives Act (1971) and the Tanzanian Archives Act (1965, amended 2002) (Ngoepe and Saurombe 2016:29). Similar records management challenges have been seen in South Africa by Ngoepe and Saurombe (2016:24). Nonetheless, some countries like South Africa have archival laws which cater for records in all formats, including electronic records. Katuu and Ngoepe (2015:37) aver that in South Africa, the National Archives and Records Service Act (1996) fares better than those of many African countries in addressing the issue of electronic records management as it has clauses that specifically cater for the management of such, inclusive of email.

5.8.2 Lack of email policy in Zimbabwe central government

Absence of an email policy was cited by 90% of respondents in this study. Without a records policy, central government faced problems with regards to creation, receipt, use, maintenance, preservation, appraisal and disposal of records. Lack of policy meant different officers used and managed email as they saw fit but at the mercy of proper and professional management of official records. Maseh (2016, 94) as well as Maseh and Mosefi (2019:8) aver that many African countries do not have records management policies in general and electronic records in particular, situations that grossly undermine the proper and professional management of records. Lack of policy which affect management of email has also been revealed by Sigauke, Nengomasha and Chabikwa (2016:16) in state universities in Zimbabwe as well as by Ramsey and Renaud (2012:590) who opine that policy compliance in organisations is difficult to come by in the absence of a written and well spelt-out policy. There are situations where a records policy exists, but there is lack of enforcement and coordination of the policy amongst public sector organisations. This has been seen in Eswatini, for example, where Tsabedze and Kalusopa (2018:40) state that individual ministries applied the records policy differently, a situation they equated to “working in silos”, that is, working as individuals without cooperation and coordination. Othman and Razali (2018:3) hold that there is need to break down the “departmental silos” that exist between related organisations to bring about uniformity and coordination in policy application and implementation.

5.8.3 Lack of email procedures manual

Fifty percent of respondents stated that lack of an email records procedures manuals affected use and management of email in Zimbabwe's central government. Without a procedures manual, officers in central government did not have a step-by-step guide on how they were supposed to use and manage email. Mash (2019:3) opines that ISO 15489 advances that organisations seeking to manage their records effectively should have in place procedures manuals for use in managing records. A similar point has also been raised by Tsabedze and Kalusopa (2018:49) who state that Section 5 of the ISO 15489-1 (2016) clamours for the existence of records policies and procedures manuals in organisations to enhance efficiency, effectiveness and accountability. The importance of a records manual is probably shown by Charewa (2020:55) who revealed that NSSA Bulawayo did not have a records policy, but the institution greatly relied upon the use of a records procedures manual in managing pension records. Another local study by Mugumbate (2020:53) attributed to poor records management at the Department of War Veterans in Zimbabwe to the absence of a procedures manual.

The present study showed that existence of procedures manuals within government ministries did not imply that the manuals were used in managing records. The study revealed that a total of 30 ROs indicated that an email procedures manual existed yet only 20 indicated the manual was used; 25AOs indicated that an email procedures manual existed yet only 10 indicated its use in their ministries and 45 ITOs indicated that an email procedures manual existed yet only 20 indicated its use in their ministries. A similar situation has also been seen in Eswatini by Tsabedze and Kalusopa (2018:50) where despite the existence of an Eswatini National Archives-designed records procedures manual, only 25.7% of respondents revealed that they complied with the records manual in their day-to-day work.

5.8.4 Email management skills challenges

Lack of professional competencies and skills to manage email was cited by 73.3% of respondents as one of the major challenges affecting the management of email in Zimbabwe's central government. Email is a record as well as an ICT, thus it calls for a wide and variety of skills by action officers and staff managing email in central government. This challenge has also been seen in state universities in Zimbabwe (Sigauke, Nengomasha and Chabikwa 2016:17) where email was handled and managed by staff who mostly neither had email management skills nor appreciation for managing email as an

official record. In another study on email management in commercial banks in Zimbabwe, Chihambakwe, Wutete and Sigauke (2017:1) discovered that due to lack of email management skills, banks were unable to fully utilise email as a business communication tool for corporate memory purposes. Electronic records management skills deficiencies are also rampant in other African countries, for example, Eswatini by Tsabedze and Kalusopa (2018:39); in Botswana (Mosweu and Ngoepe 2019:18) and in Kenya (Maseh and Mosesti 2019:10). In all the three cases, there were deficiencies in digital preservation skills, security management skills, appraisal skills, computing skills, EDRMS and ECM skills as well as metadata management skills, thus leading to failure to maintain the authenticity and integrity of electronic records. This is also supported by Jain and Mnjama (2016:157) who hold that most archivists and records managers are not technologically skilled in dealing successfully with the challenges of ensuring long-term preservation of digital records. A wide variety of skills are needed to effectively manage electronic records, including email, no wonder why Mosweu and Ngoepe (2018:24) refer to electronic records management as a “complex vocation”.

5.8.5 Dispersal of email within the organisation

In this study, 89.6% of respondents stated that dispersal of email within government ministries was one other challenge. This challenge resulted in failure to locate and retrieve email when needed for administrative and other purposes. This challenge has also been shown by Mugumbate (2020:16) in a study at the Department of War Veterans in Zimbabwe where different action officers created, received, maintained, used and disposed electronic records, including email, independently within their respective sections and units. Charewa (2020:57) revealed a similar challenge at NSSA Bulawayo where the centralised system worked perfectly well for paper records but not in the case of electronic records. While dispersal of email existed in terms of physical location, Sigauke (2016:8) as well as Sigauke, Nengomasha and Chabikwa (2016:16) also revealed dispersal of electronic records in terms of ICT infrastructure used in their preservation, for example, shared network drives, local drives and research databases. This makes management of an institution’s email a challenging task. Thus, the fact that email like other electronic records is ubiquitous as it can be found in different places and in different ICT within the same establishment, was rather a challenge to staff that managed email in Zimbabwe’s central government.

5.8.6 High costs of infrastructure

High cost of ICT infrastructure was a cause for concern in central government as stated by 82.5% of respondents. As the study showed, this resulted in failure by Zimbabwe's central government to procure state-of-the-art ICTs like EDRMSs and ECMs. Scholars like Kavanaugh (2016:36) argue that prohibitive costs prevented many organisations from "moving with the times". This has also been revealed by Tsabedze and Kalusopa (2018:40) who argue that financial challenges contributed in part towards Sub-Saharan Africa's inability to procure proper ICT infrastructure that can support e-government and electronic records management. High costs of ICT infrastructure has also been cited as a contributing factor to lack of proper ICT infrastructure like the ERMS and EDRMS in Eswatini (Tsabedze and Kalusopa 2018:40) where their study showed that only 1.25% of respondents had an EDRMS. Ambira (2016:27) also attributed to minimal use of the EDRMS in Kenya to prohibitive costs of ICT infrastructure.

5.8.7 Lack of senior management support

Though cited by 50% of respondents, lack of senior management support for records management affected the management of email in Zimbabwe's central government. In this study, D1 and D2 concurred that the records section had not received the best treatment and neither had it received the best favours under the administration department where records management activities were lowly ranked comparative to those of other sections within the same department. Lack of senior management support which adversely affected electronic records, including email, in Zimbabwe has also been revealed by Matangira (2016:176) and Mutsagondo (2017:128) who view mobilisation of inadequate and unqualified staff; lack of workshops and lack of modern ICT infrastructure to the records management function as a result of lack of senior management support for the records function. Regionally, this challenge has also been highlighted by Luyombya (2010:169) who argued that the value of records within the Ugandan public sector was mainly realised by many managers only when things went wrong or when an important record could not be located. Scholars like Kiausiene, Streimikiene and Grundey (2011:84) as well as Habiba, Ali and Rasheed (2016:2444) argue that women-dominated fields often face discrimination of some sort due to managerial gender-job stereotypes. The records management field, which as shown in Section 4.1.2 is dominated by women at 57.5% can be regarded as a women-dominated field. Thus, issues like lack of management support discussed in this section as well as the field being looked down upon and lack

of a budget for records management discussed in subsequent sections can be traced to managerial gender-job stereotypes championed by some forms of discrimination.

5.8.8 Records management function is looked down upon

Many (116; 48.6%) respondents in this study showed that the records management function, under which email management thrived, was looked down upon in central government. This had ripple effects on management of email in Zimbabwe's central government. In support of the low status accorded to records management is Mnjama (2002:32) who noted that many times, records management was given low priority in many organisations. As a result, some of these organisations lacked basic ICTs which were commonly found in other departments of the same organisation. Sejane (2004:92) gives the example of the public sector in Lesotho where only 21% of records offices had computers, many of which had been donated by some development agencies. Commenting on the disparity between developing and developed countries, Balogun (2018:1) states that Africa generally places less value on archives due to lack of appreciation and understanding of the importance of records and archives. The management of email in the central government of Zimbabwe was seriously dented by the general attitudes that many people accorded to the records management function.

5.8.9 Lack of a budget for records management work

This study established that many times, Zimbabwe's central government did not have in place a budget to cater for records management work. This was cited in the study by 67.5% of respondents. Scholars like Sejane (2004:90) in Lesotho, Keakopa (2007:114) in Namibia and Luyombya (2010:115) in Uganda see issues like inadequate ICT infrastructure and poor material resources within the public sector as caused by lack of a standing budget dedicated entirely for records management activities. These activities include the use and management of email. A related study on management of electronic records in the Midlands Province by Mutsagondo (2017:127) revealed that no provincial public department had a budget for records management work. This was because records management was given low status as compared to other functional areas in government. Another scholar who saw a similar challenge within Zimbabwe's public sector was Matangira (2016:151) who attributed to lack of a budget for records management work the fact that the records

function fell under the Administration Department where the function was looked down upon relative to other functions within the Administration department.

5.8.10 Failure to regard email as official records

Zimbabwe's central government was also faced with the challenge of failing to treat email as official government records. This challenge cropped up mainly due to the fact that many officers in central government regarded paper records as the only official records, which thus deserved to be managed properly and professionally. In the present study, this challenge was indicated by 73.3% of respondents. Sigauke, Nengomasha and Chabikwa (2016:14) also discovered a similar challenge in a study on email management in state universities in Zimbabwe.

There is therefore need for a clear cut distinction between email classified as "official" and that classified as "non-official" for email to be managed properly. On the one hand, Orman (2015:3) holds that official email is correspondence that is created and received in transacting business. This includes valuable mail which may need to be preserved for long periods as well as ephemeral mail which may have to be destroyed in a relatively short period of time. Examples of valuable official email are policies, directives, correspondence, agendas, work schedules, reports and minutes which are sent or received, used, maintained, preserved and disposed on an electronic mail system (NARSSA 2006:9). On the other hand, Sejane (2004:100) who also refers to non-official email as "personal", "home", "family" or "non-work" email argues that non-official email records are ephemeral records which are not so important to warrant preservation. Non-official email has to do with private, social and personal matters which have little or no relevance to the business of an organisation. Examples of non-official emails are personal messages, spam, announcements of social events and junk mail (NARSSA 2006:9).

5.9 Summary

The purpose of this chapter was to discuss and interpret findings of the study. The chapter revealed that there was an increase in use of email in Zimbabwe's central government just as in many other countries, regionally and overseas. Nonetheless, paper records were still the most dominant records format in Zimbabwe's central government. Email had become an ICT of choice mainly due to developments in e-government and the generic advantages email has over other ICTs in accordance

with the innovation diffusion theory. The roles of m-government, the legal, policy and procedural frameworks were rather marginal in promoting the rise in use of email in Zimbabwe's central government. There was consensus that email was supposed to be managed properly and professionally as was the case in many related studies, although management of email in the central government of Zimbabwe still fell short of professional requirements and expectations. Email in central government was mostly managed by ITOs a fact that has also been seen in some related studies. The management of email was poor as it was rather out of sync with the records continuum theory as well as international best practices in the field of records and information management. A number of limitations militated against management of email in Zimbabwe's central government, among them being legal, policy, skills and infrastructure challenges. The chapter established that these challenges of email management many times resulted in loss of email, fragmentation of email records, retrieval and access challenges, poor disposal, misfiling and mix-up of email, diminishing the position of email as authentic, reliable, usable and useful records. The successive chapter summarises and concludes the study, and as well, makes recommendations on how use and management of email can be improved in the central government of Zimbabwe.

CHAPTER SIX

SUMMARY, CONCLUSION, RECOMMENDATIONS AND FRAMEWORK FOR USE AND MANAGEMENT OF EMAIL IN ZIMBABWE'S CENTRAL GOVERNMENT

6.1 Introduction

This is the terminal chapter which summarises, concludes, makes recommendations and proposes a framework for the use and management of email in the central government of Zimbabwe. The chapter ties all loose ends so that one may easily see how in short, the research problem was tackled and what conclusions were drawn from the study. The chapter proposes recommendations to improve the use and management of email in Zimbabwe's central government where a framework with implications for theory, policy and practice is proposed. The chapter also makes suggestions for future research around the issues of use and management of email, in a bid to improve the use and management of email in different settings and circumstances.

6.2 Summary of findings of the study

The two broad objectives of the study were to interrogate the use of email as well as to examine the management of email in the central government of Zimbabwe. The study revealed that although paper records were more predominantly used than electronic records in Zimbabwe's central government, there was a marked rise in use of electronic records, of which email is a subset. Many records, amongst them correspondences, policies, minutes, memoranda and reports, were mostly communicated through email. On average, officers in central government sent and received as much as 54 emails per day, which showed that email had become a major preoccupation in day-to-day government business. The study revealed that increase in use of email was due to advantages that email had over other ICTs and these included increased efficiency, low cost and speed of transmission.

Also contributing towards the rise in use of email was the e-government programme which was adopted in Zimbabwe in 2011. With e-government, the GoZ put in place necessary infrastructure that promoted the proliferation of electronic records management, which *inter alia*, include email. E-

government resulted in ICT skills development, ICT policies and infrastructure, all of which set the tone for the proliferation and increased use of email in the central government of Zimbabwe. While e-government contributed much to the rise in use of email in Zimbabwe's central government, there were scenarios where the GoZ failed to take fully advantage of e-government as shown by the non-use of internationally-acclaimed EDRMS and ECM records management solutions in Zimbabwe. M-government, where mobile technologies are used to go online, did not contribute much to the rise in use of email in the central government of Zimbabwe as their role was overshadowed by that of e-government. The study also revealed that the prevailing legislative, policy and procedural framework in Zimbabwe did not promote the controlled use of email in the central government of Zimbabwe, though it did not stop government ministries from using email. The NAZ Act (1986) was seen as more skewed in favour of paper records than electronic records, for example, email. Many government ministries did not have ICT and email policies, leading to the failure to properly and professionally manage email. Some government ministries had ministry-grown email procedures manuals, but not all of them made use of these manuals in day-to-day use and management of email in their ministries. The study revealed that to a lesser extent, generic limitations of email like email overload, lack of privacy and lack of personal communication sometimes prevented officers in central government from using email.

Most respondents and participants agreed that email, just like any other records, was supposed to be properly and professionally managed. Amongst the reasons given for the need to properly manage email were issues of security, access, future use as archives and the fact that email constituted official government records. In most ministries, email was managed more by ITOs than ROs. This set-up was mostly influenced by the fact that ICT officers had superior ICT skills than ROs, which are mostly needed in managing email. Nonetheless, it was also established that records management skills were important in email management, since email was a record *per se*. ICT officers largely lacked records management skills, and this was a cause for concern when one considered their suitability for managing email in central government. The study pointed out that collaboration between different officers, inclusive of ROs and ITOs, was a panacea to email skills woes that currently bedevilled Zimbabwe's central government.

The study generally revealed that there was poor management of email as an official government record. Shortcomings were noted in the manner official email was generated, received, secured, maintained, appraised, preserved and disposed. Many officers in central government managed email in accordance with their limited individual skills, limited resources, intuition and knowledge. This meant there was largely no uniformity in the manner email was managed by different government ministries in Zimbabwe's central government. Poor management of email had ripple effects as it in turn led to challenges like loss of email, fragmentation of email, poor access to email, poor retrieval of email and mix-up of email, thus reducing the authenticity and reliability of email as an official record. The study revealed that beginning from around 2017, the NAZ had started to play a more proactive role in regulating the management of email within the central government of Zimbabwe. This was shown by strides in the digital transition framework, strides in the procurement of a national EDRMS solution, the on-going formulation of a national records policy, the introduction of a new records survey worksheet and the formulation of electronic records retention and disposal schedules.

The study established that use and management of email was faced with a number of challenges. These included deficiencies in legislative, policy and procedural frameworks, lack of ICT and email management skills, lack of a budget for records management activities in central government, lack of senior management support and high costs of ICT infrastructure, among others. These challenges emanated from poor government administration and negative public perception surrounding the records management function. Use of email was high, uncensored and uncontrolled while management of email in the central government of Zimbabwe left a lot to be desired.

6.3 Conclusions of the study

The purpose of this section is two-fold. It gives the conclusions to various individual research questions and sub-research questions as well as the general conclusion of the whole study in line with the research problem of the study. Conclusions help readers to understand in passing as well as at a glance, lessons learnt or derived from the findings of the study in relation to the research question as well as sub-research questions.

6.3.1 Conclusions on whether or not electronic records are replacing paper records in the central government of Zimbabwe

In trying to establish the contextual position of electronic records within the records management regime in Zimbabwe, the study probed whether or not electronic records were replacing paper records. Although there was evidence of increase in use of email, one of the most prominent of electronic records, paper records still dominated the records regime in central government as indicated by 127 (52.9%) questionnaire respondents and five (71.4%) NAZ archivists-interviewees. This owed to the entrenched position of paper records from colonial times to the present. While use of email was rising steadily, central government was also still engrossed with using and managing records in paper format.

6.3.2 Conclusions regarding types of records normally sent and received through email in the central government of Zimbabwe

Almost all types of records within central government were communicated through email. Nonetheless, whilst minutes of meetings, memoranda, correspondences, reports and policies were the most popularly cited records, it was also revealed that sensitive and classified records, for example, human resource and financial records were least communicated through email. This owed much to the vulnerable position of electronic records which are more susceptible to erasure, deletion, edition, unauthorised access, unauthorised modification and alteration as well as theft than records in paper format. Records with low risk indices were more communicated using email than records with high risk indices. AOs formed the bulk of action officers in central government who generated and received email, no wonder why the commonest types of records sent and received through email were mostly administrative records.

6.3.3 Conclusions regarding whether or not email was the most frequently-used ICT for sending and receiving information

Email emerged as the commonest ICT which was used to generate, receive, use, maintain, preserve and dispose records and information in Zimbabwe's central government. This was shown in the study by 177 (73.75%) respondents, five (71.4%) NAZ archivists as well as by two directors who participated as interviewees. The study revealed that use of email had surpassed other modes of

communication like telephones, facsimiles, telexes and telegrams in Zimbabwe. This development was also seen in other developing countries like Botswana and Namibia as well as in developed countries, for example, the Britain, the United States of America and Australia. Email had become a trending ICT due to a number of advantages amongst them being the issue of efficiency, low cost and high speed of transmission.

6.3.4 Conclusions about the average volume of email sent and received in a day

On average, a single officer in Zimbabwe's central government received 27 emails and sent 27 emails per day. Such volume showed that email had become an ICT of choice adopted by the central government of Zimbabwe in its day-to-day business with clients, customers and stakeholders. The rather high volume of email was an indication that Zimbabwe's central government was generally engrossed with working with email, implying generation, receipt and use of email deserved attention and professional handling lest central government lost an avalanche of important records for current administration purposes and for research or historical purposes in future. It also showed that Zimbabwe was not left behind on the international scene where statistics, for example, by Phrassee (2020:1) revealed that on average, one officer received 96 emails per day and sent 30 emails per day in 2019, in a world with over 2.6 billion active email users with 4.6 billion email accounts.

6.3.5 Conclusions on factors that motivated Zimbabwe's central government in using email in official business

The second objective of the study was to find out the factors that motivated Zimbabwe's central government in using email in official business. The study established that e-government and generic advantages of email were the major motivating factors in the rise in use of email. E-government brought with it ICT policies, ICT skills and infrastructure that made it possible for central government to adopt and use email with relative ease. For ease of doing business and in the interest of cost-cutting measures in government, email featured as a natural choice in ICT government business in line with the conceptual perspectives derived from the innovation diffusion theory. The contribution of m-government, a variation of e-government where mobile technologies rather than fixed technologies are used, was rather minimal when viewed relative to e-government.

The legislative framework, in the form of the NAZ Act (1986), did not promote much the rise in use of email as the national archival law appealed more to the management of paper records than electronic records, inclusive of email. Also obscure were the roles of the policy and procedural frameworks which resulted in the uncontrolled and uncensored use of email in Zimbabwe's central government. Some respondents blamed the NAZ for lapses in legislative, policy and procedural frameworks in Zimbabwe's central government. Nonetheless, there were indications that the NAZ had begun to be proactively involved in assisting central government to improve its management of electronic records in general and email in particular. Although the legislative, policy and procedural frameworks did not stop or diminish the use of email in central government, they failed to bring order and sanity in the manner email was used and managed.

6.3.6 Conclusions regarding factors that discourage use of email in Zimbabwe's central government

While some generic factors motivated the rise in use of email in Zimbabwe's central government, some generic limitations of email worked to the contrary. The commonest limitations of email cited in this study which discouraged use of email were information overload, lack of personal communication, lack of guarantee that message sent is seen or read, lack of privacy and that email wastes a lot of productive time. Although these factors discouraged use of email, there was no evidence from the study that the factors reduced the use of email.

6.3.7 Conclusions on reasons why email should be managed professionally

Although there was generally poor management of email, the majority of respondents and interviewees agreed that official email was supposed to be properly and professionally managed in Zimbabwe's central government. The importance of managing email was shown in some government ministries by the existence of email procedures manuals, email policies and classification schemes. Amongst the reasons given for the need to professionally manage email were to enhance access, retrieval, security and the fact that email was an official record. Thus, failure to manage email properly did not mean that officers in central government were not aware that email deserved to be managed professionally.

6.3.8 Conclusions on personnel responsible for managing email in central government

Email was mostly managed by ITOs and ROs in Zimbabwe's central government. Issues of ICT and records management skills were mostly considered in allocating the role to the aforementioned officers. However, the basis for ITOs managing email more than ROs was rather questionable and many interviewees felt that central government needed to have another look at the issue as there seemed little justification for ITOs having an edge over ROs in managing email. Collaboration between many officers in central government was encouraged in this study as a mixture of skills especially between ITOs and ROs could be a panacea to skills management woes that bedevilled central government. Conceptual perspectives derived from the records continuum theory supports collaboration in the management of records generated in networked environments.

6.3.9 Conclusions on email management strategies in the central government of Zimbabwe

The third sub-research question under Objective 3 quizzed email management strategies that were used in Zimbabwe's central government. Ten email management strategies were presented and analysed in the previous chapter. Amongst these strategies were the use of official email accounts for official business, classification, filing, appraisal, security, preservation and disposal of email. It was discovered that Zimbabwe's central government fared poorly in managing email. Amongst the pointers to this were;

- (i) Only 41.7% of respondents had official email accounts which were used for official business.
- (ii) Only 30% of respondents managed email metadata.
- (iii) Only 24.6% of respondents appraised email in order to determine its disposal status.
- (iv) 31% of respondents destroyed email from the email inbox using personal intuition rather than using appraisal or retention-disposal schedules.
- (v) The commonest cited push factor for filing email was when the email inbox was full.

In short, email management strategies used in Zimbabwe's central government were not in sync with professional records management ethos, standards and expectations. This resulted in a number of records management challenges that negatively dented the image and reputation of email as an authentic, useful and reliable record that could be officially relied upon in government business.

6.3.10 Conclusions on the role played by NAZ in email management within central government

Section 6 of the NAZ Act (1986) directly empowers the NAZ to play a supervisory role in the management of public records. This includes giving advice and recommendations regarding the creation, use, maintenance and disposal of records. The study has shown that the NAZ is increasingly taking an active role in pursuit of its national mandate by taking strides in drafting the national records policy, launching the Digital Transition Framework and making moves to procure the national EDRMS solution, among other initiatives. NAZ intervention is highly recommended and the sooner the intervention becomes more visible on the Zimbabwean records landscape, the better.

6.3.11 Conclusions on challenges facing Zimbabwe's central government in managing email

This study has shown that managing email is a daunting task, which requires skill, infrastructure, policies and procedures, among other factors. There were many challenges that affected email management and chief amongst them were lack of email management skills, a largely unrepresentative legal framework, an uncoordinated email policy and procedural frameworks, dispersal of email and inadequate ICT infrastructure. Without requisite skills, laws, policies and procedures, Zimbabwe's central government flawed in a number of respects as it moved in to manage email. Deficiencies have been noted in appraisal of email, preservation, filing, classification and disposal, all of which complicated marginal effort applied in managing email. The above stated challenges contributed in part to loss of email, inaccessibility to important email, retrieval challenges, preservation, appraisal, transfer, destruction and archival challenges. Thus, although email is 40 to 50 years old and increasingly used in the central government of Zimbabwe, professional management of email is in its nascent and embryonic stages. One can argue that by this study, the remark by Seow, Chennupati and Foo (2005:43) in 2005 that email was "the worst professionally managed of all records" rather stands to this day.

6.3.12 General conclusion regarding the research problem of the study

There is an increase in use of email in Zimbabwe's central government. Nonetheless, such use is rather not controlled as there is poor application of and reliance on the records legislative, policy and procedural frameworks. Furthermore, despite the increase in use, there is poor management of email

which is attributed to lack of legislative, policy and procedural frameworks, inappropriate skills and inadequate ICT infrastructure, among other factors. The authenticity of email is greatly dented as poor management of email has resulted in email access challenges, email retrieval challenges, loss of email, misfiling, inaccessibility, premature and wanton destruction as well as lack of archiving of email for posterity. While there is increased use of email, an ICT that surfaced in the 1970s, professional management of email was in its infancy and rather poorly articulated in the central government of Zimbabwe.

6.4 Recommendations

This study proposes 12 recommendations that Zimbabwe's central government should institute in order to improve both the use and management of email. While the recommendations are specifically directed towards Zimbabwe's central government, which was the focus of this study, the recommendations can equally be applied in many related settings and contexts where email is used as an official ICT.

6.4.1 Use email responsibly and in an accountable manner

This study revealed that email is mostly used in an impromptu and *ad hoc* manner where officers relied on their individual skills, limited knowledge and intuition. Since email is an official record, measures should be put in place to make sure that use and management of email is informed, uniform and coordinated. Empowering central government officers make them act responsibly as they know they are accountable for whatever actions they take with regard to email, for example, filing, classifying, preservation or destruction of email.

6.4.2 Improve email use and management skills

This study showed that use and management of email was largely inconsistent with the ethos of professional records management. One of the reasons that has been advanced to explain this malaise is the skills deficiency in managing electronic records in general and email in particular. Zimbabwe's central government should sharpen officers' email use and management skills. Almost every officer in central government receives and sends official email. Thus, there should be impartation of basic and minimum skills to most if not all officers in central government. More so, ROs and ITOs who

play a leading role in managing email should be trained in advanced email management techniques which in turn will empower them to operate at optimum level in line with the dictates and expectations of the present email and ICT environment.

6.4.3 Upgrade, update and invest in ICT infrastructure

It has been shown that as a developing nation, Zimbabwe is facing many challenges, for example, it has outdated ICT infrastructure and it currently does not have trending electronic records management solutions like the EDRMS and the ECM. The study proposes that the GoZ should invest and upgrade her ICT infrastructure and embrace latest trending technologies on the market if the country is to operate within expected international standards. Electronic records management solutions like EDRMS and the ECM need to be procured to replace use of the email system and servers which pose challenges to long term management of electronic records. Other ICTs of importance that the GoZ may invest in are email alert systems and systems to manage email whilst an officer is out of office.

6.4.4 Embrace m-government holistically to complement e-government

There is limited use and reliance on m-government to boost use of email in Zimbabwe's central government. In fact, the study revealed that m-government was overshadowed by e-government. This resulted in limited use of mobile devices like laptops, cell phones and tablets in using email in sending and receiving information in official government business. Improving reliance on m-government by procuring more mobile devices and Internet appliances like dongles and *mi-fi* may help to further increase use of email in pursuit of official government business.

6.4.5 Use and manage email in line with prior set guidelines

An organisation such as Zimbabwe's central government should always have email use and management guidelines that it abides by. These include a legal framework such as the NAZ Act; policy framework such as the email, ICT and retention-disposal policies; procedural framework such as records manual and an email procedures manuals and international records management standards such as ISO 15489, ISO 23081 and ISO 16175. If these guidelines exist, officers in central government strive to use and manage email accordingly which ultimately results in proper and

professional management of email. This recommendation is given following the realisation in the study that there is massive and unrestrained usage of email as well as poor management of email since email is largely used and managed outside official and conventional records management guidelines.

6.4.6 Revise the NAZ Act in the best interest of electronic records management

This study revealed that the national records management legal framework, the NAZ Act (1986), is heavily skewed in favour of paper records than electronic records. The NAZ Act is also old as it was promulgated in 1986 when paper was largely the sole records format in Zimbabwe. Now that electronic records are becoming more and more popular, the legal framework leaves electronic records scantily covered, thus making it necessary for the revision of the records law in order to fully cover how electronic records like email should be managed. Probably, Zimbabwe should take a leaf from South Africa, where her NARS Act (1996) covers the management of electronic records including email.

6.4.7 Devise a national email policy framework

The GoZ is advised to devise a national policy framework for email. It has been revealed that the NAZ is working on a national records policy for the public sector. This may be the starting point from where use and management of email may be seriously addressed. Besides the national records policy, a stand-alone national email policy may also be crafted, where email policy and/ or procedural issues are enunciated and made available to the public sector in general and central government in particular.

6.4.8 Devise national email procedures manual

It is high time the GoZ devises a national email procedures manual for use by the entire public sector, including central government. This study revealed that some government ministries have email procedures manuals while others did not have. The study also revealed that where the manuals existed, crafting the manuals was largely the sole effort of respective ministries, especially through their IT departments. As a result, there was lack of uniformity regarding procedural use and management of email in different government ministries within Zimbabwe's central government. A national email procedures manual would bring about uniformity in the way email is used and

managed and this will go a long way in enhancing implementation of a single EDRMS for the public sector when the technology, which currently is work-in-progress, finally dawns in Zimbabwe.

6.4.9 Manage email of officers who leave the organisation

It was rather worrisome to find that when officers left any government ministry, their work email was not officially handed over to their successor or any other officer. A lot of official email got lost, mixed-up or fragmented and exposed this way. Central government is advised to professionally manage email of officers who leave their ministries either through retirement, resignation, death or dismissal in order to foster continuity, accountability, transparency and informed decision making. Hand-over take-over which is common in the case of paper records when an officers leaves an organisation should be extended to email because email like paper is an official form of record in central government.

6.4.10 Central government to increase contact with NAZ and NAZ to increase its presence

Some government ministries expressed that they did not receive due assistance from the NAZ as enshrined in the NAZ Act (1986). Some interviewees blamed such a stance on low contact between some government ministries and the NAZ. As a result, such ministries were not aware of NAZ efforts like the ongoing initiatives at procuring the EDRMS as well as the launch of the Digital Transition Framework, which lays the do's and don'ts in transitioning from a solely paper records regime to a hybrid of paper and electronic records management system in Zimbabwe's public sector. Such government ministries are supposed to increase contact with the NAZ and engage the NAZ in matters to do with records management. At the same time, the NAZ also needs to increase its presence, influence and impact within central government as the major records and information regulatory authority in the country. The fact that some government ministries were not aware of NAZ email and email-related initiatives speak volumes about NAZ's rather blurred and unfelt presence in some instances.

6.4.11 Empower personnel responsible for managing email

The study showed that ultimate management of email largely lied in the hands of ITOs and ROs. Central government is implored to reconsider who manages email as an important record that

contributes to the success of government business. Issues of specialisation, skills and training should be considered in allocating email management duties. In the interim, central government should encourage collaboration amongst ROs and ITOs in fostering sound management of email within central government. In addition, whoever manages email should be empowered. This stems from the fact that the leading “email managers”, that is, ITOs and ROs are just but officers in a central government who should control and direct senior officers such as deputy directors, directors and permanent secretaries. Unless, ITOs and ROs are realistically empowered, they may find it difficult to compel higher ranking officers to tow the line.

6.4.12 Deal with negative human attitude that does harm to the records management function

Negative human attitude in records management has been shown in this study by lack of a budget for records management work, low ranking of the records management function and lack of senior management support for records management activities. Such negative perceptions, implicitly and explicitly affect records management personnel as well as the manner in which they manage records and email. The GoZ through its Human Resources departments should institute behaviour change programmes aimed at making officers in government see records management, not as an independent cog, but an indispensable part in a machine, without which government business grinds to a halt. If attitude matters are addressed, issues like lack of a budget, inferiority complex of the records management function and the lack of senior management support are likely to come to an end.

6.5 Proposed framework to improve the use and management of email

The fifth and last objective of the study, which also comprised part of the recommendations of this study, was to propose a framework to improve the use and management of email in Zimbabwe’s central government. Two research questions were proposed in tackling this objective and these were:

- (i) What framework can be proposed for the effective use and management of email in Zimbabwe’s central government?
- (ii) What is the justification for the proposed framework?

In addressing the first research question, the study outlines the components of the framework, which are graphically shown in Figure 6.1, to enhance clarity and easy comprehension.

6.5.1 The proposed framework

A framework is defined by the Cambridge Advanced Learner's Dictionary and Thesaurus (2015) as a supporting structure around which something can be built. It is a basic structure with facts and ideas that a researcher can synthesise and propose to provide support for some phenomenon. This study proposes a framework that hinges on three parts, namely, professionalism (encompassing responsibility, accountability, empowerment, skills and infrastructure development), guided use (encompassing use of official email accounts, use protocols and preset workflows) and guided management (encompassing use of the legal, policy, procedures and standards frameworks). As such, the framework has been coined the "Integrated Email Professionalism, Use and Management framework" (IEPUM). The proposed framework is shown in Figure 6.1.

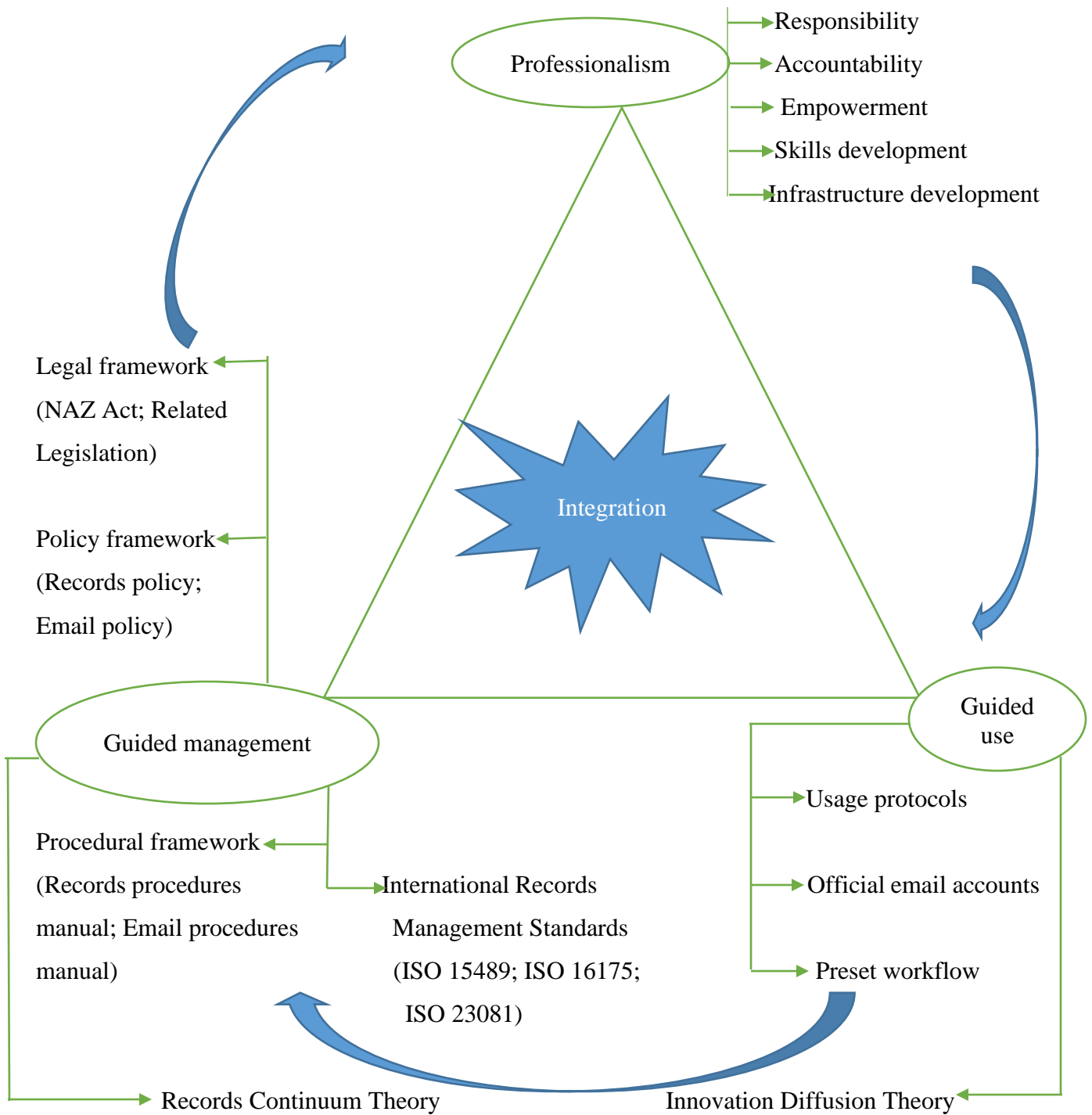


Fig. 6.1: The Integrated Email Professionalism, Use and Management (IEPGUM) Framework

The framework addresses the issue of use of email as well as the issue of management of email. However, the two components have to be viewed in unison as part of a single framework. As stated above, the framework integrates three issues, that is, professionalism, guided use and guided management. These issues are discussed in turn in a clockwise format.

Firstly, proper use and management of email calls for professionalism and integrity. These ideals entail pursuing an official and work-oriented approach to using and managing email with integrity, diligence and respect. Elements and ideals like responsibility, accountability, empowerment, skills and infrastructure development cannot be ignored in pursuing the professional use and management of email. A high degree of professionalism and integrity is expected in using email so that email remains an authentic and official government record just as is the case with paper records. Professionalism entails acting in a competent, specialised and skilled manner. Professionalism begins with treating email as an official record which has administrative, legal and fiscal value. Such realisation breeds proper handling of email. Professional conduct and approach make it possible for officers to correctly handle processes like email classification, filing, appraisal, maintenance, preservation and disposal. Use of email should tally with management of email and any increase in use of email should match with increased efforts at managing email. Integrity, which is the quality of honesty and upholding of strong moral principles, is also an ingredient of professionalism. Officers in central government should honestly deal with email and use it professionally for its intended legal purpose. Without professionalism and integrity, email management in Zimbabwe's central government may continue to be recklessly and haphazardly used, which diminishes the reputation and position of email as an official, authentic, useful and reliable record. At the foot of the "Guided use" component is the innovation diffusion theory whose three constructs, that is, complexity, compatibility and relative use should guide the professional use of email. Impromptu use of email with or without these constructs is uncalled for. The professional management of email should be guided by conceptual the records continuum theory. Records management procedures, policies and adherence to legislative requirements should be in tandem with constructs of the records continuum theory which enhances professionalism and proper management.

In pursuance of professionalism, responsibility should match accountability. Officers in central government should be given responsibility to use official email and at the same time, they should be

held accountable for its proper use in line with official dictates and expectations. Responsibility may encompass among other things, forwarding copies of email sent and received to the right office and officers for further management; upholding the sanctity of email as official records and use of official email accounts for official business. Accountability may involve officers being answerable for their actions, for example, classification and filing or aiding such processes within the organisation and guarding against wanton and uninformed destruction of email or else officers are charged for misconduct or in worse scenarios, are expelled from government service. Such measures go a long way in correcting behavior as well as instilling a sense of responsibility in handling email as official records.

Before officers are held accountable for proper management of email, they should be empowered with email management skills. Censuring behavior and charging officers for misconduct, inclusive of errors of commission and omission, without providing them with skills to use and manage email properly is rather unfair. Capacity development for both records and non-records officers (also called ‘action officers’) should precede responsibility and accountability in line with conceptual perspectives derived from the records continuum theory which calls for a collaborative approach to managing records within an organisation. All officers in central government should be armed with basic skills to manage email or to aid workflow processes that make the management of email within the ministry possible. Such skills include email appraisal, classification, filing, maintenance, preservation and disposal. Skills development is thus a necessary, though not sufficient condition, for the proper use and management of email in Zimbabwe’s central government.

Professionalism also entails use of proper, adequate and modern infrastructure. MICT (2016:21) describes ICT infrastructure as “the artery upon which all information is communicated” meaning to say that without adequate, proper and modern ICT infrastructure, email use and management in central government may remain misguided and restricted in scope. Central government should professionally strive to use modern ICT infrastructure for them to deliver accordingly. Examples of such ICTs include the EDRMS, ECM and the trusted digital repository (TDR). Such trending ICTs should be made available and in the right quantities for officers in central government to operate at optimum, acceptable and expected levels.

Officers responsible for ultimate management of email, who in this study are largely, ITOs and ROs, should be empowered to do their work without fear or favour and regardless of their position within the hierarchical structure of central government. Giving such officers responsibility and holding them accountable without empowering them is a futile exercise. ROs and ITOs who are tasked with managing email should be empowered to make follow-ups, even with senior management, on incoming and outgoing emails as well as to make recommendations for censuring incorrect and indecorous behavior. They should be able to track incoming and outgoing email, even in cases involving senior management such as ministers and permanent secretaries, just as they do in cases involving paper records.

Secondly, proper use of email calls for “guided use” of official email as part of the framework for effective use and management of email. Impromptu, uncoordinated and individualistic use of official email as revealed in this study should be discouraged. There should be email usage protocols within central government which should be adhered to by all officers. Examples of such protocols are the use of official email accounts for official business, desisting from mixing official and unofficial email and treatment of business email as official records. There should also be use of official email accounts. Any use of unofficial email accounts should be regarded as an act of misconduct. Guided use of official email also entails using preset workflow patterns where each officer has a part to play from the moment an email is created or received to the moment email is disposed. Preset workflow may involve guiding an officer concerning what to do when one receives official email or when one sends out official email. For example, an action officer may send a copy of official email to whoever is responsible for managing email within their ministry for classification and filing. Similarly, they may also send a copy of emails they receive to officers responsible for managing email. Controlled or guided use of email should clearly demarcate official and unofficial email as well as discourage any mixture of the two in official business.

Lastly, proper management of email calls for “guided management” of email. Managing email should be a guided process which should conform to a number of set guidelines. These include the legal, policy, procedures and standards frameworks. Mutsagondo and Chaterera (2016:255) hold that the law supports people’s day-to-day work and activities and make officers work legally and authoritatively. Nonetheless, mobilisation of the current NAZ Act (1986) in its current form may not

bring forth the best results as the legal framework is heavily skewed in favour of paper records than electronic records (Huni and Dewah 2019:133). Thus, there is need to review the NAZ Act (1986) and professionally apply it in guiding the management of email. While the NAZ Act (1986) features as the major legal framework for the management of records in any format in Zimbabwe, related legislation such as the Freedom of Information Act (2020), Censorship and Entertainment Control Act (1981) and the Official Secrets Act (2002) should also be applied in enhancing the proper and professional management of email within central government.

Policies, namely, the records policy, electronic records policy and email policy should be relied upon in guiding the management of email. Without such guides, management of email derails from the expected standards. Maseh and Mosesti (2019:8) aver that many African countries do not have records management policies in general and electronic records policies in particular, situations that grossly undermine the proper and professional management of records. Countries with written email policies such as Britain (Keakopa 2009:9); the United States of America (Florance, Gulbranson and Sayre 2013:1) and Australia (Katu 2012:463) have fared better than those without email policies in managing their email. Thus, by rolling out records and email policies, Zimbabwe's central government may be better positioned to manage email properly and professionally.

Procedures manuals, which includes the general records procedures manuals and the email procedures manuals should be in place to offer a step-by-step guide about how email should be managed. Maseh (2019:3) opines that ISO 15489 advances that organisations seeking to manage their records effectively should have in place procedures manuals for use in managing records. A similar point has also been raised by Tsabedze and Kalusopa (2018:49) who state that Section 5 of the ISO 15489-1 (2016) clamours for the existence of records procedures manuals in organisations to enhance efficiency, effectiveness and accountability. Thus, a records or email procedures manual is an indispensable component of the framework for proper use and management of email in Zimbabwe's central government. Zimbabwe central

Lastly, adherence to international records management standards ensures that email is treated as an official record and managed properly. The framework has indicated some of the important international records management standards, for example, ISO 15489; ISO 16175 and ISO 23081.

While ISO 15489 is a general records management standard for records in different formats, ISO 16175 is a standard for records in electronic office environments while ISO 23081 is a standard that spells out how records metadata should be managed. Other important standards not captured on the framework in Figure 6.1 are ISO/ IEC 27001, a standard for information security as well as ISO/ TR 13028, a standard for digitisation of records. Strict adherence to international records management standards will make Zimbabwe's central government operate within the confines of expected and acceptable parameters. Like in the case of guided use of email, management of email should be pursued with regard to professionalism and integrity. Below is a justification for the proposed framework.

6.5.2 Justification for the proposed framework

Proposing and coming up with a framework to improve work processes should be not be arbitrarily done. There has to be justification why a proposed framework is relevant and called for in a study. This section spells out three reasons why the Integrated Email Professionalism, Guided Use and Management (IEPGUM) framework is relevant in addressing the improved and effective use and management of email in Zimbabwe's central government.

Firstly, the IEPGUM is a new way of looking at and addressing the perennial email use and management challenge. The framework owes a lot from recommendations made by earlier researchers like Ramsay and Renaud (2012:587); Sejane (2004); Seow, Chennupati and Foo (2005:43) and Sigauke, Nengomasha and Chabikwa (2016:14). Nonetheless, the persistence of poor use and management of email is an indication that these researchers' recommendations seem to have fallen on deaf ears, thus necessitating the search for new ways of dealing with the challenge. The framework introduces the element of "professionalism" which the researcher strongly believes is central to instilling behaviour change in the way email is used and managed. With professionalism and integrity, officers in central government are bound to use and manage email from an official and work-oriented perspective. For example, email procedures manuals and policies may not be used even if they exist within the organisation, unless some professional instinct and attachment drives officers to respect their use and application. Holistic application of professionalism and integrity may save email from the notoriety of being the worst managed of all records, a label so assigned at the turn of the 21st century (Seow, Chennupati and Foo 2005:48).

Secondly, the IEPGUM framework is important as it integrates the “use” and “management” of email. It is a composite framework. Earlier researchers have strongly laid recommendations for the management of email alone, leaving out recommendations for use of email yet there cannot be “management of email” without “use of email”. Integration literally implies combining, uniting, mixing or joining two or more things. In the context of this study, the proposed framework as illustrated shows that “use of email” and “management of email” should be combined. Pursuance of one concept without the other does not bring forth desirable results. It is important to have a framework that combines both the “use” and “management” of email for there is a thin line dividing the two interrelated and dependent concepts. The IEPGUM framework is pragmatic in so far as it integrates both concepts, thus enabling Zimbabwe’s central government to strike a balance between use and management of email as well as to match increase in use of email with increase in efforts at managing the same. The framework is in sync with efforts to address better and improved ways of using and managing email in an efficient, economic, proper and professional manner which enhances email to retain its authenticity and reliability as an official record. Society currently faces email use and management challenges. The IEPGUM framework seeks to solve societal challenges and thus help position email as an authentic and reliable record. The framework can be used to inform an email policy in central government as well as in any other related institution, where use of email has been *ad hoc* and disorganised as well as where management of email has been in disarray due to lack of coordinated and proper approach. The integration of guided use and guided management with professionalism should be the basis of any informed email policy worth its salt.

Lastly, the IEPGUM framework is composite and all-encompassing since it comprises of various ‘ingredients’ and ‘dosages’ of use and management of email under one roof. It combines ingredients of professionalism such as responsibility and accountability as well as those of guided use such as use of official email accounts and those of guided management such as policies and standards. The rationale behind the justification of this framework is that a composite framework is richer than individual researcher’s recommendations. Extant literature review has shown that no researcher has ever attempted to come up with a framework to improve the use and management of official email. Instead, they have only advanced recommendations. It is the researcher’s contention that if professionally applied with due diligence and professionalism, the IEPGUM framework is set to

positively influence the way email is used and managed in Zimbabwe's central government as well as in other organisations facing similar or almost similar challenges.

6.6 Implication for theory, policy and practice

This study in general and the proposed framework in particular, have implications for theory, policy and practice. The framework for the use and management of email proposed in this study has implications for theory as derived from the conceptual perspectives of both the innovation diffusion theory and the records continuum theory. As innovation diffuses, there is need to observe integrity and professionalism so that only relevant and compatible aspects of the innovation are adopted, applied and practically used. Some aspects of new technology are not acceptable in some contexts. The framework also has implications for the records continuum theory as it espouses issues of skills that enable officers to create, capture, organise and pluralise in managing email. All this can be done with observance to the legal, policy, procedural and standards frameworks. An email use and management policy can be derived from the study as well as from the proposed framework. Such a policy may be used to guide use of email on the one hand and management of email on the other. Thus, the study can greatly influence the crafting of a national email use and management policy which hitherto does not exist in the central government of Zimbabwe. The use and management of email examined in this study is important to records management and archival practice. Professional email management practice is set to benefit a lot from this framework as building blocks derived therefrom are central to professional use and management of email in line with records management standards, ethos and expectations.

6.7 Suggestions for further research

Three suggestions for further research are hereby proposed. These suggestions emanate from deficiency in literature, research and knowledge that is left glaring after the conclusion of the present study. One can divide Zimbabwe into four clusters, namely, central government, local government, subsidiary bodies and the private sector. There have been studies in three out of these four clusters, that is, in central government as covered by the present study; in subsidiary bodies as covered by Sigauke, Nengomamasha and Chabikwa (2016:14) in a study on email management in state universities and in the private sector as covered by Chihambakwe, Wutete and Sigauke (2017:1) in a

study on email management in private commercial banking institutions in Zimbabwe. This left a void in a study on email management in local authorities. The researcher therefore proposes that future research should focus on email management in local authorities in Zimbabwe. If this is done, there would be all-encompassing literature and knowledge on email in all clusters in Zimbabwe from where holistic and intelligible comparisons can be made.

At macro or super-national level, there has been a regional analysis of email management in Botswana, South Africa and Namibia by Keakopa (2008:72). Her study revealed national strategies, opportunities and challenges in the three countries and thus provided a good platform from where email management practices from the three countries could be compared. Without taking anything from Keakopa's (2008:72) study, the present study proposes that future comparative study on email management may focus on email management between developed and developing countries where marked socio-economic and ICT realities and differences may reveal interesting contrasts from where both groups can learn from the experiences of each other.

Due to COVID-19 lockdown challenges, this study had a low response rate of 37.3%. This (respondent) response rate was "sanitised" by a fairly higher ministerial response rate of 54.5% as 12 out of 22 ministries participated in the study. Although this made results more credible and more generalisable, it is the researcher's contention that future researchers may need to conduct a study of similar nature in the post-COVID-19 period where response rates may be higher than those in the current study. Such a study may further strengthen the results obtained and conclusions made in this study.

6.8 Final conclusion

This mixed methods research focused on use and management of email in Zimbabwe's central government. It largely revealed that the proper and professional use and management of email was greatly affected by lack of requisite skills, inadequate infrastructure and deficiencies in legal, policy and procedural frameworks. Use of email has grown remarkably, but such use is largely uncontrolled and uncensored, leading to many email use and management challenges such as unaccounted for email, loss of email, misfiling, inaccessibility to email, difficulties in retrieving email, poor preservation, premature and wanton destruction of email as well as lack of archiving of email for posterity.

Management of email in Zimbabwe's central government is rather in its nascent and embryonic stages and is largely poorly articulated. A framework coined the "IEPGUM", which centered on professionalism, guided use and guided management was proposed in order to improve the way Zimbabwe's central government used and managed official email. In addition, various recommendations were made in a bid to improve the use and management of email in a manner that maintains the integrity, reliability, usefulness, usability and authenticity of email as an official record.

REFERENCES

- Aamoth, D. 2013. The man who invented email. Time Magazine. *Techland*. <http://techland.time.com/2011/11/15/the-man-whoinvented-email>. (Accessed 12 April 2018).
- Adeyinka, T & Onyancha, OB. 2020. Use and management of email as records in African universities: perspectives from selected librarians' use and management of email as records, in *Cases on electronic records management in the ESARBICA region*, edited by SM Keakopa, & TL Mosweu. IGI Global. <http://doi: 10.4018/978-1-7998-2527-2.ch005>: 91-113 (Accessed 24 September 2020).
- Afshar, M & Ahmad, K. 2015. A new hybrid model for ERM. *Journal of Theoretical and Applied Information Technology* 81(3):489-495.
- Agbede, OM. 2018. Strong electronic identification: survey and scenario planning. Master of Science in Technology thesis, Aalto University, Aalto.
- Agherdien, N. 2007. A review of theoretical frameworks in educational information and communication technology research at leading South African Universities. Master of Education dissertation, University of Johannesburg, Johannesburg.
- Ali, AA. 2016. Diffusion of innovations theory and adoption of e-government by medium enterprises in Kenya: a case of Nairobi City County. Master of Arts dissertation, University of Nairobi, Nairobi.
- Ambira, C. 2016. *Optimising EDRMS technologies for e-government efficiency in Kenya*. E-government. Nairobi: np.
- Babbie, E. 2011. *The basics of social research*. 5th edition. Wadsworth: Cengage.
- Balilo, BB, Gerardo, BD & Byun, Y. 2019. CipherBit192: encryption technique for securing data. *Applied Computing and Information Technology* DOI: 10. 1007/978-3-319-98370-7_11: 137-148. (Accessed 13 January 2020).
- Balogun, T. 2018. The nexus between digitisation, preservation and access in the context of selection of materials for archives. *Library Philosophy and Practice*. 1893: 1-15. <http://digitalcommons.unl.edu/libphilprac/1893> (30) (Accessed 14 April 2020).
- Barbour, T. 2016. *Effective email management*. Alaska Business Monthly. www.akbizmag.com: 20-23 (Accessed 30 November 2018).
- Bhattacharjee, A. 2012. *Social science research: principles, methods and practices*. 2nd edition. Tampa: Creative Commons.
- Bhebhe, S. 2015. Contemporary diplomatics of the civil and deceased estate case files found at the National Archives of Zimbabwe. *Records Management Journal* 25(1):107–120.

- Bijeikiene, V & Tamosiunaite, A. 2013. *Quantitative and qualitative research methods in sociolinguistics study guide: a resource book for students*. Vytautas: Vytautas Magnus University.
- Bless, C, Higson-Smith, C & Sithole, SL. 2013. *Fundamentals of social research methods: an African perspective*. Claremont: Juta.
- Blouin, FX. 2010. Email as Archives: you have to have it before you worry about it. *Symposium: Digital Archives: Navigating the Legal Shoals*.
<http://academiccommons.columbia.edu/catalog/ac%3A132971>. (Accessed 1 February 2019).
- Booher, D. 2020. Escape the email logjam. *Talent Development* 74(1):64-66.
- Braun, V & Clarke, V. 2012. Thematic analysis in *Handbook of research methods in psychology research designs: quantitative, qualitative, neuropsychological, and biological*, edited by H. Cooper, PM Camic, DL Long, AT Panter, D Rindskopf & KJ Sher, Washington, DC: American Psychological Association: 57-71.
- Brenneman, K. 2017. Preserving email with historical value: a case study. *Tech Trends*. March-April: 36-39.
- Broadhurst, R, Grabosky, P, Alazab, M & Chon, S. 2014. Organisations and cybercrime: an analysis of the nature of groups engaged in cybercrime. *International Journal of Cyber Criminology* 8(1):1-20.
- Bryant, A & Charmaz, K. 2011. Grounded theory and credibility. *Qualitative Research* (3):291-309.
- Bryman, A. 2012. *Social research methods*. New York: Oxford University Press.
- Bryman, A & Bell, E. 2014. *Research methodology: business and management contexts*. Cape Town: Oxford University Press.
- Bwalya, KJ. 2011. E-government adoption and synthesis in Zambia: context, issues and challenges. DPhil thesis, University of Johannesburg, Johannesburg.
- Capra, R, Khanova, J & Ramdeen, S. 2013. Work and personal email use by university employees: PIM practices across domain boundaries. *Journal of the American Society for Information Science and Technology* 64(5):1029–1044.
- Carnot, MJ. 2006. Using concept maps to organise information for large scale literature reviews and technical reports: two case studies. *Concept maps: theory, methodology and technology proceedings of the second international conference on concept mapping*. San Jose: Costa Rica.
- Carpenter, L, Jackson, TW, Matthews, G, Thomas, D & Spencer, A. 2012. The role of IT in email preservation and archiving. Paper presented at the 18th International Conference on Automation and Computing at Loughborough University in Leicestershire, UK, 8 September.

- CASCA. 2012. *Mapping in literature reviews*. Exeter: University of Exeter.
- Chaterera, F. 2012. Towards harnessing e-government adoption in Zimbabwe. *Mousaion: South African Journal of Information Studies* 30(2):78-93.
- Chaterera, F. 2013. Records surveys and the management of public records in Zimbabwe. MInf dissertation, University of South Africa, Pretoria.
- Chaterera, F. 2017. A framework for access and use of documentary heritage at the National Archives of Zimbabwe. D Phil thesis, University of South Africa, Pretoria.
- Chihambakwe, S, Wutete, O & Sigauke, DT. 2017. Fostering corporate memory through the management of email records: the case of a commercial banking institute in Zimbabwe. Paper presented at the University of Botswana Department of Library and Information Science, Gaborone.
- Chikomba, A. 2018. Management of digital records in selected financial services parastatals in Zimbabwe. MInf dissertation, University of South Africa, Pretoria.
- Chikonzo, AC. 2018. The role of social media in disseminating HIV/ AIDS information to young people aged 18- 24 in Harare, Zimbabwe. PhD thesis, University of Pretoria, Pretoria.
- Chikutsa, A & Chingozha, MPI. 2013. *Research methods in library and information science*. Harare: ZOU.
- Choudhary, S & Ghusinga, R. 2013. Email security: issues and solutions. *International Journal of Computer Information Systems* 7(4):42-63.
- Cloud Security Alliance 2012. *Email security*. <http://www.cloudsecurityalliance.org>. (Accessed 15 January 2019).
- Cloy, D. 2007. *Managing email: good practice guidance*. Stirling: University of Stirling.
- Cohen, L, Manion, L & Morrison, K. 2018. *Research methods in education*. 8th edition. London: Routledge.
- Collis, J & Hussey, R. 2014. *Business research: a practical guide for undergraduate and postgraduate students*. London: Palgrave.
- Commonwealth of Virginia. 2009. *Email management guidelines*. Richmond: Library of Virginia.
- Connaway, LS & Powell, RR. 2010. *Basic research methods for librarians*. 5th edition. Westport: Libraries Unlimited.

Convery, N. 2011. Information management, records management, knowledge management: the place of archives in a digital age, in *The future of archives and record keeping, a reader*, edited by J. Hill, London: Facet Publishing: 204- 210.

Creswell, JW. 2014. *Research design: qualitative, quantitative and mixed methods approaches*. 4th edition. Los Angeles: Sage.

Creswell, JW & Creswell, JD. 2018. *Research design: qualitative, quantitative and mixed methods approaches*. 5th edition. Los Angeles: Sage.

Creswell, JW & Plano Clark, VL. 2018. *Designing and conducting mixed methods research*. 3rd edition. Los Angeles: Sage.

Csernak, A. 2016. *Evaluative language on Fox News and New York Magazine*. Denmark: University of Southern Denmark:

CWS. 2015. *Introduction to cloud storage*. Canboro: University of North Carolina.

Dashora, K. 2011. Cybercrime in society: problems and preventions. *Journal of Alternative Perspectives in the Social Sciences* 3(1):246-259.

Dearing, JW & Cox, JG. 2018. Diffusion of innovation theory, principles and practice. *Health affairs* 37(2):183-190.

DeKay, SH. 2010. Designing email messages for corporate readers: a case study of effective and ineffective rhetorical strategies at a Fortune 100 company. *Business Communication Quarterly* March: 109-119.

Desai, MS, Hart, J & Richards, TC. 2015. An IT manager's view on e-mail and Internet policies and procedures. *Journal of Instructional Psychology* 36(4):319-322.

Dibra, M. 2015. Rogers Theory on diffusion of innovations: the most appropriate theoretical model in the study factors influencing the integration of sustainability in tourism business. *Procedia: Social and Behavioural Sciences* 195:1453-1462.

Digital Transition Framework. 2018. Harare: National Archives of Zimbabwe.

Dilanian, K. 2016. Hillary Clinton emails held information beyond top secret: IG <http://www.nbcnews.com/u-news/hillary-clinton-emails-contained-info-above-toptop-secret-ign499886>. (Accessed 3 June 2019).

Doom, V. 2003. Records appraisal, in *Strategic approaches to appraisal*, edited by T. Mills. Geneva: ICA Committee: 7-11.

- Dowd, M. 2016. Hillary Clinton is not sorry. <http://www.mytimes.com/2016/04/17/opinion/sunday/hillary-is-not-sorry.html>: 7-11 (Accessed 2 June 2019).
- Driscoll, DL. 2011. Introduction to primary research: observations, surveys and interviews. Writing spaces: readings on writing. <http://writingspaces.org/essays>. (Accessed 19 July 2019).
- Dube, T. 2011. Archival legislation and the challenge of managing archives in Zimbabwe. *ESARBICA Journal* 30:279-290.
- Dudovskiy, J. 2019. *The ultimate guide to writing a dissertation in business studies: a step-by-step assistance*. np.
- Etikam, I, Musa, SA & Alkassim, RS. 2016. Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics* 5(1):1-4.
- Evans, M., Huynh, T., Le, K & Singh, M. 2011. *Cloud storage*. MIS 304- Fall 2011.
- Faizan, A. 2019. *Advanced qualitative analysis using Atlas.ti 8*. Sarasota: University of South Florida.
- Ferrechio, S. 2015. Court orders Clinton email release every 30 days. <http://www.washingtonexaminer.com/court-orders--hillary-clinton-email-release-every-30-day/article/2565103> (Accessed 3 June 2019).
- Florance, A, Gulbranson, S & Sayre, M. 2013. Email and archiving: NARA's new approach. *INF 389G Introduction to Electronic and Digital Records*. np.
- Fowler, JF. 2014. *Survey research methods*. 5th edition. Los Angeles: Sage.
- Fresko, M. 2008. *MoReq 2: the best way to manage electronic records?* Edinburgh: Serco Consultancy.
- Fry, P. 2016. *Literature review template*. Bakersfield: Thompson Rivers University.
- Giffin, L. nd. *University archives and records management services*. UARS: University of Carolina.
- Gopal, N & Maweni, V. 2019. Cybercrime preparedness: a critical snapshot of BRICS countries. *Africa Insight* 49(2):70-88.
- Government of Canada. 2015. *Email management for employees*. Ottawa. np.
- Grant, C & Osanloo, A. 2014. Understanding, selecting and integrating theoretical framework in dissertation research: creating the blueprint for your "house". *Administrative Issues Journal: Connecting Education, Practice and Research* 4(2):12-26.

- Griffin, M, Herzinger, K & Sasser, P. 2013. *Waking the digital dead: a continuum approach to digital initiatives*. ACRL. Indiana: Indianapolis Publishing.
- Guenther, R & Radebaugh, M. 2011. *Understanding metadata*. Bethesda: NISO Press.
- Guetzkow, J, Lamont, M & Mallard, G. 2004. What is originality in the humanities and the social sciences? *American Sociological Review* 69:190-212.
- Gunawan, J. 2015. Ensuring trustworthiness in qualitative research. *Nursing Journal* 1(1):10-11.
- Habiba, U, Ali, R & Rasheed, A. 2016. Public attitude towards women's employment: perceptions of working women in urban Pakistan. *Middle East Journal of Scientific Research* 24(8):2444-2449.
- Hadi, MA. 2016. Ensuring rigour and trustworthiness of qualitative research in clinical pharmacy. *International Journal of Clinical pharmacy* 38(3):641-646.
- Hafkin, NJ. 2009. *Electronic government in Africa- an overview of progress made and challenges ahead*. London: UNECA.
- Harvard Records Management Services. 2012. *E-mail management: a guide for Harvard administrators*. Cambridge: Harvard Records Management Services.
- Head of Information Compliance. 2016. *Email management guidance*. np: IGC.
- Hilton, CE. 2015. The importance of pretesting questionnaires: a field research example of cognitive pretesting the Exercise referral Quality of Life Scale (ER-QLS). *International Journal of Social Research Methodology*. DOI: 10.1080/13645579.2015.1091640 (Accessed 19 June 2019).
- Huni, P & Dewah, P. 2019. Admissibility of digital records as evidence in Bulawayo High Court in Zimbabwe. *Journal of the South African Society of Archivists* 52:133-148.
- Huvila, I, Eriksen, J, Hausner, EM & Jansso, IM. 2014. Continuum thinking and the contexts of personal information management. *Information Research* 19(1):1-21.
- Igwenagu, C. 2016. Fundamentals of research methodology and data collection. <http://www.researchgate.net/publication/303381524>. (Accessed 4 June 2020).
- Irene-Korstjens, I & Moser, A. 2018. Series: practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice* 24(1):120-124.
- Information and Records Guidance 5. 2001. *Email Management v 2.1 Email Management*. Glasgow: University of Strathclyde.
- Information Management. 2016. *Email*. <https://pages.harmon.ie/information-governance-EN-surveyreport-registration.html>:17-18. (Accessed 8 June 2018).

International Standards Organisation. 2010. ISO 16175. Information and documentation- principles and functional requirements for records in electronic office environments. Geneva: ISO.

International Standards Organisation. 2016. ISO 15489-1. *Information and documentation - Records management: Concepts and Principles*. ISO 15489-1. Geneva: ISO.

International Standards Organisation 2017. ISO 23081-1. *Information and documentation- Records management processes- Metadata for records (Part 1: Principles)*. Geneva: ISO.

Irene-Korstjens, I & Moser, A. 2018. Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice* 24(1):120-124.

Jaakonmäki, R, Simons, A, Müller, O, & vom Brocke, J. 2018. ECM implementations in practice: objectives, processes, and technologies. *Journal of Enterprise Information Management* 31(5):704-723.

Jain, P & Mnjama, N. 2016. *Managing knowledge resources and records in modern organisations*. Hershey: IGI Global.

Joanne, E, McKemmish, S & Rolan, G. 2017. Critical approaches to archiving and recordkeeping in the continuum. *Journal of Critical Library and Information Studies* 1(2):1-38.

Johare, R. 2006. Education and training in electronic records management: the need for partnership building, in *Proceedings of the Asia-Pacific Conference on Library and Information education and practice*, edited by Khoo, C, Singh, D & Chaudry, AS. Singapore: Singapore school of Communication and Information.

Jumira, O. 2011. Governing information and communication technologies in developing countries. *Newsday Newspaper*, 27 July: 5.

Kalusopa, T. 2011. Developing an e-records readiness framework for labour organisations in Botswana. D Phil thesis, University of South Africa, Pretoria.

Kalusopa, T & Ngulube, P. 2012. Records management practices in labour organisations in Botswana. *South African Journal of Information Management* 14(1):1-15.

Kalman, YM & Ravid, G. 2015. Filing, piling and everything in between: the dynamics of email inbox management. *Journal of the Association for Information Science and Technology* 66(12): 2540-2552.

Kamatula, GA. 2010. E-government and e-records: challenges and prospects for African records managers and archivists. *ESARBICA Journal* 29:147-164.

Katuu, S. 2012. Enterprise content management implementation: an overview of phases, standards and best practice guidelines. *Bilgi Dunyasi* 13(2):457-476.

- Katuu, S. nd. *Enterprise content management and digital curation applications: maturity model connections*. np: 1-20.
- Katuu, S & Ngoepe, M. 2015. Managing digital records in a South African public sector institution. *INFUTURE*. Doi: 10.17234/INFUTURE.2015.16: 135-141. (Accessed 13 January 2020).
- Kaushik, V & Walsh, C. 2019. Pragmatism as a research paradigm and its implications for social work research. *Social Science* 8. DOI: 10.3390/socsci8090255: 1- 17 (Accessed 16 April 2020).
- Kavanaugh, K. 2016. Email management in the U.S. Federal Executive Departments and Agencies: What progress have they made towards meeting the 2012 Managing Government Records Directive? Master of Archival Studies thesis, Leiden University, Leiden.
- Kawulich, BB. 2012. *Collecting data through observation*. Georgia: University of West Georgia.
- Keakopa, SM. 2007. The management of electronic records in Botswana, Namibia and South Africa. D Phil thesis, University of London, London.
- Keakopa, SM. 2008. Management of electronic mail: a challenge for archivists and records managers in Botswana, Namibia and South Africa. *ESARBICA Journal* 27:72–83.
- Keakopa, SM. 2009. Management of electronic mail: a challenge for archivists and records managers in Botswana, Namibia and South Africa. Paper presented at the XIX Biennial ESARBICA General Conference in Dar es Salaam, Tanzania, 18- 22 June.
- Kemoni, HN. 2009. Theoretical framework and literature review in graduate management research. <http://findarticles.com/particles/m17002/is218/aln318774566> (Accessed 3 June 2019).
- Kenosi, L & Moatlhodi, T. 2012. The determination of value in archival science and the ever evolving theories of records selection. *The Eastern Librarian* 23(1):24-36.
- Khan, I. 2012. An introduction to computer viruses: problems and solutions. *Library Hi-tech News* 29(7):8-12.
- Kiasiene, U, Streimikiene, D. & Grundey, D. 2011. On gender stereotyping and employment asymmetries. *Economics and Sociology* 4(2):84-97.
- Klett, E. 2019. Creating value in archives: overcoming obstacles to digital records appraisal. Computer and Systems Science thesis, Sweden University, Sundsvall.
- Koning, L. 2019. Digital signatures: a tool to prevent and predict dishonesty? MSc Thesis, University of Twente, Enschede.
- Kumar, R. 2011. *Research methodology: a step by step guide for beginners*. 3rd edition. Los Angeles: Sage.

- Kupritz, VW & Cowell, E. 2011. Productive management communication: online and face to face. *Journal of Business Communication* 48(1):54-82.
- Kyobe, ME, Molai, P & Salie, T. 2009. Investigating electronic records management and regulatory requirements in a South African university. *South African Journal of Information Management* 11(1): 1-15. <http://www.sajim.co.za/index.php/SAJIM/article/viewFile/396/387> (Accessed 21 January 2019).
- Kupritz, VW & Cowell, E. 2011. Productive management communication: online and face to Face. *Journal of Business Communication* 48 (1):54-82.
- Lasseur, GTB. 2011. The rate of diffusion of innovations. Master of Marketing dissertation, Erasmus University, Rotterdam.
- Latief, MA. 2009. *Assumption and hypothesis in language learning research*. Pittsburgh: University of Pittsburgh.
- Lederman, NG & Lederman, JS. 2015. What is a theoretical framework? A practical answer. *Journal of Science Teacher Education* 26:593-597.
- Lenieux, VL. 2016. *One step forward, two steps backwards? Does e-government make governments in developing countries more transparent and accountable?* Washington DC: World Bank.
- Leppananen, M. 2003. Sampling of records, in *Strategic approaches to appraisal*, edited by T. Mills. Geneva: ICA Committee: 12-14.
- Lin, F, Fofana, SS & Liang, D. 2011. Assessing citizen adoption of e-government initiatives in Gambia: a validation of technology acceptance model in information systems success. *Government Information Quarterly* 28:271-279.
- Lips, M, Rapson, A & Hooper, T. 2008. Email records management in 21st century New Zealand government. Victoria University of Wellington. [www:http://researcharchive.vuw.ac.nz/xmlui/bitstream/handle/10063/1592/research%20project.pdf?sequence=1](http://researcharchive.vuw.ac.nz/xmlui/bitstream/handle/10063/1592/research%20project.pdf?sequence=1) (Accessed 18 January 2019).
- Lunenburg, FC. 2010. Forces for and resistance to organisational change. *National Forum of Educational Administration and Supervision Journal* 27:1-10.
- Luyombya, D. 2010. Framework for effective public digital records management in Uganda. D Phil thesis, University College London, London.
- Ma, L. 2012. Some philosophical considerations in using mixed methods in library and information science research. *Journal of the American Society for Information Science and Technology* 63(9):1859-1867.

Mackay, J. 2019. Does your email inbox make you sweat? Here's how to get a handle on email overload. *Rescue Time*: 1-14.

Magama, B. 2017. Strategies for preservation of digital records in Masvingo province of Zimbabwe, MInf dissertation, University of South Africa, Pretoria.

Magama, B. 2018. Strategies for preservation of digital records in Masvingo province of Zimbabwe. *ESARBICA Journal* 37:18-38.

Magama, B & Nduna, V. 2020. Journey to EDRMS solution in Zimbabwe public sector, in *Cases on electronic records management in the ESARBICA region*, edited by SM Keakopa & TL Mosweu, TLIGI Global. <http://doi: 10.4018/978-1-7998-2527-2.ch007>: 91-113 (Accessed 13 October 2020).

Magwa, S & Magwa, W. 2015. *A guide to conducting research: a student handbook*. Gweru: Booklove Publishers.

Mambo, E. 2011. Zimbabwe should be digital by 2015 — Information and Communication Technology Minister. www.theindependent.co.zw/local/33791-zim-should-be-digital-by-2015-chamisa.html (Accessed 11 October 2018).

Mammo, W. 2012. Assessment of application of electronic records management systems in Ethiopia using Technology Acceptance Model. Paper presented at the SCECSAL 20th Conference at the Laico Regency Hotel, Nairobi, Kenya, 4- 8 June.

Manikandan, S. 2011. Frequency distribution. *Journal of Pharmacology and Pharmacotherapeutics* 2(1): 54-56.

Marutha, NS. 2011. Records management in support of service delivery in the public health sector of the Limpopo Province in South Africa. MInf dissertation, University of South Africa, Pretoria.

Marutha, NS. 2020. Studying medical records management in the public health care sector of South Africa using multi-method, in *Handbook of research on connecting research methods for information science research*, edited by P. Ngulube, Hershey: IGI Global: 404-424.

Marutha, NS & Ngulube, P. 2018. Enterprise content management system implementation readiness to improve medical records management in Limpopo province, South Africa. *Library Philosophy and Practice*. <https://digitalcommons.unl.edu/libphilprac/1769>. (Accessed 12 May 2020).

Maseh, E. 2019. E-Government implications for records management in Africa: a review of literature. *Journal of the South African Society of Archivists* 49:89–101.

Maseh, EJ & Mosei, IM. 2019. Managing records in networked environments in Kenya's public sector organisations: a literature review. *Mousaion: South African Journal of Information Studies* 37(1):1-16.

- Masvora, G. 2016. Government excess staff to be retrenched. *The Sunday News*. 8 May: 4.
- Matangira, V. 2016. Records and archives management in post-colonial Zimbabwe's Public Service. DPhil thesis, University of Namibia, Windhoek.
- Matlala, E. 2019. Long-term preservation of digital records at the University of KwaZulu-Natal archives. *Journal of the South African Society of Archivists* 52:95-109.
- Matsa, M, Mutekwa, T & Marambanyika, T. 2015. *Data collection, analysis and presentation techniques in human geography*. Gweru: Booklove Publishers.
- May, EM, Hunter, BA & Jason, LA. 2017. Methodological pluralism and mixed methods to strengthen community psychology research: an example from Oxford House. *Journal of Community Psychology* 45:100-116.
- McMurtry, K. 2014. Managing email overload in the workplace. *Performance Improvement* 53(7): 31-37.
- Meijer, A. 2001. Electronic records management and public accountability: beyond an instrumental approach. *The Information Society* 17:259-270.
- Mertens, DM. 2010. *Research and evaluation in education and psychology - integrating diversity with quantitative, qualitative and mixed methods*. Thousand Oaks. Sage Publications.
- Middaugh, D. 2015. The voice of e-mail. *Nursing Management* 24(4): 277-278. July- August.
- Millar, L. 2009. *Archives: principles and practices*. London: CILIP.
- Mills, T. 2003. *Strategic approaches to appraisal*. Geneva: ICA Committee on Appraisal.
- Minishi-Majanja, MK. 2004. Mapping and audit of information and communication technologies in library and information science education in Sub-Saharan Africa. D Phil thesis, University of Zululand, KwaDlangezwa.
- Ministry of Economic Affairs and Communications. 2013. *Records management metadata*. Tallin: Estonia.
- Mnjama, N. 2002. Managing university records. *ESARBICA Journal* 21: 32-40.
- Modiba, T, Ngoepe, M & Ngulube, P. 2019. Application of disruptive technologies to the management and preservation of records. *Mousaion: South African Journal of Information Studies* 37:1-14.
- Molefe, LPD. 2014. Theoretical framework for the study: Chapter 2. www.wiredspace.wits.ac.za/jspui/bitstream/10539/4/04%20chapter%2002%20FINAL.pdf. (Accessed 23 June 2018).

- Molina-Azorin, JF & Feters, MD. 2016. Mixed methods research prevalence studies: Field-specific studies on the state of the art of mixed methods research. *Journal of Mixed Methods Research* 10(2):123–128. Doi:10.1177/1558689816636707.
- Moon, K, Brewer, TD, Januchowski,-Hartley, SR, Adams, VM & Blackman, DA. 2016. A guideline to improve qualitative social science publishing in ecology and conservation journals. *Ecology and Society* 21(3):1-20.
- Mosweu, O. 2016. Critical success factors in electronic document and records management systems implementation at the Ministry of Trade and Industry in Botswana. *ESARBICA Journal* 35:1-13.
- Mosweu, O. 2019. Knowledge and skills requirements for a records manager in Botswana in the networked environment. *Journal of the South African Society of Archivists* 52:110-132.
- Mosweu, O & Ngoepe, M. 2019. Skills and competencies for authenticating digital records to support audit process in Botswana public sector. *African Journal of Library and Information Science* 29(1):17-28.
- Mosweu, T. 2018. Governance of liquid communication generated through the use of social media by the Botswana government. D Phil thesis, University of South Africa, Pretoria.
- Moule, P. 2018. *Making sense of research in nursing, health and social care*. 6th edition. Thousand Oaks: Sage.
- Mtingwi, J & Van Belle, JP. 2013. E-government status and m-government readiness in Malawi, in *E-government implementation and practice in developing countries*, edited by Z. Mahmood, IGI Hershey: Publishing.
- Muchaonyerwa, N. 2017. Accessibility and security of digital records in the Office of the premier in Eastern Cape, South Africa. *ESARBICA Journal* 36:63-73.
- Muller, P. 2013. Archives and history: towards a history of the “the use of state archives” in the 19th century. *History of Human Sciences* 26(4):27-49.
- Munter, M, Rogers, PS. & Rymer, J. 2003. Business e-mail: guidelines for users. *Business Communication Quarterly* 66(1):26-40.
- Murambiwa, IM, Ngulube, P, Masuku, M & Sigauke, DT. 2012. Archival development in Zimbabwe 1935–2010: setting the scene, in *National Archives 75@30: 75 Years of Archiving Excellence at the National Archives of Zimbabwe*, edited by P. Ngulube, Harare: National Archives of Zimbabwe: 1–20.
- Murbach, K. 2019. Self-efficacy in information security: a mixed method study of deaf end-users. D Phil thesis, Dakota State University, Dakota.

Mutimba, CJ. 2014. Implementation of electronic document and records management system in the public sector: a case study of the Ministry of Higher Education, Science and Technology. Master of Library and Information Science, University of Nairobi, Nairobi.

Mutsagondo, S. 2017. Electronic records management in the Midlands Province of Zimbabwe, MInf dissertation, University of South Africa, Pretoria.

Mutsagondo, S & Chaterera, F. 2016. Mirroring the National Archives of Zimbabwe Act in the context of electronic records: lessons for ESARBICA member states. *Information Development Journal* 32(3):254-259.

Mutsagondo, S, Maduyu, G & Tsvuura, G. 2017. Management of records in adapted buildings as records centres in Zimbabwe. *Mouaision: South African Journal of Information Studies* 35(2):1-17.

Mutsagondo, S & Ngulube, P. 2017. Disposal of electronic records and the electronic records' access time bomb in Zimbabwe. Paper presented at the 24th ESARBICA Conference in Lilongwe, Malawi from 7 to 11 August.

Mutsagondo, S & Ngulube, P. 2018. Skills impact assessment of personnel managing electronic records in Zimbabwe's public service. *Mouasion: South African Journal of Information Studies* 36(2):1-19.

Mutsagondo, S & Tsvuura, G. 2017. Dilemma in disposing electronic mail records in public departments: the Zimbabwean scenario. *Paradigms: A Research Journal of Commerce, Economics and Social Sciences* 11(2):190-195.

NARA. 2013. White Paper on the Capstone Approach and Capstone GRS. <http://www.archives.gov/records-mgmt/email-management/final-capstone-white-paper.pdf> (Accessed 1 February 2019).

NARSSA 2006. *Managing electronic records in governmental bodies: policy, principles, and requirements*. 2nd edition. Pretoria: NARSSA.

Ndenje-Sichalwe, E. 2010. The significance of records management to fostering accountability in the public service reform programme of Tanzania. D Phil thesis, University of KwaZulu- Natal, Pietermaritzburg.

Nengomasha, CT. 2009. A study of electronic records management in the Namibian public service in the context of e-government. D Phil thesis, University of Namibia, Windhoek.

Nengomasha, CT. 2012a. Electronic mail management in the public service of Namibia: lessons for Zimbabwe, in *National Archives 75@30: 75 years of archiving excellence at the National Archives of Zimbabwe* edited by P. Ngulube, Harare: National Archives of Zimbabwe: 83- 96.

Nengomasha, CT. 2012b. E-records management and e-government in Southern Africa.

COMMA.1: 97-105.

Neuman, WL. 2014. *Social research methods: qualitative and quantitative approaches*. 7th edition. Harlow: Pearson.

Ngoepe, M & Saurombe, A. 2016. Provisions for managing and preserving records created in networked environments in the archival legislative frameworks of selected member states of the Southern African Development Community. *Archives and Manuscripts* 44(1):24-41.

Ngulube, P. 2012. "Ghosts in our machines": preserving public digital information for the sustenance of electronic government in Sub-Saharan Africa. *Mousaion: South African Journal of Information Studies* 30(2):112-120.

Ngulube, P. 2015. Qualitative data analysis and interpretation: systematic search for meaning, in *Addressing research challenges: making headway for developing researchers*, edited by ER Marutha and MT Gumbo. Noordwyk: Mosala-MASEDI Publishers: 131-156.

Ngulube, P. 2018. Overcoming difficulties associated with using conceptual and theoretical frameworks in heritage studies, in *Handbook of research on heritage management and preservation*, edited by P. Ngulube, Hersheley: IGI Global: 1-25.

Ngulube, P. 2020a. Theory and theorising in information science scholarship, in *Handbook of research on connecting research methods for information science research*, edited by P. Ngulube, Hershey: IGI Global: 18-39.

Ngulube, P. 2020b. The movement of mixed methods research and the role of information science Professionals, in *Handbook of research on connecting research methods for information science research*, edited by P. Ngulube, Hershey: IGI Global: 425-455.

Ngulube, P & Ngulube, B. 2015. Mixed methods research in The South African Journal of Economic and Management Sciences: An investigation of trends in the literature. *The South African Journal of Economic and Management Sciences* 18(1):1-13.

Ngulube, P & Tafor, VF. 2006. The management of public records and archives in the member countries of ESARBICA. *Journal of the Society of Archivists* 27(1):57- 83.

Niemand, CJP & Bwalya, KJ. 2020. Theories in information management: analyzing development trajectory, in *Handbook of research on connecting research methods for information science research*, edited by P. Ngulube, Hershey: IGI Global:

Nightingale, DJ, Song, S, Michelson, LP & Field, F. 2012. *Origin of email and misuses of the term "email"*. Cambridge: Massachusetts Institute of Technology.

Niranjan, I, Seetharama, A, Jadhav, V & Banerjee, A. 2016. *International Journal of Academic Research* 4(4):216-238.

- Niu, J. 2014. Appraisal and selection for digital curation. School of Information Faculty Publications. 310: 65-82. http://scholarcommons.usf.edu/si_facpub/310. (Accessed 29 May 2020).
- Nkala, G, Ngulube, P & Mangena, SB. 2012. E-records readiness at the National Archives of Zimbabwe. *Mousaion: South African Journal of Information Studies* 30(2):94-101.
- Nkwe, N. 2012. E-government: challenges and opportunities in Botswana. *International Journal of Humanities and Social Science* 2(17):39-48.
- Nkohkwo, QN & Islam, MS. 2013. Challenges to successful implementation of e-government initiatives in Sub-Saharan Africa: a literature review. *Electronic Journal of e-Government* 11(2):253-267.
- Nowell, LS, Norris, JM, White, DE & Moules, NJ. 2017. Thematic analysis: striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods* 16:1-13.
- O’Gorman, K & MacIntosh, R. 2015. A guide to dissertation writing. *Research Methods for Business and Management*. 2nd edition. London: Library of Congress.
- Okae, P & Gyasi, K. 2013. Internet penetration in Africa compared to the rest of the world. *Computer Science and Engineering* 3(2):24-28.
- Olatokun, WM & Opesade, OA. 2008. An e-readiness assessment of Nigeria’s Premier University. *International Journal of Education and Development using Information and Communication Technology* 4(2):16-46.
- Orman, H. 2015. A brief history of secure email (Chapter 2). Encrypted email. *SpringerBriefs in Computer Science* DOI 10.1007/978-3-319-21344-6_2: 9-32.
- Othman, MH & Razali, R. 2018. Whole of government critical success factors towards integrated e-government services: a preliminary review. *Jurnal Pengurusan* 53:1-16.
- Palme, J. 2019. *Electronic mail*. Boston: Artech House.
- Pasipamire, N. 2020. Integration in mixed methods research designs by graduate students at the University of Science and Technology, in *Handbook of research on connecting research methods for information science research*, edited by P. Ngulube, Hershey: IGI Global: 456-478.
- Phrasee. 2020. *A brief history of email: dedicated to Ray Tomlinson*. np.
- Pignata, S, Lushington, K, Sloan, J & Buchanan F. 2015. Employees’ perceptions of email communication, volume and management strategies in an Australian university. *Journal of Higher Education Policy and Management* 37(2):159-171.
- Ponelis, SR. 2015. Using interpretive qualitative case studies for exploratory research in doctoral studies: a case of information systems research in small and medium enterprises. *International Journal of Doctoral Studies* 10:535-550.

- Prexawanprasut, T & Chaipornkaew, P. 2017. Email classification model for workflow management systems. *Walailak Journal* 14(10):783-790.
- Radivojevic, I. 2017. *Overview of Atlas.ti 8 Windows*. London: Atlas.ti Scientific Software Development GmbH.
- Rahman, MS. 2017. The advantages and disadvantages of using qualitative and quantitative approaches in and methods in language “testing and assessment” research: a critical review. *Journal of Education and Learning* 6(1):102-112.
- Rajasekar, S, Philominathan, P & Chinnathambi, V. 2013. *Research methodology*. rajasekar@cnd.bdu.ac.in (Accessed 23 May 2019).
- Rakemane, D & Serema, BC. 2018. ERM practices at the Companies and Intellectual Property Authority in Gaborone, Botswana. *Journal of South African Society of Archivists* 51:148-169.
- Ramdhani, A, Ramdhani, MA & Amin, AS. 2014. Writing a Literature Review Research Paper: A step-by-step approach *International Journal of Basics and Applied Sciences*. <https://www.researchgate.net/publication/311735510>.(Accessed 15 May 2020).
- Ramsay, J & Renaud, K. 2012. Using insights from email users to inform organisational email management policy. *Behaviour and Information Technology* 31(6):587-603.
- Randolph, JJ. 2009. A guide to writing the dissertation literature review. *Practical Assessment, Research and Evaluation* 14(13):1-13.
- Refish, SH, Jabbar, ZAA, Hussien, ZA, Kadhim, TA, Yassin, AA, Hussain MA & Waley, S. 2016. Ensuring data integrity scheme based on digital signature and iris features in cloud. *Indonesian Journal of Electrical Engineering and Computer Science* 2(2):452-460.
- Rhoades, EA. 2011. Literature reviews. *The Volta Review* 11(1):61-71.
- Roblek, V, Bach, MP, Meško, M & Bertonce, T. 2020. Best Practices of the Social Innovations in the Framework of the e-government evolution. *Amfiteatru Economic* 22(53):275-302.
- Rogers, EM. 2003. *Diffusion of innovations*. 5th edition. New York: Free Press.
- Rogers, EM & Scott, KL. 1997. The diffusion of innovations model and outreach from the National Network of Libraries of Medicine to Native American Communities: draft paper presented for the Pacific Northwest Region Seattle. <http://nmlm.gov/pnr/eval/rogers.html> (Accessed 14 April 2020).
- Roopa, S & Rani, MS. 2012. Questionnaire designing for a survey. *Journal of Indian Orthodontic Society* 46(4):273-277.
- Ruane, JM. 2016. *Introducing social research methods*. London: Wiley.

- Schadler, T. 2009. *Should your email live in the cloud? A Comparative cost analysis*. Forrester: New York.
- Scott, S & McGuire, J. 2017. Using diffusion of innovations theory to promote universally designed college instruction. *International Journal of Teaching and Learning in Higher Education* 29(1):119-128.
- Seow, BB, Chennupati, KR & Foo, S. 2005. Management of emails as official records in Singapore: a case study. *Records Management Journal* 15(1):43-57.
- Sejane, L. 2004. An investigation into the management of electronic records in the public sector in Lesotho. MIS Thesis, University of KwaZulu-Natal, Pietermaritzburg.
- Sekaran, U & Bougie, R. 2013. *Research methods for business: a skill building approach*. 6th edition. New York: Wiley Publishers.
- Sethunya, RJ. 2015. Prospects for effervescent e-government development in Botswana: pointers from process analysis. *International Journal of Engineering, Science and Mathematics* 4(3):11-20.
- Sharma, G. 2017. Pros and cons of different sampling techniques. *International Journal of Applied Research* 3(7):749-752.
- Sibanda M. 2017. Preventive conservation challenges of public sector records in the Mashonaland West Province of Zimbabwe. MInf dissertation, University of South Africa, Pretoria.
- Sigauke, DT. 2016. Making email records matter in the workplace: a review of findings in selected state universities in Zimbabwe. Paper presented at the Faculty of Communication and Information Science International Conference on Information Science in the Digital Era held at the Great Zimbabwe Hotel, Masvingo, 24 to 26 August.
- Sigauke, DT, Nengomasha, CT & Chabikwa, S. 2016. Management of email as electronic records in state universities in Zimbabwe: findings and implications for the National Archives of Zimbabwe. *ESARBICA Journal* 34: 14-29.
- Simon, M. 2011. Assumptions, limitations and delimitations. <http://dissertationrecipes.com/2011/Assumptionslimitationsdelimitations>. (Accessed 18 May 2018).
- Smit, MC, Bond-Barnard, TJ, Steyn, H & Fabris-Rotelli, I. 2017. Email communication in project management: a bane or a blessing? *South African Journal of Information Management* 19(1):1-10.
- SRO Guideline 2009. *Management of email records*. Perth: State Records Office.
- State Archives. 2009. How do you appraise government records? *Your government records: guidelines for archives and agencies*. Minnesota: Historical Society.
- Svärd, P. 2013. Enterprise Content Management and the Records Continuum Model as strategies for long-term preservation of digital information. *Records Management Journal* 23(3):159-176.

Tavakol, M & Sandars, J. 2014. Quantitative and qualitative methods in medical education research. *Amee Guide*. 36:838-848.

Techzim 2016. Zimbabwe placed 122 out of 139 countries in 2016 WEF network readiness rankings. www.techzim.co.zw. (Accessed 16 August 2018).

Teddle, C & Tashakkori, A. 2012. *Common core characteristics of mixed methods research: a review of critical issues and call for greater convergence*. DOI: 10.1177/0002764211433795: 774-788. (Accessed 16 August 2018).

The National Archives. 2013. *What is appraisal?* London: Crown.

The Cambridge Advanced Learner's Dictionary and Thesaurus. 2015. Cambridge: Cambridge University Press.

The Radicati Group. 2019. *Email statistics report*. www.fliphtml5.com/utch/wtn (Accessed 3 June 2019).

Thota, N, Berglund, A & Clear, T. 2012. *Illustration of paradigm pluralism in computing education: Australasian Computing Education Research Conference* 123: 61-70.

Trace, C. 2010. On or Off the Record? Notions of Value in the Archive, *Currents of Archival Thinking*. Edited by T. Eastwood & H. MacNeil, Libraries Unlimited: Santa Barbara, pages? University of Kent. nd. *Literature reviews*. www.kent.ac.uk/learning/resources/studyguide/literaturereviews.pdf. (Accessed 13 February 2019).

Triad 3. 2016. *An introduction to document analysis*. np.np.

Tsabedze, V & Kalusopa, T. 2018. Towards a framework for e-records readiness in support of e-government in Eswatini. *ESARBICA Journal* 37:39-68.

Turville, J. 2019. From “You’ve got mail to email overload”: a phenomenological genealogy of email. *Teche: Research in Philosophy and Technology* 23(1):1-25.

Twigge, S. 2003. The appraisal of electronic records, in *Strategic approaches to appraisal*, edited by T. Mills, Geneva: ICA Committee.

University of Regina. 2013. Email management. Records and information management http://www.mnhs.org/preserve/records/electronicrecords/docs_pdfs/EmailManagement-v5-march2012.pdf viewed at 4:10 on 4/23/2013. (Accessed 23 September 2019).

University of Salford Manchester. nd. *Outlook email management*. www.its.salford.ac.uk (Accessed 15 January 2019).

University of South Africa. 2013. Policy on research ethics. <http://www.unisa.ac.za/static/corporateweb/Content/Colleges/CGS/documents/Policy-on-Research-Ethics-rev-appr-Council-20.09.2013.pdf> (Accessed 12 June 2019).

Vella, TR. 2017. *Records are assets and the lifeblood of an organisation: Assignment 993*. Malta: University of Malta.

Vdovin, A. 2020. *The advantages and disadvantages of email communication in a company*. Alexandris: np.

Vella, TR. 2017. *Records are assets and the lifeblood of an organisation: Assignment 993*. Malta: University of Malta.

Wanjala, MY & Jacob, NM. 2017. Review of antiviruses and antivirus patterns. *Global Journal of Computer Science and Technology: Computer Software and Data Engineering* 17(3):1-5.

Urquhart, C. 2015. Observation research techniques Christine. *Journal of EAHIL* 11(3):29-31.

Walliman, N. 2011. *Research methods: the basics*. London: Routledge.

Walsh, C, Ewing, G & Griffiths, J. 2011. *Using observation as a data collection method*. Doi.org/10.1177/0269216311432897: 1-10. (Accessed 19 July 2019).

Walsham, A. 2016. The social history of the archive: record keeping in early modern Europe. *The past and present society*. Cambridge: Trinity College Press.

Wato, R. 2006. Electronic records readiness in the ESARBICA region: challenges and the way forward. *ESARBICA Journal* 25:69-83.

White, MD & Marsh, EE. 2006. Content analysis: a flexible methodology. *Library Trends* 55(1): 22-45.

Whitehead, MD & Kim, SJ. 2019. Mailbox or inbox: What you need to know before switching to electronic notices. *Benefits Magazine*. July: 16-23.

Williamson, K & Johanson, G. 2018. *Research methods: Information systems, and contexts*. Prahran, Tilde University Press.

Zauszniewski, BA. 2012. Methodological triangulation: an approach to understanding data. *Nurse Researcher* 20(2):40-43.

Zimbabwe. 2001. Civil Evidence Act. Chapter 8.01. Harare: Government Printer.

Zimbabwe. 2013. Constitution of Zimbabwe. Harare: Government Printer. Harare: Government Printer.

Zimbabwe. 2019. Cyber security and Data Protection Act. Harare: Government Printer.

Zimbabwe. 2007. Criminal Law (Codification and Reform) Act. Chapter 9:23.

Zimbabwe. 2020. Freedom of Information Act. Chapter 10:33. Harare: Government Printer.

Zimbabwe. 1986. National Archives of Zimbabwe Act. Harare: Government Printer.

Zimbabwe. 2012. National ICT Policy. [www.draft-national-ict-policy-framework.pdf](#) (Accessed 15 June 2018).

Zimbabwe. 2016. Ministry of Information Communication Technology and Cyber Security. Harare: Government Printer.

Zimbabwe. 2016. Ministry of Information Communication Technology Strategic Plan 2010-2014. [www.ictministry.gov.zw](#) (Accessed 29 October 2015).

Zimbabwe. 2016. National Information and Communication Technology Policy: Copy Print and Graphics.

Zimbabwe. 2020. Parliamentary debates. Harare: Government Printer.

Zimbabwe. Public Sector Digital Records Management Framework. 2019. Harare: National Archives of Zimbabwe.

Zimbabwe. 2017. Public Service Commission. [www.psc.gov.zw](#). (Accessed 14 April 2018).

Appendix I: Letter seeking permission to conduct research in Zimbabwe's central government

National Archives of Zimbabwe
P. Bag 7729
Causeway
Harare

14 October 2019

The Permanent Secretary
Ministry of Primary and Secondary Education
Ambassador Building
Harare

Re: REQUEST FOR PERMISSION TO CONDUCT RESEARCH IN YOUR MINISTRY

I am kindly requesting permission to conduct research on the management of email in your ministry. I am a PhD Information Science student at the University of South Africa and I work at the National Archives of Zimbabwe. My research topic is "Use and management of email in the central government of Zimbabwe".

I am targeting to solicit information from Records, Information Technology and Administration officers by way of questionnaires. The study will go a long way in improving the way email is managed in the public sector, which in turn will enhance the formulation of an email policy in Zimbabwe's public sector. Attached is my research ethical clearance certificate from my University.

Thank you.

Yours sincerely



Samson Mutsagondo

Appendix II: Letter seeking permission to conduct research from the NAZ director

No. 3614 Mainway Meadows
Waterfalls
Harare

The Director
National Archives of Zimbabwe
P. Bag 7729
Causeway
Harare

14 October 2019

Dear Sir/ Madam

Re: REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT THE NATIONAL ARCHIVES OF ZIMBABWE (S. MUTSAGONDO- UNISA STUDENT)

I am kindly requesting for permission to conduct research at the National Archives of Zimbabwe, through interviewing Harare Records Centre archivists. I am a PhD student at the University of South Africa and conducting a research on “Use and management of email in the central government of Zimbabwe”. National Archives of Zimbabwe’s Records Centre archivists were targeted since they are information professionals responsible for supervising records management practices within the public sector. The study will go a long way in improving the way email records are managed in the public sector, which in turn will enhance availability of electronic documentary heritage. Attached are my ethical clearance certificate and copy of interview questions intended for the archivists. Thank you.

Yours sincerely



Samson Mutsagondo

Appendix III: Authorisation to conduct research at NAZ

All communications to be addressed to
"THE DIRECTOR"

Telephone: 792741-3
Fax: 263-04-792398
E-Mail: archives@archives.gov.zw



ZIMBABWE
NATIONAL ARCHIVES OF ZIMBABWE

In reply please quote: C2/4/2

Private Bag 7729
Causeway
Zimbabwe

16 October 2019

Mr. Samson Mutsagondo

**RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT
NATIONAL ARCHIVES OF ZIMBABWE**

Your letter dated 14 October on the above refers,
Permission to conduct research at the National Archives is granted on
condition that interviews do not interfere with our normal work processes.


D T Maboreke
For Director



Appendix IV: Ethical clearance from the University of South Africa



DEPARTMENT OF INFORMATION SCIENCE ETHICS REVIEW COMMITTEE

14 October 2019

Dear Mr Samson Mutsagondo

Decision:

**Ethics Approval from 14
October 2019 to 14 October
2023**

DIS Registration #: Rec-141019

References #: 2019-DIS-0036

Name: S Mutsagondo

Student #: 57649308

Researcher(s): Samson Mutsagondo

57649308@mylife.unisa.ac.za

00 263 773 510 516

Supervisor(s): Prof MK Minishi-Majanja

majanmk@unisa.ac.za

012 429 6532

&

Prof P Ngulube

ngulup@unisa.ac.za

012 429 2832

Use and management of electronic mail in Zimbabwe's public service.

Qualifications: Doctoral Study



University of South Africa
Pretorius Street, Midrand Ridge, City of Tshwane
PO Box 392 UNISA, 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Appendix V: Questionnaire for Records Officers in Zimbabwe’s central government

My name is Samson Mutsagondo. I am a PhD candidate in Information Science at the University of South Africa. I am conducting a research entitled “Use and management of email in the central government of Zimbabwe”. I am appealing for your assistance in completing this questionnaire. Your responses will be held in strict confidence. The results of the research will help shape and improve the way email is used and managed in Zimbabwe’s public sector as well as to help enhance accountability and transparency as well as informed decision-making.

My contact details are: 57649308@mylife.unisa.ac.za; 0242 792 742; 00263 773 510 516.

Instructions for completing the questionnaire

- (a) Show your choice of answer with a tick (✓).
- (b) If more than one option applies, tick all the applicable options.

Section A: Background information

1. Indicate your gender

Male Female Transgender

2. Indicate your work experience.

Below 10 years 10 – 19 years 20 – 29 years 30 – 39 years Above 40 years

3. Indicate your highest educational qualification:

National Certificate National Diploma Higher National Diploma
Bachelor’s degree Master’s degree Doctoral Other

Section B: Responses to research questions

(a) Prevalence of use of email in Zimbabwe’s central government

4. Electronic records are replacing paper records in your ministry.

Strongly Disagree Disagree Neutral Agree Strongly Disagree

5. The following are electronic records generated and received in your ministry. (Tick all that apply in your case).

Minutes	<input type="checkbox"/>	Tax returns	<input type="checkbox"/>	Requisitions	<input type="checkbox"/>
Memoranda	<input type="checkbox"/>	Assets registers	<input type="checkbox"/>	Staff appraisal	<input type="checkbox"/>

Correspondences	<input type="checkbox"/>	Leave applications	<input type="checkbox"/>	Contracts	<input type="checkbox"/>
Reports	<input type="checkbox"/>	Investment projects	<input type="checkbox"/>	Financial records	<input type="checkbox"/>
Policies	<input type="checkbox"/>	Appointment letters	<input type="checkbox"/>	Operations records	<input type="checkbox"/>
Instructions	<input type="checkbox"/>				

6. Email is the most widely used information and communication technology for sending and receiving information in your ministry. Yes No I do not know

7. On average, how many emails do you receive per day?

0 – 10 11 - 20 21 - 30 31 - 40 41 - 50 Above 50

8. On average, how many emails do you send per day?

0 – 10 11 - 20 21 - 30 31 - 40 41 - 50 Above 50

(b) Motivation for using email in Zimbabwe’s central government

9. E-government promotes use of email records in your ministry? (E-government is the use of information and communication technologies in enhancing government service delivery).

Yes No I do not know

10. M-government promotes use of email records in your ministry? (M-government is the use of mobile technologies in enhancing government service delivery).

Yes No I do not know

11. The following ICTs are used in your ministry. (Select all ICTs used in your ministry).

Computers	<input type="checkbox"/>	ECM	<input type="checkbox"/>	ECM	<input type="checkbox"/>
Internet	<input type="checkbox"/>	Business systems	<input type="checkbox"/>	Scanners	<input type="checkbox"/>
Intranets	<input type="checkbox"/>	Fax machines	<input type="checkbox"/>	Generators	<input type="checkbox"/>
Extranets	<input type="checkbox"/>	EDRMS	<input type="checkbox"/>	UPS	<input type="checkbox"/>
Laptops	<input type="checkbox"/>	Radio	<input type="checkbox"/>	Television	<input type="checkbox"/>
				Solar power	<input type="checkbox"/>

12. Are you aware of the records regulatory framework in Zimbabwe?

Yes No I am not aware

13. If you are aware of the records regulatory framework, indicate the name of the Act.

Access to Information and Copyright Act
 Protection of Privacy Act
 Official Secrets Act National Archives Act
 Other

14. Do you have an ICT policy in your ministry?

Yes No I do not know

15. If your response to the above question is “Yes”, do you use the ICT policy using and managing email in your ministry?

Yes No I do not know

16. Do you have an email policy in your ministry?

Yes No I do not know

17. If your response to the above question is “Yes”, do you use the email policy in using and managing email in your ministry? Yes No I do not know

18. Do you have an email procedures’ manual in your ministry?

Yes No I do not know

19. If your response to the above question is “Yes”, do you use the email procedures manual in using and managing email in your ministry?

Yes No I do not know

20. The following advantages of email motivate you to use email in your ministry?

It is easy to use	<input type="checkbox"/>	It has audit trail mechanisms	<input type="checkbox"/>
Can be accessed using both fixed and mobile technology	<input type="checkbox"/>	Can be accessed using mobile phones which are cheap	<input type="checkbox"/>
It is cheap	<input type="checkbox"/>	It is fast	<input type="checkbox"/>

21. The following generic limitations of email discourage you from using email in your ministry?

Information overload	<input type="checkbox"/>	There is no assurance message is seen or read	<input type="checkbox"/>
There is no interpersonal communication	<input type="checkbox"/>	Can be accessed using mobile phones which are cheap	<input type="checkbox"/>
Disturbs work routine		Email is exposed to computer viruses	
Email lacks privacy	<input type="checkbox"/>	Email is susceptible to cyber crime	<input type="checkbox"/>

(c) Management of email in Zimbabwe’s central government

22. It is important to manage email as official records?

Yes No I do not know

23. If your answer to the above question is “Yes”, the following are reasons why email records should be managed.

Email accumulates quickly and fills the inbox	<input type="checkbox"/>
To enhance easy retrieval of email records	<input type="checkbox"/>
To ensure security of email	<input type="checkbox"/>
Email records are as good as paper records	<input type="checkbox"/>

To control who accesses email records

To ensure information is available for posterity

Other

24. Who manages email in your ministry?

Records Officer IT officer Administration Officer HR officer Other

25. Is it proper that these officers are given the responsibility to manage email?

Yes No No response

26. Do you have an official email account? Yes No No response

27. Do you use a personal email account for official business?

Yes No No response

28. How often do you check your email inbox?

Before work starts Every 3 hours

Every hour At knock off

Break times Other

29. What is the average size of your unread email in inbox?

0 – 19 emails 60 – 79 emails

20 – 39 emails 80 – 99 emails

40 – 59 emails

30. Do you classify email? Yes No I do not know

31. If you classify email, what classification method do you use?

Functions-based Geographical

Subject based Other

32. Where do you classify your email?

Email system Folders created on the computer

On My Documents EDRMS

ECM Other

33. Do you file email as official records? Yes No I do not know

34. If you file email, what is the frequency of your filing?

Daily After 6 months

Weekly When the inbox is full

Monthly Quarterly

Other

35. Do you manage email metadata? Yes No No response

36. What mechanisms do you use to safeguard your email from cybercrime? (Tick all applicable).

Passwords	<input type="checkbox"/>	Firewalls	<input type="checkbox"/>
Anti-virus software	<input type="checkbox"/>	Anti-spam software	<input type="checkbox"/>
Physical access controls	<input type="checkbox"/>	Electronic signatures	<input type="checkbox"/>
Encryption	<input type="checkbox"/>	Other	<input type="checkbox"/>

37. Do you appraise email? Yes No No response

38. If you appraise email, what appraisal method do you use?

Value-based appraisal	<input type="checkbox"/>	Capstone approach	<input type="checkbox"/>
Functions-based appraisal	<input type="checkbox"/>	Other	<input type="checkbox"/>

39. Have you ever deleted email from the email inbox?

Yes No No response

40. What guides you when destroying email?

Retention and disposal schedule	<input type="checkbox"/>	Capstone approach	<input type="checkbox"/>
Appraisal	<input type="checkbox"/>	Personal intuition	<input type="checkbox"/>
Space challenges	<input type="checkbox"/>	Other	<input type="checkbox"/>

41. Where do you preserve important and official email?

Email system	<input type="checkbox"/>	ECM	<input type="checkbox"/>
Server	<input type="checkbox"/>	EDRMS	<input type="checkbox"/>
ERMS	<input type="checkbox"/>	Cloud	<input type="checkbox"/>
Folders on the computer	<input type="checkbox"/>	Printing to paper	<input type="checkbox"/>

42. Do you have provisions for managing emails whilst out of office?

Yes No No response

43. Do you manage email of people who leave the organisation?

Yes No No response

44. If your response to the above is “Yes”, who is responsible for managing email of leavers?

Records officer	<input type="checkbox"/>	Head of ministry	<input type="checkbox"/>
Information Technology officer	<input type="checkbox"/>	Head of department	<input type="checkbox"/>
Administration officer	<input type="checkbox"/>	Human Resource officer	<input type="checkbox"/>

45. Are there mechanisms to manage email whilst out of office in your ministry?

Yes No No response

46. Is the National Archives of Zimbabwe (NAZ) assisting your ministry in managing email records?

Yes No A bit Not sure No response

47. If your answer to the above question is “Yes”, in which areas is NAZ helping you?
- | | | | |
|----------------------------------|--------------------------|--|--------------------------|
| Classification and filing | <input type="checkbox"/> | Disposal | <input type="checkbox"/> |
| Procurement of e-records systems | <input type="checkbox"/> | Preservation | <input type="checkbox"/> |
| Retention and disposal schedule | <input type="checkbox"/> | Electronic records management in general | <input type="checkbox"/> |

(e) Challenges facing Zimbabwe’s central government in managing email

48. Indicate the challenge(s) your ministry is facing in managing email.
- | | | | |
|--|--------------------------|---|--------------------------|
| Lack of email use and management skills | <input type="checkbox"/> | Obsolescence of infrastructure | <input type="checkbox"/> |
| Absence of regulatory framework | <input type="checkbox"/> | Frequent breakdowns of infrastructure | <input type="checkbox"/> |
| Absence of email records policy framework | <input type="checkbox"/> | Lack of a budget for records management work | <input type="checkbox"/> |
| Absence of email records procedures manual | <input type="checkbox"/> | Lack of adherence to international records management standards | <input type="checkbox"/> |
| High maintenance costs | <input type="checkbox"/> | Lack of management support | <input type="checkbox"/> |
| Lack of ICT policy | <input type="checkbox"/> | High costs of infrastructure | <input type="checkbox"/> |
| Out-dated infrastructure | <input type="checkbox"/> | Records and information being looked down upon | <input type="checkbox"/> |
| Failure to separate email records from non-email records | <input type="checkbox"/> | Dispersal of email record within the organisation | <input type="checkbox"/> |
| Other | <input type="checkbox"/> | | |

49. How do these challenges affect email as a record?
- | | | | |
|----------------------|--------------------------|--------------------|--------------------------|
| Poor access to email | <input type="checkbox"/> | Incomplete records | <input type="checkbox"/> |
| Mix-up of records | <input type="checkbox"/> | Loss of records | <input type="checkbox"/> |
| Lack of privacy | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unauthentic records | <input type="checkbox"/> | | |

50. How can management of email be improved in your ministry?
- | | | | |
|--|--------------------------|---|--------------------------|
| Use of the NAZ Act | <input type="checkbox"/> | Improve email management skills | <input type="checkbox"/> |
| Use email policy framework | <input type="checkbox"/> | Procure modern ICT infrastructure | <input type="checkbox"/> |
| Use email procedures manual | <input type="checkbox"/> | Manage email as official records | <input type="checkbox"/> |
| Apply international records standards | <input type="checkbox"/> | Set aside a budget for records management | <input type="checkbox"/> |
| Seek management support for records management | <input type="checkbox"/> | Liaise with NAZ | <input type="checkbox"/> |
| Officers should collaborate | <input type="checkbox"/> | Other | <input type="checkbox"/> |

Thank you for taking time to complete this questionnaire. Once you complete filling in the questionnaire, just alert the researcher through the telephone numbers or email provided and the researcher will collect it from your workplace.

Appendix VI: Questionnaire for Administration Officers

My name is Samson Mutsagondo. I am a doctoral candidate in the Department of Information Science of the University of South Africa. I am conducting a research entitled “Use and management of email in the central government of Zimbabwe”. I am appealing for your assistance in completing this questionnaire. Your responses will be held in strict confidence. The results of this research will help to shape and change the way email records are used and managed in Zimbabwe’s public sector so as to enhance accountability, transparency as well as informed decision making.

My contact details are: Email- 57649308@mylife.unisa.ac.za

Cell phone- 00263 773 510n516

Landline- 00263 242 792 742

Instructions

- (a) Show your choice of answer with a tick (✓).
 - (b) If more than one option applies, tick all the applicable options.
-

Section A: Background information

1. Indicate your gender

Male Female Transgender

2. Indicate your work experience.

Below 10 years 10 19 years 20 – 29 years 30 – 39 years Above 40 years

3. Indicate your highest educational qualification:

National Certificate National Diploma Higher National Diploma
Bachelor’s degree Master’s degree Doctoral Other

Section B: Responses to research questions

(a) Prevalence of use of email

4. Electronic records are replacing paper records in your ministry.

Strongly Disagree Disagree Neutral Agree Strongly Disagree

5. The following are email records generated and received in your ministry?

Memoranda Contracts
Minutes Staff appraisal

- | | | | |
|--------------------|--------------------------|---------------------|--------------------------|
| Correspondences | <input type="checkbox"/> | Assets registers | <input type="checkbox"/> |
| Policies | <input type="checkbox"/> | Leave applications | <input type="checkbox"/> |
| Reports | <input type="checkbox"/> | Investment projects | <input type="checkbox"/> |
| Operations records | <input type="checkbox"/> | Appointment letters | <input type="checkbox"/> |
| Instructions | <input type="checkbox"/> | Financial records | <input type="checkbox"/> |

6. Email is the most popular type of e-record in your ministry.

Strongly Disagree Disagree Neutral Agree Strongly Disagree

7. On average, how many emails do you receive per day?

0 – 10 11 - 20 21 - 30 31 – 40 41 - 50 Above 50

8. On average, how many emails do you send per day?

0 – 10 11 - 20 21 - 30 31 - 40 41 - 50 Above 50

(b) Motivation for using email

9. E-government has promoted the use of email in your ministry? (*E-government is the use of information and communication technologies to deliver government services*)

Yes No I do not know

10. M-government has promoted the use of email in your ministry? (*M-government is the use of mobile technologies to deliver government services*)

Yes No I do not know

11. The following ICTs are used in your ministry? (Tick all options that apply in your ministry).

- | | | | |
|------------|--------------------------|----------------------------|--------------------------|
| Computers | <input type="checkbox"/> | ERMS | <input type="checkbox"/> |
| Internet | <input type="checkbox"/> | Servers | <input type="checkbox"/> |
| Intranets | <input type="checkbox"/> | Uninterrupted Power Supply | <input type="checkbox"/> |
| Extranets | <input type="checkbox"/> | Business Systems | <input type="checkbox"/> |
| Generators | <input type="checkbox"/> | Scanners | <input type="checkbox"/> |
| EDRMS | <input type="checkbox"/> | Facsimile machines | <input type="checkbox"/> |
| ECM | <input type="checkbox"/> | V-SAT | <input type="checkbox"/> |

12. Do you have an ICT policy in your ministry?

Yes No I do not know

13. If your answer to the above question is “Yes”, is the ICT policy applicable to using and managing email records?

Yes No I do not know

14. Do you have an email policy in your ministry?

Yes No I do not know

15. If your response to the above question is “Yes”, do you use the email policy in using and managing email in your ministry? Yes No I do not know

16. Do you have an email procedures’ manual in your ministry?
Yes No I do not know

17. If your response to the above question is “Yes”, do you use the email procedures manual in using and managing email in your ministry?
Yes No I do not know

18. The following advantages of email motivate officers in your ministry to use email.

It is easy to use	<input type="checkbox"/>	It has audit trail mechanism	<input type="checkbox"/>
It is fast	<input type="checkbox"/>	Can be accessed using mobile technology	<input type="checkbox"/>
It is cheap	<input type="checkbox"/>	It’s trendy	<input type="checkbox"/>

19. The following limitations of email discourage officers in your ministry from using email.

Information overload	<input type="checkbox"/>	Email is exposed to viruses	<input type="checkbox"/>
Lack of inter-personal communication	<input type="checkbox"/>	Lacks privacy	<input type="checkbox"/>
No guarantee message is seen or read	<input type="checkbox"/>	Susceptible to cyber crime	<input type="checkbox"/>
Email is productivity killer	<input type="checkbox"/>	Other (please specify).....	

(c) Management of email in Zimbabwe’s central government

20. It is important to manage email as official records?
Yes No I do not know

21. If your answer to the above question is “Yes”, the following are reasons why email records should be managed.

Email accumulates quickly and fills the inbox	<input type="checkbox"/>
To enhance easy retrieval of email records	<input type="checkbox"/>
To ensure security of email	<input type="checkbox"/>
Email records are as good as paper records	<input type="checkbox"/>
To control who accesses email records	<input type="checkbox"/>
To ensure information is available for posterity	<input type="checkbox"/>
Other	<input type="checkbox"/>

22. Who manages in your ministry?
Records Officer IT officer Administration Officer HR officer Other

23. Do you have an official email account? Yes No No response

24. Do you use a personal email account for official business?
Yes No No response

25. How often do you check your email inbox?

Before work starts	<input type="checkbox"/>	Every 3 hours	<input type="checkbox"/>
Every hour	<input type="checkbox"/>	At knock off	<input type="checkbox"/>
Break times	<input type="checkbox"/>	Other	<input type="checkbox"/>

26. What is the average size of your unread email in inbox?

0 – 19 emails	<input type="checkbox"/>	60 – 79 emails	<input type="checkbox"/>
20 – 39 emails	<input type="checkbox"/>	80 – 99 emails	<input type="checkbox"/>
40 – 59 emails	<input type="checkbox"/>	More than 59 emails	<input type="checkbox"/>

27. What mechanisms do you use to safeguard your email from cybercrime? (Tick all applicable).

Passwords	<input type="checkbox"/>	Firewalls	<input type="checkbox"/>
Anti-virus software	<input type="checkbox"/>	Anti-spam software	<input type="checkbox"/>
Physical access controls	<input type="checkbox"/>	Electronic signatures	<input type="checkbox"/>
Encryption	<input type="checkbox"/>	Other	<input type="checkbox"/>

28. Do you classify email records in your ministry?

Yes No No response

29. Have you ever destroyed email records?

Yes No No response

30. If your answer to the above question is “Yes”, what informed your decision to destroy?

Appraisal	<input type="checkbox"/>
Retention and disposal schedule	<input type="checkbox"/>
Inbox was full	<input type="checkbox"/>
Personal intuition	<input type="checkbox"/>
Supervisor so instructed	<input type="checkbox"/>

31. Email records are preserved in your ministry.

Yes No No response

32. If your response to the above question is “Yes”, where do you preserve your emails in your ministry?

Email system	<input type="checkbox"/>	Cloud	<input type="checkbox"/>
Server	<input type="checkbox"/>	Printed paper	<input type="checkbox"/>
EDRMS	<input type="checkbox"/>	Folders on the computer	<input type="checkbox"/>
ECM	<input type="checkbox"/>	Other	<input type="checkbox"/>

33. What mechanism(s) do you have against cybercrime? (Tick all applicable).

Passwords	<input type="checkbox"/>	Firewalls	<input type="checkbox"/>
Anti-virus software	<input type="checkbox"/>	Anti-spam software	<input type="checkbox"/>
Physical access controls	<input type="checkbox"/>	Electronic signatures	<input type="checkbox"/>
Encryption	<input type="checkbox"/>	Other	<input type="checkbox"/>

34. Do you have a corporate email account?
 Yes No No response
35. Do you have a personal email account?
 Yes No No response
36. Have you ever used a personal email account for official business?
 Yes No No response
37. Do you forward a copy of the email you generate or receive to the records office for filing?
 Yes No No response
38. Do you have provisions for managing email whilst out of office?
 Yes No No response
39. Do you have provisions for managing email of staff which leaves the organisation?
 Yes No No response

(d) Challenges faced in managing email

40. Which challenges do you face in managing email records?
- | | | | |
|---------------------|--------------------------|---|--------------------------|
| Poor skills | <input type="checkbox"/> | Financial constraints | <input type="checkbox"/> |
| Poor infrastructure | <input type="checkbox"/> | Lack of management support for records issues | <input type="checkbox"/> |
| Obsolete technology | <input type="checkbox"/> | Other | <input type="checkbox"/> |
41. How do these challenges affect email as a record?
- | | | | |
|----------------------|--------------------------|--------------------|--------------------------|
| Poor access to email | <input type="checkbox"/> | Incomplete records | <input type="checkbox"/> |
| Mix-up of records | <input type="checkbox"/> | Loss of records | <input type="checkbox"/> |
| Lack of privacy | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unauthentic records | <input type="checkbox"/> | | |

Thank you for taking time to complete this questionnaire. Once you complete filling in the questionnaire, just alert the researcher through the telephone numbers or email provided and the researcher will collect it from your workplace.

Appendix VII: Questionnaire for Information Technology officers

My name is Samson Mutsagondo. I am a doctoral student at the University of South Africa's Department of Information Science. I am conducting a research entitled "Use and management of email in the central government of Zimbabwe". I am appealing for your assistance in completing this questionnaire. Your responses will be held in strict confidence. The results of this research will help to shape and change the way email records are used and managed in Zimbabwe's public sector so as to enhance accountability, transparency as well as informed decision making.

My contact details are: Email- 57649308@mylife.unisa.ac.za

Cell phone- 00263 773 510n516

Landline- 00263 242 792 742

Instructions

- (a) Show your choice of answer with a tick (✓).
 - (b) If more than one option applies, tick all the applicable options.
-

Section A: Background information

1. Indicate your gender

Male Female Transgender

2. Indicate your work experience.

Below 10 years 10 19 years 20 – 29 years 30 – 39 years Above 40 years

3. Indicate your highest educational qualification:

National Certificate National Diploma Higher National Diploma
Bachelor's degree Master's degree Doctoral Other

Section B: Responses to research questions

(a) Prevalence of use of email

4. Electronic records are replacing paper records in your ministry.

Strongly Disagree Disagree Neutral Agree Strongly Disagree

5. Email is the most widely used information and communication technology for sending and receiving information in your ministry.

Strongly Disagree () Disagree () Neutral () Agree () Strongly Disagree ()

6. Email is the most popular type of e-record in your ministry.

Strongly Disagree () Disagree () Neutral () Agree () Strongly Disagree ()

(b) Motivation for using email

7. The following ICTs are used in your ministry. (Select all ICTs used in your ministry).

Computers	()	ECM	()	ECM	()
Internet	()	Business systems	()	Scanners	()
Intranets	()	Fax machines	()	Generators	()
Extranets	()	EDRMS	()	UPS	()
Laptops	()	Radio	()	Television	()

8. Do you use mobile technology in creating, receiving and accessing emails in your ministry?

Yes () No () I don't know ()

9. What type of Internet is used in your ministry?

WAN () LAN () Wi-Fi ()

10. How strong is your Internet?

Not very strong () Not strong () Neutral () Strong () Very strong ()

11. Are you aware of the records regulatory framework in Zimbabwe?

Yes () No () I am not aware ()

12. If you are aware of the records regulatory framework, indicate the name of the Act.

Access to Information and () Copyright Act ()

Protection of Privacy Act

Official Secrets Act () National Archives Act ()

Other ()

13. Do you have an ICT policy in your ministry?

Yes () No () I do not know ()

14. If your response to the above question is "Yes", do you use the ICT policy using and managing email in your ministry?

Yes () No () I do not know ()

15. Do you have an email policy in your ministry?

Yes () No () I do not know ()

16. If your response to the above question is "Yes", do you use the email policy in using and managing email in your ministry? Yes () No () I do not know ()

17. Do you have an email procedures' manual in your ministry?

Yes No I do not know

18. If your response to the above question is "Yes", do you use the email procedures manual in using and managing email in your ministry?

Yes No I do not know

19. The following advantages of email motivate you to use email in your ministry?

It is easy to use	<input type="checkbox"/>	It has audit trail mechanisms	<input type="checkbox"/>
Can be accessed using both fixed and mobile technology	<input type="checkbox"/>	Can be accessed using mobile phones which are cheap	<input type="checkbox"/>
It is cheap	<input type="checkbox"/>	It is fast	<input type="checkbox"/>

20. The following generic limitations of email discourage you from using email in your ministry?

Information overload	<input type="checkbox"/>	There is no assurance message is seen or read	<input type="checkbox"/>
There is no interpersonal communication	<input type="checkbox"/>	Can be accessed using mobile phones which are cheap	<input type="checkbox"/>
Disturbs work routine		Email is exposed to computer viruses	
Email lacks privacy	<input type="checkbox"/>	Email is susceptible to cyber crime	<input type="checkbox"/>

21. E-government has promoted the use of email in your ministry? (*E-government is the use of information and communication technologies in delivering government services*)

Yes No I do not know

22. M-government has promoted the use of email in your ministry? (*E-government is the use of mobile technologies in delivering government services*)

Yes No I do not know

23. The following advantages of email motivate officers in your ministry to use email.

It is easy to use	<input type="checkbox"/>	It has audit trail mechanism	<input type="checkbox"/>
It is fast	<input type="checkbox"/>	Can be accessed using mobile technology	<input type="checkbox"/>
It is cheap	<input type="checkbox"/>		
Other	<input type="checkbox"/>		

24. The following limitations of email discourage officers in your ministry from using email.

Information overload	<input type="checkbox"/>	Email is exposed to viruses	<input type="checkbox"/>
Lack of inter-personal communication	<input type="checkbox"/>	Lacks privacy	<input type="checkbox"/>
No guarantee message is seen or read	<input type="checkbox"/>	Susceptible to cyber crime	<input type="checkbox"/>
Email is productivity killer	<input type="checkbox"/>	Other (please specify)	<input type="checkbox"/>

25. Are there intranets in your ministry?

Yes No I do not know

26. Are there extranets in your ministry?
Yes No I do not know

27. Do you have any business systems in your ministry?
Yes No I do not know

28. If your response to the question 19 is “Yes”, which business systems do you have?
Human resource systems Finance systems
Administration systems Other

29. What e-records systems do you have in your ministry?
EDRMS ECM
EDRMS OTHER

(c) Management of email in Zimbabwe’s central government

30. It is important to manage email as official records?
Yes No I do not know

31. If your answer to the above question is “Yes”, the following are reasons why email records should be managed.

- Email accumulates quickly and fills the inbox
- To enhance easy retrieval of email records
- To ensure security of email
- Email records are as good as paper records
- To control who accesses email records
- To ensure information is available for posterity
- Other

32. Who manages official email in your ministry?
Records Officer IT officer Administration Officer HR officer Other

32. What considerations were made in assigning email management responsibility to the department/ unit you cited above?

- Technical expertise
- Line of official duty
- Arbitrary decision
- Interest by department/ unit
- Other

33. Do you have an official email account? Yes No No response

34. Do you use a personal email account for official business?
Yes No No response

35. How often do you check your email inbox?

- | | | | |
|--------------------|--------------------------|---------------|--------------------------|
| Before work starts | <input type="checkbox"/> | Every 3 hours | <input type="checkbox"/> |
| Every hour | <input type="checkbox"/> | At knock off | <input type="checkbox"/> |
| Break times | <input type="checkbox"/> | Other | <input type="checkbox"/> |

36. What is the average size of your unread email in inbox?

- | | | | |
|----------------|--------------------------|----------------|--------------------------|
| 0 – 19 emails | <input type="checkbox"/> | 60 – 79 emails | <input type="checkbox"/> |
| 20 – 39 emails | <input type="checkbox"/> | 80 – 99 emails | <input type="checkbox"/> |
| 40 – 59 emails | <input type="checkbox"/> | | |

37. Do you classify email? Yes No I do not know

38. If you classify email, what classification method do you use?

- | | | | |
|-----------------|--------------------------|--------------|--------------------------|
| Functions-based | <input type="checkbox"/> | Geographical | <input type="checkbox"/> |
| Subject based | <input type="checkbox"/> | Other | <input type="checkbox"/> |

39. Do you file email as official records? Yes No I do not know

40. If you file email, what is the frequency of your filing?

- | | | | |
|-----------|--------------------------|------------------------|--------------------------|
| Daily | <input type="checkbox"/> | After 6 months | <input type="checkbox"/> |
| Weekly | <input type="checkbox"/> | When the inbox is full | <input type="checkbox"/> |
| Monthly | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Quarterly | <input type="checkbox"/> | | |

41. Do you appraise email? Yes No No response

42. If you appraise email, what appraisal method do you use?

- | | | | |
|---------------------------|--------------------------|-------------------|--------------------------|
| Value-based appraisal | <input type="checkbox"/> | Capstone approach | <input type="checkbox"/> |
| Functions-based appraisal | <input type="checkbox"/> | Other | <input type="checkbox"/> |

43. What mechanism(s) do you have against cybercrime?

- | | | | |
|--------------------------|--------------------------|-----------------------|--------------------------|
| Passwords | <input type="checkbox"/> | Firewalls | <input type="checkbox"/> |
| Anti-virus software | <input type="checkbox"/> | Anti-spam software | <input type="checkbox"/> |
| Physical access controls | <input type="checkbox"/> | Electronic signatures | <input type="checkbox"/> |
| Encryption | <input type="checkbox"/> | Other | <input type="checkbox"/> |

44. Have you ever deleted email from the email inbox?

- Yes No No response

45. What guides you when destroying email?

- | | | | |
|---------------------------------|--------------------------|--------------------|--------------------------|
| Retention and disposal schedule | <input type="checkbox"/> | Capstone approach | <input type="checkbox"/> |
| Appraisal | <input type="checkbox"/> | Personal intuition | <input type="checkbox"/> |
| Space challenges | <input type="checkbox"/> | Other | <input type="checkbox"/> |

46. Where do you preserve important and official email?

- | | | | |
|-------------------------|--------------------------|-------------------|--------------------------|
| Email system | <input type="checkbox"/> | ECM | <input type="checkbox"/> |
| Server | <input type="checkbox"/> | EDRMS | <input type="checkbox"/> |
| ERMS | <input type="checkbox"/> | Cloud | <input type="checkbox"/> |
| Folders on the computer | <input type="checkbox"/> | Printing to paper | <input type="checkbox"/> |

(d) Challenges faced in managing email records

47. Which challenges do you face in managing email records?

- High cost of infrastructure
- Poor infrastructure
- Obsolete technology
- Financial constraints
- Poor network coverage
- Other (Specify)

48. How do these challenges affect email as a record?

- | | | | |
|----------------------|--------------------------|--------------------|--------------------------|
| Poor access to email | <input type="checkbox"/> | Incomplete records | <input type="checkbox"/> |
| Mix-up of records | <input type="checkbox"/> | Loss of records | <input type="checkbox"/> |
| Lack of privacy | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| Unauthentic records | <input type="checkbox"/> | | |

Thank you for your assistance. Once you complete filling in the questionnaire, just alert the researcher through the telephone numbers or email provided and the researcher will collect it from your workplace.

Appendix VIII: Interview guide for NAZ archivists

Issues investigated: Records management issues in the central government of Zimbabwe as well as the relationship between central government and NAZ with regards to email management.

.....

1. Gender:
2. Work experience:
3. Highest educational qualification:
4. Which types of records in Zimbabwe's central government are normally sent and received through email?
5. Do you agree that there is a rise in use of email in Zimbabwe's central government?
6. Do you agree that e-government has promoted the rise in use of email in Zimbabwe's central government?
7. Do you agree that generic advantages of email promote the rise in use of email in Zimbabwe's central government?
8. Do you agree that m-government has promoted use of email in Zimbabwe's central government?
9. Do you agree that generic limitations of email discourage use of email in Zimbabwe's central government?
10. What are the reasons behind non-use of EDRMS and ECM in Zimbabwe's central government today despite their growing use in the private sector in Zimbabwe?
11. What role does the NAZ Act (1986) play in promoting the use of email in Zimbabwe's central government?
12. Is there an ICT policy in Zimbabwe's central government?
13. Is there an email policy in Zimbabwe's central government?
14. Is there an email procedures manual in central government?
15. Email should be professionally managed in Zimbabwe's central government? Do you agree?
16. Who manages email in Zimbabwe's central government? Why?
17. Does Zimbabwe's central government use official email accounts for official business?
18. On average, estimate the size of email inboxes that officers in Zimbabwe's central government maintain.

19. Does Zimbabwe's central government classify email?
20. Does Zimbabwe's central government file email?
21. What is email metadata?
22. Why is it important to manage email metadata?
23. Are e-signatures important in securing email? Explain.
24. Does Zimbabwe's central government appraise email? Why?
25. How does Zimbabwe's central government preserve important email?
26. Does Zimbabwe's central government have "out-of-office" email management facility?
27. Does Zimbabwe's central government manage email of staff who leave the organisation? Why?
28. Does NAZ help Zimbabwe's central government better manage their email? Explain.
29. What challenges does Zimbabwe's central government face in managing email? Explain.
30. How do these challenges affect email as a record?
31. You may ask questions that you may have.

Thank you for your time and your responses

Appendix IX: Interview guide for the NAZ Director

Issues investigated: Records management issues, records management regulatory and policy issues

.....

1. Email has become the most popular ICT for sending and receiving information. Do you agree?
2. Does the existing records regulatory framework in Zimbabwe promote management of email?
3. Does Zimbabwe have an email policy?
4. Does Zimbabwe’s central government have an email procedures manual?
5. Who is responsible for managing email in Zimbabwe’s central government? Why?
6. Does Zimbabwe’s central government use official email for official business? Why?
7. How can email management skills challenges be resolved in central government?
8. The records function falls under the Administration Department in central government. What is your comment with regards to the set-up and its impact on service delivery by personnel in the records section?
9. What role is NAZ playing in assisting central government improve the management of email?
10. What challenges does central government face in using and managing email?
11. Do you have any comments that you would like to make?

Thank you.

Appendix X: Interview guide for the Administration Director in central government

Issues investigated: Policy and general management issues that affect and influence email management

-
1. There is a rise in use of email in Zimbabwe’s central government? Do you agree?
 2. Who manages email in central government? Whys is responsibility to manage email given to these staff members?
 3. Does Zimbabwe’s central government use official email accounts for official business?
 4. How does Zimbabwe’s central government secure their email?
 5. Email deserve to be professionally managed. Do you agree? Give reasons.
 6. Why does the records function fall under the Administration department?
 7. Is the records management function fully represented under the Administration Department? Why do you say so?
 8. How do you relate with the NAZ in as far as records management in general and email management in particular are concerned?
 9. What challenges does central government face in managing email?
 10. Do you have any comments that you would like to make?

Thank you for your time and for your responses.

Appendix XI: Interview guide for the IT Deputy Director in central government

Issues investigated: IT and email policy issues in central government

.....

1. There is a rise in use of email in Zimbabwe's central government? Do you agree?
2. Do you have an ICT policy in central government? Why?
3. Do you have an email policy in central government? Why?
4. Does central government have enough ICT infrastructure to manage email effectively?
5. Who manages email in Zimbabwe's central government? Why?
6. Email should be professionally managed. Do you agree? Give reasons to support your answer.
7. Does Zimbabwe's central government use official email accounts for official business? Why?
8. How does Zimbabwe's central government secure its official email?
9. Does Zimbabwe's central government use e-signatures? Why?
10. Does NAZ help central government in managing its email?
11. What challenges does the IT department face in using and managing email in your ministry?
12. Do you have comments that you would like to make?

Thank you.

Appendix XII: Observation checklist

Name of ministry:

Date of observation:

No.	Item observed	Remarks
1	Computers	
2	Laptops	
3	Facsimile machines	
4	Printers	
5	Photocopiers	
6	EDRMS	
7	ECM	
8	Trusted Digital Repository	
9	Servers	
10	Email inbox size	
11	Email classification scheme	
12	Email files	
13	Email paper print-outs	
14	Mobile technologies	
15	Uninterrupted Power Supply	
16	Generators	
17	Solar power	
18	NAZ Act	
19	Policy manual	
20	Procedures manual	
21	No entry signs	
22	Retention and disposal schedule	
23	Other	

Appendix XIII: Documents reviewed in this study

The following documents were consulted in soliciting data to answer research questions as well as to add to findings obtained through questionnaires, interviews and personal observation:

1. Records survey reports
2. National Archives Act (1986)
3. Public Sector Digital Records Management Framework
4. New records survey worksheet
5. Old records survey worksheet
6. Draft records policy

Appendix XIV: Respondent consent form

I confirms that the person asking my consent to take part in this research has told me about the nature, purpose, procedure, potential benefits and anticipated inconvenience of participation. I have had sufficient opportunity to ask questions and I am prepared to participate in the research.

I understand that my participation is voluntary and that I am free to withdraw at any time when I feel like doing so. I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings and that my participation will be kept confidential unless otherwise specified.

I agree or do not agree to participate in this research (Delete inapplicable).

Participant/ respondent's name and surname:

Participant's signature:

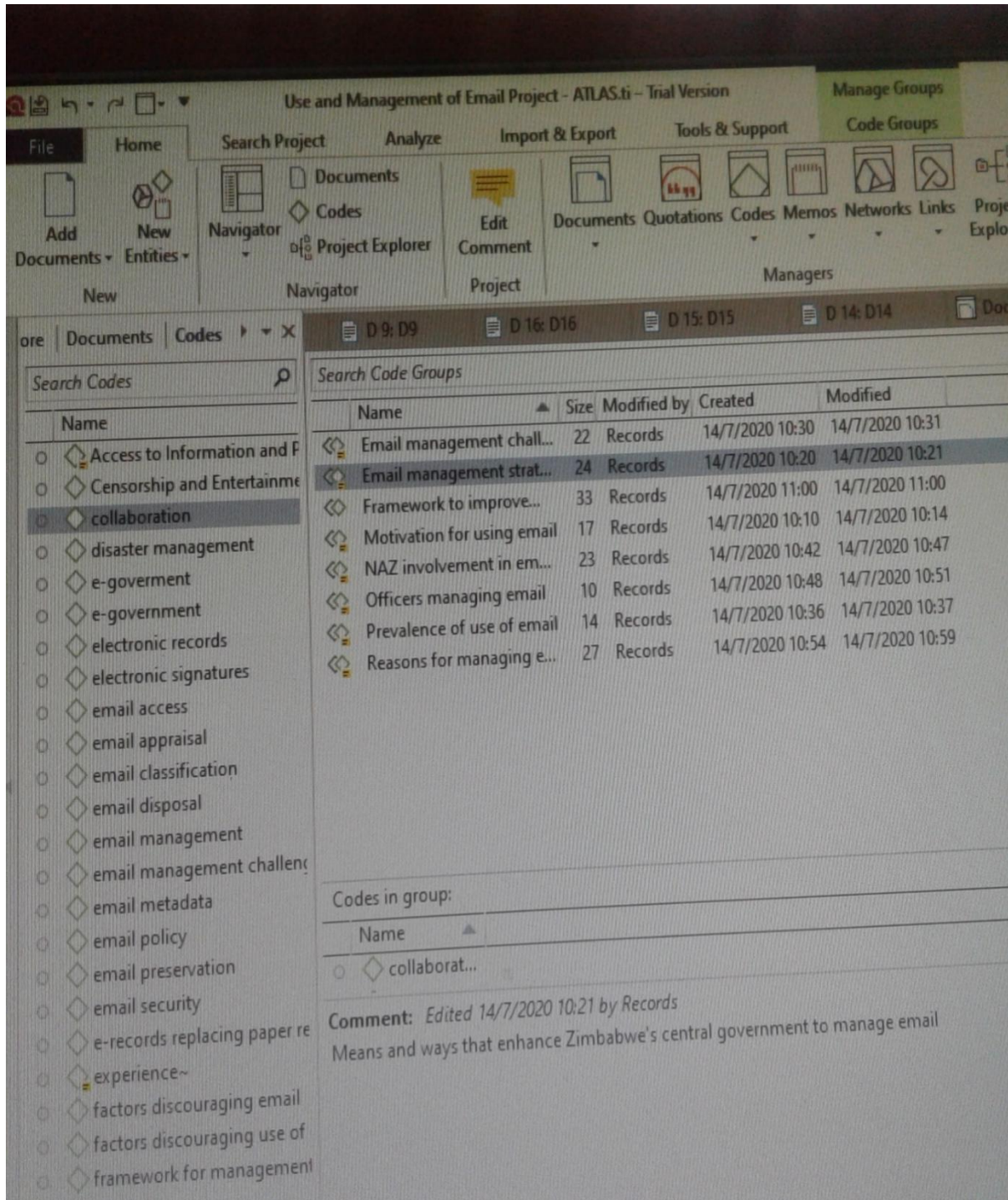
Date:

Researcher's name and surname:

Researcher's signature:

Date:

Appendix XVI: Screenshot showing some of the Atlas.ti code and all the code groups



Appendix XVII: New records survey worksheet used by the NAZ

NATIONAL ARCHIVES OF ZIMBABWE

RECORDS MANAGEMENT SURVEY WORKSHEET

SECTION 1

- 1.1 Ministry/department.....
- 1.2 Date established
- 1.3 Headed by
- 1.4 Designation
- 1.5 Staff compliment.....
- 1.6 Registry staff.....
- 1.7 Training in records management\registry staff.....

Ministry/ department functions

.....

.....

.....

.....

SECTION 2: RECORDS MANAGEMENT

2.1 CREATION

2.1.1 How are records created in your organisation?

2.2 CAPTURE AND REGISTRATION

2.2.1 How do you capture and register records into the records-keeping system?

2.2.2 Do you capture your electronic or digital records together with metadata?

2.2.3 Which metadata schema or standard(s) do you conform to?

2.2.4 Do you have a system specifically designed to manage digital or electronic records (eg. EDRMS)?

2.3 CLASSIFICATION

2.3.1 How are paper records classified and indexed?

2.3.2 How are digital or electronic records classified and indexed?

Records Classes	Covering dates	Quantity

2.3.3 What are the digital or electronic file types that are found in your organisation?

2.3.4 Give the file format you store or keep each file type in?

2.4 RETENTION AND DISPOSAL OF RECORDS

2.4.1 Do you have a records retention and disposal schedule?

2.4.2 Is the schedule applicable to electronic records as well?

2.4.3 Has the organisation confirmed retention and disposal requirements with The National Archives of Zimbabwe?

2.4.4 How do you dispose your records through destruction?

2.4.5 Do you involve the National Archives of Zimbabwe when destroying both paper and electronic records?

2.4.6 Do you document all records disposed through destruction?

2.5 TRANSFER

2.5.1 Can your records be readily transferred to another public body? (eg. as a result of government changes).

2.5.2 Can your records including electronic records be readily transferred to the National Archives of Zimbabwe?

2.5.3 How do you prepare the records for such transfer?

2.5.4 When was your last transfer of records to the National Archives of Zimbabwe?

SECTION 3: ACCESS TO INFORMATION AND SECURITY ISSUES

3.1 How is access to paper records provided?

3.2 How is access to electronic/ digital records provided?

3.3 How is authenticity of paper records guaranteed?

3.4 How is authenticity of electronic or digital records guaranteed?

3.5 What mechanisms are in place to give physical protection to both paper and electronic records?

3.6 How is your computer system protected from:

- i. Intrusion by external hackers?
- ii. Unauthorised access?
- iii. Unauthorised modification of stored content or records?
- iv. Unauthorised copying and distribution of stored content or records?
- v. System failure?
- vi. Interrupted power supply?
- vii. Technological obsolescence?
- viii. Malicious code / viruses?

3.7 What strategies are you employing to guarantee long term access to digital or electronic records?

3.8 Are your records safe from:

- i. Uncontrolled temperature?

- ii. Uncontrolled humidity?
- iii. Fire?
- iv. Pests and rodents
- v. Sunlight?
- vi. Dust?
- vii. Water?
- viii. Other natural disasters?
- ix.

3.9 Do you have a disaster management plan?

SECTION 4: INFRASTRUCTURE AND RESOURCES

4.1 How adequate is your infrastructure and resources for:

- i. Capturing paper records?
- ii. Managing, paper records?
- iii. Storing paper records?
- iv. Preserving paper records?

4.2 How adequate is your infrastructure and resources for:

- i. Capturing electronic/ digital records?
- ii. Managing, electronic/ digital records?
- iii. Storing electronic/ digital records?
- iv. Preserving electronic/ digital records?

4.3 What other storage medium do you use to store your digital records?

4.3 Do you have a specific budget for records management activities?

4.4 Is the budget sufficient?

4.5 What records management challenges do you face in your organisation?

SECTION 5: POLICIES AND GUIDELINES

- 5.1 Are your records management initiatives guided by the National Archives Act (1986)?
- 5.2 Does your organisation have a records management policy and procedures manual?
- 5.3 Does the policy or manual cover both paper and electronic/ digital records?
- 5.4 Do you conform to records management standards in your operations?
- 5.5 If the answer to 5.4 is yes, state the standards?
- 5.6 Do you have an ICT policy at this organisation?
- 5.7 How do you view top management support in the implementation of records management policies and guidelines?

SECTION 6: KNOWLEDGE AND SKILLS

- 6.1 Do records managers in the organisation have all the requisite skills to manage:
 - i. Paper records?
 - ii. Electronic / digital records?
- 6.2 Is professional development provided for records and information managers within the organisation?
- 6.3 What are the other means by which records managers are afforded continuous training?

SECTION 7: ORGANISATIONAL CULTURE

- 7.1 Do staff support the organisation’s initiatives to realise records and information management (RIM) benefits?
- 7.2 Do the majority of staff understand the benefits of RIM?

NOTES

.....

.....

.....

.....