

**INFLUENCE OF E-GOVERNMENT ON ORGANIZATION
COMMUNICATION PERFORMANCE
A CASE OF MOROGORO REGIONAL COMMISSIONER'S OFFICE**

**By
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**Dissertation Submitted to the School of Public Administration and Management
in Partial Fulfillment of the Requirements for the Award of Degree of Masters
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CERTIFICATION

We, the undersigned certifies that we have read an understood and recommends for the acceptance by the Mzumbe University, a dissertation entitled Influence of e-government on organization communication performance: A case of Morogoro Regional Commissioner's Office in Partial Fulfillment of the Requirement for the Degree of Masters of Science in Human Resource Management of Mzumbe University.

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I wish to incorporate all mentioned above in all positive achievement of this work and any fault in both form and content of this work should be considered as my own weaknesses.

DEDICATION

I sincerely dedicate this work to my lovely late brother Muhsin Mussa Shemsanga may his soul rest in everlasting peace. Aamin.

LIST OF ABBREVIATIONS

EGA	E-government Agency
E-government	Electronic Government
EU	European Union
EWURA	Energy and Water Utilities Regulatory Authority
G2B	Government to Business
G2C	Government to Citizen
G2E	Government to Employee
GovNet	Government Network
HRM	Human Resource Management
I T	Information Technology
ICT	Information and Communication Technology
ICT MP	Information and Communication Technology Master Plan
IDSS	Information and Decision Support Center
IEC	Independent Electoral Commission
LGA's	Local Government Authorities
MDA's	Ministry Department and Agencies
MoFEA	Ministry of Finance and Economic Affairs
MoHS	Ministry of Health and Social welfare
MoID	Ministry of Infrastructure Development
MRCHO	Morogoro Regional Commissioner's Head Office
MRCO	Morogoro Regional Commissioner's Office
NBS	National Bureau for Statistics
NICT	National Information and Communication Technology
NICTBB	National Information and Communication Technology Bandwidth Backbone
NICTP	National Information and communication Technology Policy
NPM	New Public Management
PSPRM	Public Sector Process Rebuilding Model
RAS	Regional Administrative Secretary
RC	Regional Commissioner
RCIP	Regional Communication Infrastructure Program

SEACOM	South and East Africa Communication
TANESCO	Tanzania Electric Service Corporation
TRA	Tanzania Revenue Authority
UPS	Uninterruptible Power Supply
USD	United State Dollar

ABSTRACT

Information and communication Technology managed to transform communication process around the globe tremendously. ICT increased organization communications' speed and reduced communication cost. As communication become the backbone to the organization performance, so the ICT to the communication performance.

Using Morogoro Regional Commissioner Office as a case the study examined the influence of e-government on organization communication performance, aiming to assess the implementation of e-government at MRCO and how e-government influenced communication process within the organization (G2E), to identify challenges facing the implementation and integration of e-government on organization communication process at MRCO, and to suggest ways to overcome the identified challenges in order to have improved organization communication through designed e-government projects.

A sample of 38 equal to 38.3% respondents was drawn from the total population of 102 employees. 35 employees were picked randomly and 3 interviewees were purposively selected.

Data were collected through the use of Interview, questionnaire, document review and observation. Data analysis was conducted through the use of Statistical Program for Social Science (SPSS V.20). It was found that e-government was implemented and integrated on organization communication process at MRCO, and it was concluded that e-government at MRCO managed to improve communication process significantly. Various challenges of e-governments faced MRCO in the implementation such as insufficient number of ICT technical staffs, addiction to social media, low internet quality and access, inadequate number of ICT devices, shortage of electric supply, online security threat, low employees ICT knowledge and poor condition of ICT infrastructure were identified. To tackle the identified challenges it was suggested that there was a great need to provide e-government training to employees, increasing number of ICT devices, increasing number of ICT technical staffs, improving the quality of internet, adequate ICT budget, discouraging the use of social media for office communication, website updating, provision of wireless internet network and finding backup generator for reliable electric power.

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CHAPTER ONE

INTRODUCTION AND BACKGROUND OF THE STUDY

1.0 Introduction

This chapter introduces the background of the problem, statement of the problem, research objectives, research questions, and significance of the study.

1.1 Background to the Study

The term e-government emerged in the 19th century as one of the concepts of the digital revolution which becomes the important tool for improving organization performance (Kareem & Haseeni, 2015).

Incorporating Information and Communication Technology (ICT) into organization working processes reduces communication bureaucracies, reduces work burden, minimizing administration cost, change of business processes and change of staff roles through work automation (Moon, 2002). Furthermore, e-government ensures more government transparency and accountability. It simplifies government communication transaction with other ICT stakeholders such as citizens, employees, private institutions, and other government agencies (Sprecher 2000). To ensure the benefits of e-government are achievable various technologies have to be adopted and installed in the government institutions such as electronic data interchange, voicemail, web service delivery, virtual reality, adequate ICT infrastructure, interactive voice response, and e-mails (Government and Internet Survey, 2000).

Adoption of e-government in Tanzania started way back to 1965, but since then the government failed to fully apprehend e-government intended objectives. The government incurred a lot of cost trying to implement ICT that could lead to effective organization communication processes , and enhancing public organizations performance, but the government ended up being a loser and not a beneficiary (Heeks, 2006: Agboola, 2013). The continuation failure of e-government projects like the computerizing of government accounting system in Tanzania led the government to stop investing in e-government projects. For example in 1974 through

the Government Gazette, the government banned the importation of computers and all related equipment into Tanzania. (Ndamagi, 1988).

In 2004 Tanzania government under the President Office took initiative to ensure successful adoption and implementation of e-government in its Ministries, Departments, Agencies and Local Government Authorities. To show the determination, in the same year Tanzania government introduced the National Information and Communication Technology policy of 2004 which emphasized the use of ICT within the public institutions in order to improve works efficiency in operation cost reduction, planning and coordination and provision of quality services (NICTP, 2004). In 2010 the government introduced E-government Agency (EGA) aiming to provide e-government guidance, regulations, and standards to MDA's and LGA's in order to provide quality and accessible services to the customers. Due to the weaknesses observed on the ground, especially during the implementation of 2004 National ICT policy the government came up with another ICT policy of 2016 and e-government Agency Strategic Plan 2012/2013 to 2016/2017 (AASP, 2012).

The notable Government efforts were observed in 2009-2010 whereby Tanzania government launched its own National ICT Broadband Backbone (NICTBB) 2010-2012. This step revolutionized ICT activities in Tanzania such as improvement of data and voice market, data access and reduction of data price (Steve and Lisham, 2013).

Despite of all government efforts to implement e-government in public sector, there were many observed challenges such as under utilization of ICT infrastructure due to the emergence of telecommunication industry in the country, high cost of internet access, lack of e-government Master plan, poor leadership, donor dependency, insufficient number of IT experts ,reluctance toward transparency and accountability, avalanche of technology whereby for the security reasons personnel were forced to use separate ICT devices such as Personnel computers with the aim of avoiding online security threats (Heeks 1998, 2001: Fountain 2001: Heeks 2002, and Emanuel and Jung, 2015).

In order to have successful implantation of e-government in the public institutions Emanuel (2015), suggested that all government stakeholders such as leaders at all levels, local IT/ICT experts in both public and private sector and, citizen should consider e-government as compulsory and not something of a luxury.

1.2 Statement of the Problem

Adoption and implementation of e-government become a very problematic issue in public institutions in Tanzania despite the fact that the government directed its efforts to ensure smooth e-government adoption and implementation in its MDA's and LGA's like the enactment of NICTP of 2014, National ICT policy 2013, National ICT policy of 2016, e-government Agency Strategic Plan 2012/2013 to 2016/2017, and the establishment of E-government Agency and introduction of National Communication Broadband Backbone in 2010-2012 (Steve and Lisham, 2013). All these efforts failed to achieve government expectations, many challenges faced e-government implementation process, major challenges were limited number of skilled personnel, under utilization of ICT infrastructure, unsupportive leadership, reluctance toward transparency and accountability and avalanche of ICT technology due to security reasons (Heeks, 1998, 2001; Fountain 2001, Heeks 2002; Emanuel and Jung, 2015).

All these challenges affected effectiveness and efficiency implementation of e-government in the MDA's and LGA's. Morogoro Regional Commissioners Office as the Government Institution cannot be exempted from these challenges as long as there is e-government implemented. Therefore this study focused on the influence of e-government on organization communication system taking MRCO as a case.

1.3 Research objectives

In this section two types of research objective were taken into account, general objective and the specific objectives of the study.

1.3.1 General objectives

The main objective of this study was to determine the influence of e-government on organization communication performance at Morogoro Regional Commissioners' office.

1.3.2 Specific objectives

1. To determine the implementation of e-government system at MRCO.
2. To discover the extent to which e-government is integrated with organization communication system at MRCO.
3. To uncover the challenges facing MRCO on the implementation of e-government projects.
4. To explore measures to ensure successful implementation.

1.3.3 Research question

1. What is the state of e-government implemented at MRCO?
2. How is e-government integrated in organization's communication process?
3. Is MRCO's e-government effective and efficient enough to ensure successful organization communication performance?
4. What are the challenges facing MRCO on the implementation and integration of e-government on organization communication process?
5. What to be done to ensure successful implementation and integration of e-government on organization communication process at MRCO?

1.4 Significance of the Study

This study would be beneficial to the MRCO management in using, managing and understand the status of their e-government system and its influence on the organization communication processes. The findings and suggestions of this study would give insight to the policy makers about the strength and weaknesses of the implemented e-government on the organization communication system hence might help in improving e-government policies and practices. The findings of this study

would also act as a challenge that would inspire other researchers on the subject and thus furthering inquiry into the subject. Last but not least, this study would contribute to the existing body of knowledge and literature on e-government and communication management in the public sector.

1.5 Limitation of the study

This study focused on the influence of e-government in the communication performance at Morogoro Regional Commissioner's Office. The was constrained by several factors such as methodological limitation as explained below;

Limitation of interview

1. The presence of interviewer could attract bias from the respondent because the respondent could respond only to impress the interviewer not basing on his/her knowledge.
2. Interview guides' questions were suggested by the researcher hence useful information beyond researchers' imagination from the respondent could be skipped.

Limitations of questionnaires

1. It was very difficult to be sure and confident if the respondents were telling the truth or not and to what extent the respondents had put much thought about the questions.
2. English language becomes a barrier toward full question understanding especially to the lower cadre employees.

1.6 Delimitation of the study

The above explained limitations were overcome by the use of simple interview language and questionnaires were translated into Swahili language in order to create room for questions' understanding and minimizing filling time. Also corrections were made when interviewee misunderstood the question. The use of open ended question in the questionnaires gave respondents an opportunity to have more room to say about e-government and communication at MRCO, so this approach minimized

the chance of skipping important information from respondents. Also much time were given to the respondents to read and understand interviews and questionnaires scripts in order to have enough time of concentration.

Repeating same questions with different question format but presenting the same theme helped the researcher to understand if respondents were speaking the truth or presented information which favored his/her own interest. Another way to justify the truth was the use of data triangulation method that helped to justify the reliability of the data.

1.7 Scope of the study

The study focused on the influence of e-government on the organization communication performance at Morogoro Regional Commissioner's Office. Data were specifically collected from the three levels of management which included the Top management which comprised 14 heads of section and Units, three (3) top managers among them Head of ICT unit, Head of Information and communication Department and Head of Administration and Human Resource Management were interviewed. The rest seven (7) top managers and twenty eight (28) employee from Middle and lower cadre employees were given questionnaires to fill. So the scope of response were expected to be 38 respondents but 37 were available during data collection process.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter focuses on various theoretical and empirical issues on e-government and organization communication. It consists of two parties: Part one deals with theoretical literature review and part two is the review from the early studies in order to identify study gap. The chapter reviews the main concepts and literature about e-government and organization communication performance in public Institutions. Finally in this chapter conceptual framework and synthesis of the study gap will be provided.

2.2 Theoretical Review

2.2.1 The concept of e-government

Various Authors has attempted to define the term e-government; According to Yildiz, (2007) e-government is the use of ICTs by public administration to create a networked for interconnectivity, service delivery, effectiveness, transparency and accountability. Another author, Hernon *et al* (2002) defined e-government as a technology, particularly the internet that is used to improve the access to and delivery of governmental information and service to citizen, business, government employees and other agencies. Heeks (2006) elaborated that e-government is not only confined to the use of websites or internet based applications, it encompasses all use of digital information technology (primarily computers and networks) in the public sector. E-government has been conceptualized as the intensive use of information technologies for the provision of public service, the improvement of managerial effectiveness and promotion of democratic values and mechanism. (Gil-Garcia and Pardo, 2005)

In this study the definition of Heeks (2006) will be used. The e-government system in this study does not only imply the use of internet but all digital devices which are used in organization communication system such as Fax machine, telephones, video conferences, printing machines, digital cameras, and voice mail which are used to

facilitate organization communication processes but the primary concern are those devices which uses internet applications such as e-mail, web services, inter and intra-nets.

According to Heeks (2002) e-government when adopted and implemented effectively in the public sector will eventually transform public sector into positive and active sector as observed in the private sector, the efficiency will be notable across various public sector agendas. According to him, to make implementation of e-government effective in the African context, the following dimension have to be considered; information which comprises data stores, data flow technology both hardware and software. The Process, this will entails the activities of users and others. Another one is objective and values which involves the key dimensions, culture and politics consideration. Furthermore Staffing and skills in both qualitative and quantitative competencies are essential; Also Management system and structure; and other resources such as money and time.

E-government system model

Figure 1.1 represent e-government as a social-technical-technical system because it is the system which combines both people and technical (Avison and Fitzgerald, 2003) this implies that when dealing and managing e-government both social and technical (also known as hard and soft) should be taken into consideration. The model provides the environment in which institution with e-government system operates. The function of e-government extends itself to reach to other stakeholders such as citizen, businesses and other few public agencies. In turn, all these groups are acting within the same environment; broader context of laws and values, economic system and technology that affect both the agencies or groups and the system which includes e-government system that serve them.

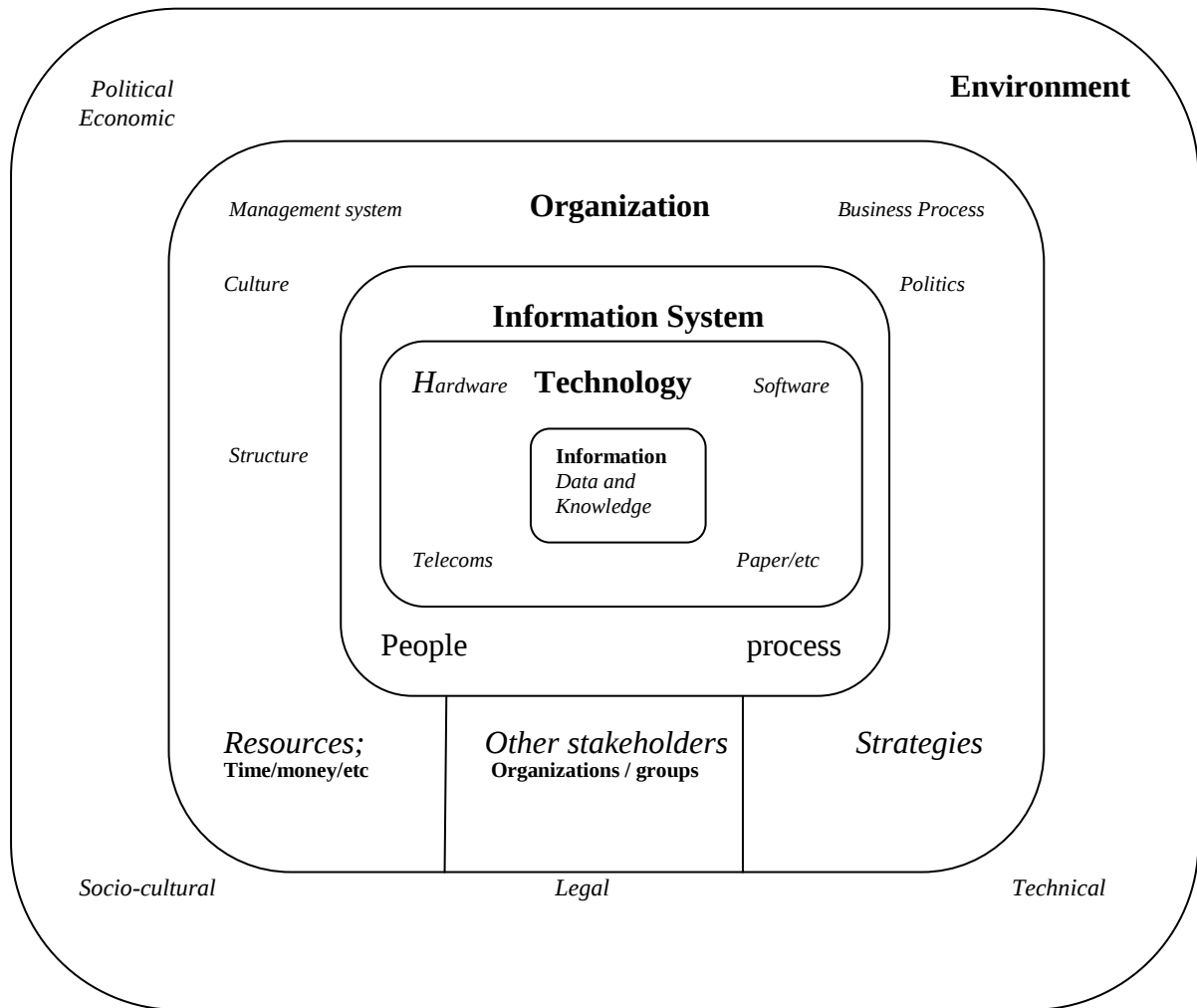


Figure 2.1 Full model of e-government.

(Heeks, 2006)

According to Heeks (2006) e-government must have to be considered as a “socio-technical system” that is, both soft/ social (people) and hard/technical (devices and software/ technology) have to be taken into consideration when designing e-government system because neglecting one aspect will lead to the failure of system implementation and adaptation. In most cases shortcomings in managing social aspects when designing e-government system causes more failure than the problems caused by the short comings with the technology.

E-government adaptation process model

The model presented by Andersen and Zinnerhenriksen (2006) termed the model as The Public Sector Process Rebuilding (PPR) Maturity Model. The model suggests that there are four phases of e-government development as explained in detail below:

Phase i: the cultivation

It involves the integration of both horizontal and vertical hierarchy within the public organization and Minimal use of intranet. The service provided by the organization is only one way. For example, public websites does not allow feedback from end users because they are designed to save informational purposes. Also they allow files downloading but filed documents are returned to the office manually. According to Andersen and Zinnerhenriksen (2006); it is in this phase where by most public organizations are situated and most of them this stage is their strategic goal which is not good sign for the development of e-government in the public sector.

Phase ii: extension stage

In this phase web design is focusing toward the end user rather than the Authorities or normal internal communication process. As in the first phase, in this phase there are still manual routine such as form and information downloading. Public websites in this phase seems to be dormant no routine information update, out dated software, contains a lot of links to other source of information such as other public agencies which leads to negative perception by users because they understand that they did not get information needed from the agency .

Phase iii: maturity stage

In this phase; there is a merge of intra and internet for the sake of serving the customers by sending information and processing their request. The main aim of using online communication is to minimize service provision cost, contrary to what is experienced in the second phase customer self service such as problem solving services, sharing feedbacks is being given priority rather than just presenting

organization structure and few organization introductory information. Also websites are being updated according to the available new information in an organization.

Phase iv: Revolutionary phase

This is more advanced stage of e-government adaption in the public sector which is characterized by data and application mobility. Customers are the main focus of data usage. Employees' performance and actions can be traced online. For public organizations to attain this level, it needs extra efforts because most of them are at phase 1.

2.2.2 Types of e-government

According to Yen and Evans (2005) there are about four types of e-government system, these types were categorized depending on the parts served by the e-government system;

Government to citizen (G2C)

This involves exchanging information and services between the government and its citizen, it involves 24 hours a day online communication and services. A good example is the online application forms for various activities like University applications, tax payments, e-voting, fines/ penalties etc. these services can be accessed by citizen without even visiting the government offices by using various channels such as telephones/mobile phones, video calls, website and Television .

Government to business (G2B)

According to Fang (2002) the main aim of government to business e-government system is to improve internal and external government operations together with improvement of internal information flow. Also G2B system creates inter governmental communications relationships which help exchange of information among government agencies and department such as sharing data bases, resources, skills and capabilities, all these can be done through online communications (Ndou 2004).

Government to Employees (G2E)

According to Fang (2002) government to employee e-government system explains the relationship or interaction between the government and its employees. This helps employees to be able to access information within the government.

Government to Government (G2G)

According to Yen and Evans (2005) this type of e-government focuses on improving the quality of business within or with another government. Fang (2002) this type of e-government tends to improve relationship and cooperation among government agencies and improving internal and external operations.

From the above listed types of e-government, this study will focus on the Government to employees (G2E) types of e-government which involves the interaction between Government and its employees through e-government system.

2.2.3 Importance of e-government

E-government through G2E will help organization internal communication system and transform civil service from paperwork to paperless working system (Fang, 2002). Public sector report (2003) states that e-government is the use of ICT in order to enhance internal operations in the public organizations which ultimately lead to the government efficiency in the provision of services to the citizens, organization to organization and businesses.

According to Gupta and Jana (2003) e-government is termed as a second public management revolution after the introduction of New Public Management (NPM). E-government strengthens the relationship between government bodies and citizen which involves provision of remote and 24 hours services through online services such as government websites.

With reference to Ni and Ho (2004) the main aim of introducing and implementing e-government in public sector is to improve organization interaction, communication between government and employees, good governance and service delivery through the use of government owned websites.

In the organization, information is generated from different levels and from various sections and units and all these information need to be coordinated and organized. ICT has the quality to properly organize and coordinate various source of information into a wholesome piece of information without losing the quality of the information (Jehiel, 1999).

Apart from that, Information and communication Technology to large extent has impact on organizational communication management and functioning of various types of organizations it minimizes communication layers of control and bureaucracy between departments and groups, and it increase communication speed with very low communication cost (Edward *et al* 1999).

2.3.1 Organization Communication

According to Goldhaber (1990) defined the term organization communication as the process whereby messages are created and transmitted within the network of interdependent relationship to cope with environment uncertainty. Organization communication is something which must be taken into consideration by any organization wishes to prosper in its operations. Due to this importance organization communication has been termed various inspirational names such as “the blood of the organization”, “binding agent that cement all the relationship”, “the organizational embalming fluid”, “the force that pervade the organization”, “the oil that smooth the organization’s functions” and “ the glue that binds the organization”. That is effective communication is the important factor toward organization performance. (Goldhaber 1990)

Having effective communication system in the organization is the key success factor toward achieving organization performance, poor organization communication consequently lead to the overall poor organization performance (Pandey and Gurnet communication, 2006). The importance of effective communication in the organization has been compared as to how blood is important in the human body (Shanubi and Akintaro, 2016)

Morogoro Regional Commissioner's Office like other Regional Administrative bodies has various duties to perform within and outside the organization but its main duties are to maintain peace and security and promotion of social economic development within its area of jurisdiction (Region Administration Act 1997). To perform all these duties and to ensure internal organization sustainability, incorporating ICT with organization communication was essential because e-government helps an organization to achieve coordinated action, sharing information such as organization goal, task direction, and other decision makings (Obamiro, 2008). IT can also be a tool to fight against online and offline criminals while minimizing operational cost (Yonazi, 2010), and also can be used to fight against corruption and increasing productivity (Argeron and Bhatnager, 2004; Yonazi 2010; Adeyemo 2011).

2.3.2 Form of organization communication

According to Fox, (2001) communication in the organization can take place in the following forms;

Written communication

This form of communication is presented on the form of writings on the physical object like paper. Documentation is a dominant form of formal communication in the organization. In this written communication technology is normally applied to speed up the flow of information within and outside the organization for example the use of e-mails and Websites.

Oral communication

This is the form of communication which is transmitted from one individual to another through the use of words of mouth. It is the original form of communication which existed before the invention of writings. Oral communication is dominated by informal ways of communication and takes place through telephones, video conferences, and face to face interactions.

Non-verbal communication

It is a form of communication which does not involve words or writing, it is concerning with facial expressions, gestures, handshakes and other body signs. This form of communication is not given emphasis in the organization comparing to other form communications. It acts as a compliment to other form of communication.

2.3.3 Organization information flow

According to Fox, (2001) organization communication comprising a complex system of information flow, communications within the organization takes place into two networks of information flow which are formal and informal network. This information is in the form of orders, wishes and instructions. According to Fox, (2001) informal and formal communications are more complimenting than conflicting to each other. Formal communication is a systematic and planned flow of information which is designed according to the need of the organization while informal communication does not follow designed rules and procedures of the organization. In both formal and informal communication system there about five elements which are involved in the communication process such as Sender, Message, Medium, Recipient and Feedback.



Figure 2.2 Communication process. (Fox, 2001)

Communication within the organization to some extent is different to communication outside the organization, for example the medium in the organization might be in the form of printout, memos, immediate conversation and schemes depending on the preference of the sender. The problem which is normally experienced in organization communication is the information overloading which consequently lead to burden which may result into poor communication performance (Fox, 2001).

Organization information flow can be observed in three main directions such as downward communications, upward communications and sideward communication. The first two can be termed as vertical communication flow and the last as horizontal communication flow (Fox, 2002).

Downward communication (vertical information flow)

This involves order and instructions from the top management of an organization to the subordinates. For this communication flow to take place effectively feedback loop is necessary to be established.

Upward communication (vertical information flow)

The flow of information in the organization originates from the subordinates to the top management. Here the role of top management is to filter all information (work opinions, proposition on various demands etc) brought up by the subordinate and work on those relevant and useful information. For this system to work best there must be freedom of communication within the organization.

Horizontal information flow

It involves communication between organization members of the same status from different working sections. To large extent; horizontal communication is dominated by informal form of communication.

2.4 Literature Review from the Early Studies

In many organizations in the world the use of information and communication technology became the important vehicle toward organization change and development. According to Choi (2006), before the introduction of e-government public sector was characterized with high rate of corruption, undemocratic governments, organization full of bureaucracies, poor reward system, poor decision making and poor flow of information. The adoption and implementation of e-government in the public sector helped to minimize the above inefficiency of the public sector and managed to transform public sector and government Agencies service delivery to the level near to private sector (Finger and Pecaude, 2003). ICT plays significant coordination role within and between organizations, managing relationships within and outside the organization, also ICT facilitated organization growth and effectiveness (Daft and Lewin, 1993). Also e-government brought efficiency and change at working place through automation of working processes hence reduction of administrative cost, changing role of staff and change of organization processes (Jae Moon, 2002). The notable importance of ICT in the organization is the development of groupware which changed traditional ways of communication among organization members because it helped dispersed members of a group to work as a team (Johansen, 1984).

Due to the advantage of e-government observed, many governments took the opportunity in using ICT in their service provision process. According to the UN e-governance survey report 2003, 90% of the countries in the world had active web sites which were used to share information such as law and policy documents and other important information to the citizen (UN, 2003). For example in 2002 USA about 87.7 local governments had websites (Donald and Jae Moon, 2005). Around 2008 there was massive improvement in development of e-government globally

whereby some countries were in the transactional stage while some were still in the early stage of adoption and implementation of e-government (UN, 2008).

According to Hinds and Kiesler (1995), to take advantage of e-government initiatives many organization installed complex network of computer-based technology and transformed their routine activities from paperwork to paperless by introducing electronic communications like the use of telephone, fax machines, e-mail, voicemail, printing, and even video conference technology. This new features of communication technology changed how people used to communicate, there was more advanced communication speed, and communication cost were dramatically reduced due to the introduction of these networked computers and telecommunication technology (Fulk and Desanctis, 1995). Evidence from various literatures shows that many government organizations benefited through the use of information technology such as improvement of efficiency, accuracy, timeliness and effectiveness, enhancement of jobs, makes job easier and enjoyable, and improves workers' working capacity (Donald and Jae Moon, 2005).

Adoption and implementation of ICT changed many countries in term of social-economic development. A good example is the following countries which managed to benefit from the use of ICT; there was increasing in Gross Domestic Product GDP by 7.8%, United Kingdom by 8.0 %, and Singapore by 8.3%, and Australia by 8.4% (Kamal *et al*, 2009). Singapore improved its communication network through information and communication technology and became the first country in the world to conduct population census online, also developed government portal e-citizen to enhance peoples' participation in government activities (Netchaeva, 2002). Other countries in the world benefited in one way or another were Finland, Hong Kong, Japan, New Zealand, Australia, Austria, Canada, China and Denmark (Fang, 2002).

The evidence provided above shows how countries were benefited from the adoption and implementation of e-government system but Heeks (2003) provided unpleasant facts that it is estimated about 85% of established e-government projects failed due to a number of reasons. The implementation of e-government is not without challenges, among of common challenges faced many cities in USA which implemented e-government system are difficulties in software, hardware and vendors, lack of training, and under utilization of ICT infrastructures, websites are not yet sophisticated, lack of technology, lack of ICT experts, lack of financial resources, privacy and security issues (Donald and Moon, 2005). In European Union (EU) countries apart from other challenges observed the notable setback were lack of political and managerial determination and the mismatch between website design and the actual need of the user (Torres, Pina, and Royo, 2005).

The survey conducted in over 2,800 cities in the world by Moon, (2002) found similar challenges which faced many countries in implementing e-government; many city Authorities lacked financial resources, ICT experts, and lack of proper technology, online insecurity, inadequate technological upgrades and privacy issues. Also some communication technology resulted into communication overload which is really a big problem to communication performance because what is important is better communication and not more communication (Richmond and McCroskey, 1992)

In order to ensure effective implementation of e-government, political and managerial will is very essential because they are the decision maker and are the one to decide on how to use the technology. So having standard technology is not the solution if politicians and managers are not determined to use them (Torres, Pina, and Royo, 2005). Other suggested measures to ensure effective implementation of e-government are as follows; governments should move to the higher level of e-government (maturity level) development which in turn require financial commitment and technical experts, also governments should enact systematic policies which will focus on security and privacy issues (Fountain, 2001).

In most African countries e-government is not something familiar as observed in the developed countries, it is an imported concept aiming to transform African governments to be efficient and effective service provider (Kumar *et al.* 2007). According to the UN (2008, 2005, 2004) the majority of African countries are at the emerging stage of e-government development (cultivation stage). Adopting and implementing e-government in African countries created a lot of opportunities such as enhancing rapid economic development, improves economic productive capacity, and minimizing challenges of entering global market (economy) (Bhatnagar, 2004). According to Agboola (2013) the use of information and communication technology enhances communications performance within the society or organization. According to Ndou (2004), the importance of e-government cannot be underestimated because e-government can transform African government as e-commerce did to private sector.

Some African countries were benefited from implementing e-government, a good example are Egypt, they introduced Information and Decision Support Center (IDSS) aiming at solving inter ministerial decision making conflicts in which they succeeded to solve various ministerial disputes within a short period of time in comparison to the situation before (Kamel 1998 as cited in Heeks, 2002). In South Africa, the Independent Electoral Commission applied ICT technology in 1999 election whereby 18.4 million voters were registered just within nine days. IEC received the 2000 Computerworld Smithsonian award for the outstanding programme (Microsoft 2000, as cited in Heeks 2002). Mauritius introduced Single Point Tax Payment which enabled tax payer to quickly pay their tax, reduced reporting and processing error, automatic figures reconciliation with total and removal of the need to re enter data, people now are able to pay even closer to deadline.

This system also improved government cash flow (Ilobharree and Unuth, 2001 as cited in Heeks 2002). Rwanda benefited from introducing e-government by introducing secure server which enabled the government to connect all MDA's and LGA's in the single communication network which enabled them to use e-mails as a means of communication exchange among government organization. Also Rwanda

managed to provide lowest internet access through Public Internet Access, empowering citizen, and stimulation of country tourism industry (Kitaw, 2006). Ethiopia succeeded to link it federal government with local Authorities through the introduced ICT for Development (ICT4D) (Kitaw, 2006). According to Edward *et al* (1991), Incorporating Information technology into organization communication system helps to enhance organization performance like organization structure, organization management and functions as well as organization communication. Information technology change how workers are organized, tasks are assigned and done, and the notable effects are observable on the line of communication and authority. Also Information technology shapes the way decisions are made and authorities are decentralized or centralized.

In African countries like most of other developing countries in the world shares the same economic and social characteristics such as poor infrastructure, low literacy level, low life expectancy, large population and high mortality rate etc (Lancaster, 2001, Walkenast, 2003). These characteristics are the barriers to the adoption and implementation of e-government in most of African countries.

According to Heeks (2006), many e-government projects in Africa are at four states; total failure, partial failure, zero sum failure or success but very few e-government projects can be termed as a success, which means many e-governments projects failed to deliver as expected and caused massive loss to the host governments. A good example in South Africa as observed by Anonymous (2000) there were introduced land licensing information system by the Municipal Government but the system was never used. According to Moussa and Schwere (1992), many e-government in Africa which were funded by The World Bank almost all were partial failure. Heeks (2002) identified several challenges facing African countries in implementing e-government which are design-reality gap, low e-readiness, low infrastructure and human capital. Also the biggest observed barrier of e-government projects in African countries is poor management because if many projects could be managed better they could produce desired results (Brown, 2000, Gupta *et al* 2004). According to Onyango and Ngugi (2014) the barriers of ICT investment in public

sector is the cost of both hardware and software, lack of ICT technical skills for staffs, and lack of adequate ICT equipments.

Heeks (2002) suggested that in order to have successful implementation of e-government in Africa the first thing to be taken into consideration is to bridge the gap between the Technological design and the reality on the ground, that is to ensure the technological design must match with the present social economic condition of the country. This gap is because the concept and ICT infrastructure was imported from west. Other measures are ensuring employees ICT cognitive skills are present and availability of adequate ICT equipments (Onyango and Ngugi, 2014).

In Tanzania like other African countries felt the need of embracing e-government as a catalyst toward improving provision of public social services, automation of working process and other benefits (Bhatnagar, 2004; Tseng et al., 2008). The government introduced e-government in its various agencies and Ministries (Sawe, 2007, UN, 2008). Various government organizations adopted e-government in order to facilitate organization communication and provision of social services, good examples are Energy and Water Utilities Regulatory Authority (EWURA), Tanzania Electric Supplying Company Ltd (TANESCO), Tanzania Revenue Authority (TRA), National Bureau for Statistics (NBS), Ministry of Finance and Economic Affairs (MoFEA), Ministry of Health and Social welfare (MoHS) Ministry of Infrastructure Development (MoID) and Ministry of Land, Housing and Human Settlement (MoLHHS) (Emanuel and Jung, 2015).

According to Makene (2009) in 1997 Tanzania government introduced secondary school ICT syllabus for form 1 to form 4 but this syllabus failed due to the rapid change of technology and it failed to cope with these technological changes, also very few students completed the syllabus. In 2003 the government established the National Information and Communication Technology policy which intended to make sure that ICT is the center for National development strategies (NICTP, 2003). Between 2010-2012 Tanzania took a huge step toward creating conducive environment for effective implementation of e-government, the government launched

its national ICT broadband Backbone (NICTBB) which consequently speed up communication and reduced data cost. This NICTBB costed the government about 250 millions USD (Steve and Lisham, 2013).

Tanzania like other countries embraced e-government technology also benefited in one way or another, ICT changed working process which led to minimization of communication bureaucracy, increase organization productivity, decrease communication and production cost in various government organization such as TANESCO (Makene, 2009), in MDA's like MoHS , EWURA, TRA, MoID and LGA's (Emanuel and Jung, 2015).

Like other countries adopted and implemented e-government system, Tanzania also faced stiff challenges toward implementation of e-government in its MDA's and LGA's, many websites were introduced but they are weak , not interactive and dormant because they are not updated as required. Also they are in the form of G2B and G2C. According to UN e-government survey of 2012, 92% reveal that the government has achieved a one way information publishing but there was step down to 81% in 2014 due to security issue such as online threats, technological weaknesses and institution problems .The desire of government to protect its information and privacy caused stagnation of government going online (Hone and Eloff, 2002; von 2005; Claude *et al* 2006; Yonazi, 2010).. About 70.1% of Tanzania government has ICT security and 29.9 have none, about 30% of ICT infrastructures implemented in Tanzania are without security instructions. And about 47.7 of government staff are unaware of ICT security issues or they lack ICT security training, only 0.3% of Tanzania government employees are ICT skilled. Also lack of adequate bandwidth capacity become a challenge whereby only 23.3% of government institutions are satisfied with the working capacity of the available bandwidth while the rest 76.7 are dissatisfied (Dewa and Irina, 2014). Lack of an institutional ICT infrastructure master plan (ICT IMP) is another challenge which also created another problem because some MDA's decided to connect to private ICT infrastructures which are very cost and insecure instead of connecting to NICTBB (Chatwin and Pazi, 2013).

Also in Tanzania there is clear digital demarcation between rural and urban area concerning with public internet accessibility. It was observed that in rural area such as Iringa, Mbeya and Songea there were 16 more times people per one internet center such as internet cafe comparing to urban area like Dar es salaam and Morogoro where there are 7 times more people per internet center (Ngalinga and Mutagahya 2005 and Furuholt and Kristiansen, 2007). Avalanche of technology is also a problem whereby due to the increase use of internet many organizations forced to use separate ICT devices such as personal computers whereby one computer is connected to the internet and another for data and information storage, the main aim of this approach is to protect government data and information from external threats. This approach increased cost rather than saving it (Heeks, 1998; 2001; 2002; Fountain (2001)). Technology design-reality gap also became a problem because many ICT infrastructure donated by donors came with conditions which did not reflect Tanzania environments, so what claimed to work in the West failed to work in Tanzania (West, 2004; Yildiz, 2007; Thandika, 2012). Implementation of e-government in Tanzania is also lagging behind due to the size and location where is estimated to have area of 945,203 Km² (Wikipedia) whereby the government failed to achieve accessibility, connectivity and security issues simultaneous due to the budget deficit. Online data base and information are both hosted externally which consequently creates sphere of mistrust and fear for its user (Emmanuel and Jung, 2015). Other common challenges observed are; under utilization of ICT infrastructure due to the availability of massive telecommunication Industries in the country, data cost is very high, lack of data base infrastructure, lack of determined leadership and management, and lack of IT experts (Emmanuel and Jung, 2015). Lack of adequate electricity power, poor management of public websites, and concentration of Internet centers in the urban area and isolation of rural areas are challenges facing Tanzania government to implement and spread e-government services (Makene, 2009).

In order for the Tanzanian government to succeed in implementing e-government in its organizations first it must solve security and privacy issues because without security and privacy assurance then stake holders will lose trust with e-government services (Jimenez *et al*, 2012). According to Dewa and Irina (2014), Tanzania government must establish a National level ICT security policy which will be used in all government organizations in order to deal with security and privacy issues, together with this the government should allocate enough financial resources in order to buy adequate bandwidth which will enhance data speed and improve e-government services delivery as expected. According to Adeyemo (2011) the importance of having committed and determined leadership must be taken into account because are the one who allocates resources, makes decision on what kind and type of ICT infrastructure to buy, also are the one who can influence others to effectively use e-government in the government organizations. Apart from that, Adeyemo suggest that government should train its personnel in order to have its own experts. Government should also establish E-government Research and Development Center and enhancing Public Private Partnership for the sake of exchanging e-government expertise. Also the government must ensure that there is persistent internet connectivity, good network infrastructure, and affordable internet access (Heeks 1998; 2001, Yonazi, 2010). Together with the above explained measures but all e-government stakeholders like schools, government leaders both top and middle, ICT experts both government and private and citizen should consider e-government as a necessity and not a luxury thing (Emanuel, 2015). Also all government websites must be designed according to the needs of citizen, business and other customers, all government officials must be trained in order to be ICT skilled for better performance and minimizing negative perception toward e-government technology (Makene, 2009)

2.5 Research gap

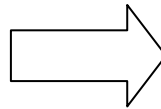
After conducting deep literature review about the topic, it is obvious that many researchers focused on e-government as a concept, its adoption and implementation, for example Heeks (2002; 2006), Fang (2002), Indihar and Jaclic (2007), Bhatnager (2002), Emmanuel and Jung, (2015). Also other e-government studies focused on the customer point of view and overlook the impact which e-government could bring to the organizations. Some of studies focused on customer point of view are Makene (2009) case study in TANESCO, Essel and Lishan (2013) focused on Tanzania ICT policy, Di Mario (2001), Moon (2002), Sprecher (2000), Dewa and Irina (2014). Very few studies focused on the impact/Influence of ICT/ e-government on organization communication system, for example Agboola C.T (2013) studied on an effect of ICT on organization communication performance in selected Healthcare organizations. No study has been conducted on the influence of e-government on the organization communication performance at Morogoro Regional Commissioner Office that is why the researcher decided to conduct this study at MRCO.

2.6 Conceptual framework

Conceptual framework refers to the prepositions which are supported by evidences from the relevant collected data (Reichel and Ramey, 1987). Generally speaking, conceptual framework is the concept derived from the relationship among various variable both independent and dependent variables which shows the influence of e-government variables (Independent variables) on organization communication performance variables (Dependent variables). The conceptual framework of this study is presented in the following figure.

Independent Variables

- ICT knowledgeable employees
- Adequate number of ICT devices
- Quality internet service,
- Skilled ICT experts
- Adequate power supply
- Supportive leadership
- Adequate ICT budget



Dependent Variables

- Effective organization communication*
- Access to quality internet service
- Improved communication speed
- Information sharing
- Reducing communication bureaucracy
- Adherence to e-government policy
- Secure online communication

Figure 2.3 Conceptual framework

Source; (Researcher, 2018).

Effective and efficient organization communication within the MRCO depends solely on the quality of e-government implemented. The presence of affordable internet service, quality ICT infrastructure, supportive leadership, ICT knowledgeable employees, Skilled ICT experts and adequate ICT budget will enhance organization communication performance.

CHAPTER THREE

RESEARCH METHODS

3.0 Introduction

Research methodology is the procedure by which researchers use to their work to describe, explain and predict phenomena under study (Rajasekar, 2013). Research methods which were used in this study are qualitative and quantitative methods which enabled to answer “to what extent” “what” and “why” questions.

This chapter presents the research design used in this study, area and population of the study, sampling techniques used data collection methods and data analysis techniques.

3.1 Research Design.

Kothari (2004) defined research design as the arrangement of conditions for collection and analysis of data in a manner that aim to combine relevance to the research with economy in procedure. Yin (1984) defines case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used.

In this study, Researcher used case study design because; first, it was difficult to study all public institutions which practices e-government system in their communication processes. Second, case study enables a researcher to explain both process and outcome of the case through intensive observations, reconstruction and analysis of the case under study (Tellis, 1997). According to Patton (1990) suggested that case studies are valuable in creating deep understanding of particular people, problems, or situations, in comprehensive ways. Moreover case study allows data examination at micro level (Zainal, 2007). Specifically, this research design enabled the researcher to provide better understandings of the relationship between e-government system and communication performance at Morogoro Regional Commissioners’ Office.

3.2 Area of the Study

This study was conducted at Morogoro Regional Commissioners' Office in Morogoro Region. The choice of this organization was influenced by the fact that MRCO is the Government organization which is related directly to the e-government concept, also like other government institutions; there was e-government projects implemented at MRCO in order to improve organization operations like communication processes.

MRCO was established under section 4(1) of the Regional Administration Act of 1997. The main functions of MRCO are to represent the government on all executive functions of central government in its area of jurisdiction through Regional Commissioner. Some specific functions are maintaining peace and order in the region, defining specific direction for general government policies in the Region, providing favourable environment for local Government Authorities to discharge their responsibilities, and to implement any order assigned by the president of United States of Tanzania (R.A.A, 1997).

3.3 Population of the Study

Population refers to the individuals with characteristics which a researcher wishes to study. Target population of this study was all employees who are working at MRCO. MRCO comprises of eight (8) sections and four (4) Units namely Administration and Human Resource Management section, Local government Section, Education Section, Water services Section, Infrastructure Section, Economics and Productivity Section, Health Section, Planning and Administration, Law Unit, Accounting and financial Unit, Procurement Service Unit and ICT Unit and newly introduced information and communication department. MRCO has a total number of 102 employees. (www.morogoro.go.tz).

3.4 Sampling Procedure/ Techniques

Sampling technique is the procedure of selecting individual to be used in the particular investigation (Burmer and Warwick, 1983). That is few individuals are selected from the population under study and these individuals carries the population characteristics. In this study two sampling techniques were employed, Purposive sampling and simple random sampling.

3.4.1 Purposive sampling

According to Kothari (2004), purposive sampling is the selection choice of individual or item based on researcher's decisions and his/her decision remains final. For the case of this study the researcher purposively selected 3 out of 14 members from the top management levels for an interview, which included Head of ICT unit, Head of Information and communication Department, and Head of Administration and Human Resource Management. These respondent were selected intentionally because they posses exceptional knowledge about MRCO working environment and e-government system technical skills.

3.4.2 Simple random sampling

Simple random sampling refers to the situation where by each possible combination has an equal chance to be selected (Kothari, 2004) This type of sample was used in selecting respondents from top, middle and lower cadre employees across positions and departments within MRCO. This type of sampling was used in this category because the population was so big to study due to time and resource limitations.

The sample of 35 respondents which is 34.6% of 99 members of top, Middle and lower cadre employees were randomly selected. To get this sample, all 99 names of the population were folded into small piece of papers and put into bowl, and then the bowl was well shaken until all folded names were very well mixed. The researcher selected randomly 35 names without replacement until the number of names reached 35. So, 35 randomly selected respondents were included in the study.

3.4.3 Sample size

Sampling is the process of choosing individuals or units from the total population so that the findings from the sample can be generalized from the chosen population (Trochim, 2006). So the sample size is the specific number of people selected from the general population for the study. A good sample size comprising the following characteristics; the sample should be selected randomly, lead to low sampling error and high working confidence level.

Morogoro Regional Commissioner's Office contain a total number of 102 population (employees), this study used 38.3% of the total population which is equal to 38 employees which comprising 3 Heads of Departments who were purposively selected by the researcher and 35 employees who were randomly selected from 99 employees across the departments and units at MRCO. The sample of 38 respondents was used in this study.

Table 3.1 Sample drawn from the total population.

Population	Total	Sampled	Percent
Head of Department and Senior Staffs	14	7	50 %
Middle and Lower cadre employees	88	31	27.27%
Total	102	38	38.38%

Source: (Field data, 2018).

3.5 Data Collection Methods

This study used both primary and secondary data. Multiple methods in data collection such as questionnaires, interviews, observation and documentary review were used. Primary data were collected directly by the researcher from participants through questionnaires, observation and interview. Secondary data were obtained through reviewing various documents such as office files like ICT devices inventory, NICT guideline 2012 and MRCO website.

3.5.1 Questionnaires

Before designing questionnaires for the study various consideration were taken into account. First, the nature of the respondents at MRCO, second; nature of questions and expected answers; and third, respondent time and privacy provided the fact that

participants are the employees so are normally busy at work, knowledge of English language differ (most of lower cadre employee lacked proper English language understandings).

Due to the above issues considered, Open and closed-ended questions were included in the questionnaire. Most questions were closed-ended because they are easy to answer and take less time to fill. The open ended questions were also used which aimed to provide a wide room for respondents to explain issues in details and help to rest the knowledge of isolated pieces of information. Also in order to save time and creating more room for the participants to understand questions and to have freedom to express themselves questionnaires were translated into Swahili language which almost all participants especially employees from lower cadre are fluent. The decision to translate questionnaires was influenced by the pilot study conducted which showed that most participants when noticed that questionnaires are in English language tend to ask more time even a day or two to fill them, also some questions were wrongly understood hence produced wrong answers. Contrary to that questionnaire with Swahili language gave the respondent more confident while answering, and it took less time to fill them. A total of thirty five (35) questionnaires were distributed across the departments and Units reflecting the sample size selected as presented in the table 2. Appendix III present the questionnaire used in this study.

3.5.2 Interviews

Interview method is a two way conversation between a researcher and a respondent about the topic under study. It is useful as it gives the respondent freedom to ask in case of need.

Interviews was used in order to collect additional information mainly qualitative information which the questionnaire could not able to collect, or to provide detailed information about already provided information from the questionnaires. An interview guides were prepared in order to have consistency in asking questions. Three interviews were conducted to some head of Departments and Units at MRCO

because they are more E-government knowledgeable and also familiar with MRCO environment.

The interviews were structured according to individual department or Unit but all asked questions reflected the objective of the study. For example, the questions which were asked to the head of ICT unit varied to the question asked to the head of Administration and Human Resource department because their knowledge about e-government does differ. Head of ICT unit is more knowledgeable with ICT technical issues while Head of Administration and Human Resource and Head of Information and Communication Department are more familiar with employees and working environments together with some basic knowledge about ICT. Appendices I represents the interview guides for Head of ICT unit and Head of Information and communication Department, and interview guide for the Heads of Administration and Human resource management.

3.5.3 Documentary review

Document review is a way of collecting data through reviewing existing documents in a form of hard copy or electronic. Documents review is a secondary data collection method where used by reviewing National Information and Communication Technology Guidance of 2012 .Other information were obtained through visiting MRCO's website www.morogoro.go.tz . The aim was to get organization information such as Organization structure and the current status of the website from technical capability to the user friendliness and how employees were effectively using the website to send and receive information. Documentation supplemented the interview and questionnaire methods which were used as a primary data source hence increasing chance of data reliability.

3.5.4 Observation

Is the data collection method where by area of interest in the field is watched closely and information relevant to the study is recorded (Marketing Research, 2008). In this study the researcher himself engaged into direct observation on areas of his interest whereby additional information or supportive information about e-government and

organization communication process could be gathered. The researcher while distributing questionnaires and conducting interviews across different departments and units had a chance to observe the quantity and quality of installed ICT devices and systems across the departments at MRCO, for example how information (i.e. letters, memos) were collected and disseminated at Open Registry office, and how ICT technicians dealt with technical issues across the departments at MRCO. Observation was very important because the researcher was able to get new data or to countercheck the information obtained through interview and questionnaires with the reality on the ground.

3.6 Validity and Reliability

Validity refer to the process where a researcher employ certain procedures to ensure accuracy of findings while a test is said to be reliable when it can be used across different researchers under stable conditions and produce consistent findings (Gibbs,2007).

Validity

Cresswell (2013) identified several strategies to ensure the accuracy of the measurement such as using external editor, spending much time in the field, clarifying researcher's bias, peer debriefing, presenting negative or discrepant information which counter the theme and, data triangulation.

In regard to this study data triangulation method was used to ensure measurement validity by examining data from different sources and the evidence was used to construct logical and consistent theme. For example collected data from interviews and questionnaires were counterchecked through direct observation on the field. Also spending much time at MRCO enabled the researcher to develop in-depth understanding of the case under study and become somehow familiar with the respondents. So, using data triangulation and being experienced with the MRCO working environment increased credibility or validity of the findings.

Reliability

Reliability refers to the consistency of a measurement in the research process. To ensure reliability, the following procedures were followed as suggested by Gibbs (2013). In study, transcription process were carefully done and reviewed to ensure transcription error are avoided and, review of data with code were carefully conducted to ensure no variation between the definition and codes.

3.7 Methods of Data Analysis

Qualitative data analysis is the process of making sense from research participants perception and opinions concerning the situations of interest, corresponding patterns, themes, categories and regular similarities (Cohen *et al.*, 2007).

In this study, the following steps of data analysis were followed as suggested by Cresswell (2013). First, raw data such as field notes and transcripts were prepared ready for analysis. Second, all data were organized accordingly. Third, reading all data thoroughly. Forth, after reading all data they were coded by using code book which contained information about the variables in a data set such as valuable labels, number of cases etc. fifth, themes was interrelated. Finally, meaning of themes or descriptions was interpreted.

The statistical package for social science (SPSS V.20) program was used and was very much helpful in data calculation. Through SPSS the researcher was able to produce descriptive statistics such as frequencies, percentages, tables and charts easily. Finally, the findings were discussed summarized and concluded and suggestions were provided so as to provide alternative solution to the identified problems.

3.8 Ethical Issues

In this study the researcher ensured that ethical principles are adhered in order not to harm the respondents during the research process. Cresswell (2013) insist that ethical consideration should be taken into account in all levels of research process that is

prior the study; at the beginning of a study, data collection stage , data analysis, reporting, sharing, and data storage.

In this study, ethical consideration was taken into account since the selection of the problem to be investigated. The choice of the topic the influence of e-government on organization communication performance is beneficial to all stakeholders such as researcher himself, ICT technical staff and Administrative and Human Resource Management department at MRCO, other researchers, decision makers and MRCO as an institution. During data collection stage all respondent were informed about the study, their right whether to participate in the study or not and their right to withdraw from the study as they wish. Also their norms and values were very much respected, the researcher sensitivity toward vulnerable respondents was also taken into account accordingly and all respondents were treated equally regardless of their gender, job positions or physical disabilities.

During data analysis stage the researcher ensured all unnecessary biases are overcome, and both negative and positive findings are disclosed and presented. Also respondent's privacy and anonymity were taken into consideration seriously. During reporting falsification of authorship, evidence, data findings and conclusion were strictly not given a chance to happen. Also material and data collected from the field will be preserved for the duration of five (5) years (APA, 2010).

CHAPTER FOUR

DATA PRESENTATION, DATA ANALYSIS AND DISCUSSION OF THE FINDINGS

4.0 Overview

In this section, data collected from the study are presented, analyzed and discussed in details. All data from this study were collected through interviews, questionnaires, observation and documentary review. The findings are presented in a form of sections which reflects the number of research questions as presented in 1.3.3 of chapter one. So five sections are presented: section 1, the state of e-government implemented at MRCO; Section 2, the extent which e-government is integrated into organization communication process; Section 3, how e-government is effective and efficient for successful organization communication performance; Section 4. Challenges facing MRCO on the implementation and integration of e-government on organization communication process; Section 5, what to be done to ensure successful implementation and integration of e-government on communication process at MRCO;

4.1 Response rate

3 respondents equal to 100% of interview respondents responded as requested. Two types of structured interview guides were designed one intended for the Head of ICT unit and Information and communication department and another for the Head of Administration and Human Resource Management Department. One type of questionnaire was designed and administered randomly across departments and Units within MRCO, 34 out of 35 questionnaires equals to 97% of questionnaires were returned. This response rate is excellent as stipulated by Mugenda and Mugenda (1999) that response rate of 50% is adequate, 60% is good and, above 70% is excellent.

4.2 Response to Research Questions

4.2.1 The state of e-government implemented at MRCO

According to the responses obtained from questionnaires and interviews, the study found that the status of e-government at MRCO was promising and satisfactory. 20 respondents equal to almost 59% of the total sample were satisfied with the e-government status at MRCO and the 14 respondents equal to 41.2% out of 34 respondents were somehow satisfied and 0% disagreed.

Table 4.1 The quality of e-government implemented at MRCO

		Frequency	Percent
Valid	very attractive	1	2.9
	Attractive	19	55.9
	somehow attractive	14	41.2
	Total	34	100.0

Source; (field data, 2018)

According to the interview with the Head of ICT unit, there were latest implemented e-government technologies and projects at MRCO such as Local Area Network (LAN) which connected all computers and other devices that shared common communication line or wireless to a single server.

Through observations there were latest equipments installed at MRCO. For example in the ICT office there were devices such as server, router, fiber terminator, and switcher and IP PBX phone installed. Across departments, there were computers connected to the internet network, printers, photocopy machines, phones and fax machine. In each department there were installed latest telephone communication system known as IP PBX a telephone system connected to the internet network which allows all conversations to be sent and received as data packet through the installed LAN at MRCO. These IP phone had unique features such as voice messaging, conferencing, call history reporting, video calls, internet protocol faxing, conversation, and encryption ability.

Internet services were provided through wired network which were distributed across offices within MRCO, many offices were already connected to this internet network and few were in progress. In each department's secretary office there were computers and printers but few had workable UPS's and updated antivirus programs.

Several e-government projects were introduced and installed at MRCO, organization website www.morogoro.go.tz was important project established for the aim of online information collection and dissemination. Government mailing system ras.morogoro@tamisemi.go.tz was another communication project where by both organizations' internal and external online communication had to be sent and received through this mail. Also Government network (GovNet) whose main aim was to build inter government institutions private network was established. Through this network IP PBX phone system was connected which provided reliable and quality inter and intra government institution's communication and improved organization data security and privacy.

Like Govnet, Regional Communication Infrastructure Programme (RCIP) was another project introduced to help application of various e-government activities. There was also biometric finger print project which was used to keep record of employee's attendance at MRCO.

Other e-government projects were HCMIS /Lawson which is the human capital management system which was being used at MRCO for human resources cases such as payroll management and human resource records. In the Accounting and Finance department there was IFMS/ EPICOR a system which managed financial activities at MRCO and its peripheral offices such as District commissioners offices and Regional Hospital. All above mentioned projects were effectively running.

There was Halotel (VIETTEL) a private internet service project which was not working and become redundant after the introduction of GovNet and internet service through Regional Communications Infrastructure Program (RCIP).

Measuring the level of e-government at MRCO according to the E-government Adaptation Process Model presented by Andersen and Zinnerhenriksen (2006), e-government development at MRCO could be placed at second phase (the extension stage) due to the matching features like website dormant, website having other source of information, manual routine of information flow, outdated software like Antivirus' and website focused toward end user not the organization authority.

The installation of complex technology through e-government for work automation and improving organization communication process through e-mails, fax machines, voice mails and telecommunications was similar to the findings presented by Hinds and Kiesler (1995) and Fulk and Desanctis (1995). Also the connection of all government institution through LAN was also presented by Kitaw (2006) whereby Rwanda government managed to connect all its MDA's and LGA's under the same Local Area Network and used e-mails as a means of communication exchange.

4.2.2 The extent which e-government is integrated into organization communication process at MRCO.

To understand to what extent was e-government integrated with MRCO's communication process it is necessary to understand what types of information were produced , how information were produced, transmitted, received ,and how information feedbacks were obtained within MRCO.

Through observation, MRCO e-government communication technologies followed how communication flow had been designed, there were vertical and horizontal information flow where by vertical information flow information originated at either from the Regional Commissioner or Regional Administrative Secretary's office (Top management) to the middle or lower level employee.

Online communication between Top and middle management (heads of Department and Units) and lower cadre were facilitated by the use of IP PBX phone system which used internet network to transfer conversation as a packet data, government mail ras.morogoro@tamisemisemi.go.tz and office website www.rasmorogoro.go.tz. Vertical online information flow could take place between middle management and

lower cadre employees, a good example was a communication between middle cadre management (Departmental level) and Open Registry Office (lower cadre office which was the center of information collection and dissemination) the only online communication between the two was being conducted through IP PBX phones. All these online communication transactions were transmitted by wired/cable internet network through the server which was allocated at the ICT Office building.

On the other hand, Horizontal online communication at MRCO was conducted through the use of IP PBX phone system. In the Open Registry office the only ICT device found was IP PBX phone, there were no computers which would help in record keeping and files tracking system installation. All letters or memos were collected and disseminated manually. The head of ICT unit when interviewed said files tracking system was very important because it was very easy to lose a file but with file tracking system it could be very easy to locate the file, also file processing across the departments would be very fast hence improvement of services delivery within and outside MRCO.

4.2.3 The efficiency of e-government for the successful organization communication performance.

In relation to this study, the term efficiency refers to the extent which e-government managed to achieve intended impact on organization communication performance at MRCO. Various organization communication key performance indicators (KPI's) were taken into consideration to measure e-government efficiency toward improving organization communication performance such as cost and time spent during communication, information access, internet accessibility, reduction of communication bureaucracy and speed during communication process in at MRCO. The findings were as shown in table 3 followed by detailed explanation and analysis.

Table 4.2 Organization communication performance KPI's

Organization communication performance KPI's		Response on agree		Response on I don't know		Response on Disagree	
		Fq	%	Fq	%	Fq	%
1	Internet satisfaction	28	82.4	1	2.9	5	14.7
2	Information sharing	23	55.9	3	8.8	8	23.5
2	Increased organization communication speed	31	91.2	2	5.9	1	2.9
3	Reduce communication bureaucracy	14	41.2	4	11.4	16	47.1
4	Adherence to ICT law and policy	14	41.2	16	47.1	4	11.7

Key: Fq = frequency

% = Percent

Source: (Field data, 2018.)

Internet satisfaction

According to the study, the researcher found that 28 questionnaire's respondents out of 34 equal to 82.4% were satisfied (Agreed + strongly agreed) with the quality of internet service provided at MRCO. 5(14%) out of 34 respondents disagreed (disagree + strongly disagree) with the statement and only 1 out of 34 respondents equal to almost 3% didn't know whether the internet service at MRCO was satisfactory or not.

At MRCO the internet network is provided under GovNet (Government Network) through the structured Local Area Network (LAN) and Regional Communications Infrastructure Program (RCIP). Internet service at MRCO was distributed across department and offices through wired/cable internet network.

Internet service played significant role to facilitate organization communication at MRCO whereby ICT devices such as computers, IP PBX phone system and e-government projects like website, government mail, Biometric fingerprint programme, Human resource system (LAWSON) and Financial and accounting system (EPICOR) all depended on the quality of the internet service at MRCO.

Communication speed

The study found that, the response of the general question whether e-government improved organization communication speed at MRCO or not was as follows, 31 out of 34 respondent equal to 91.2% agreed (Agree + strongly agreed) and only 1 respondent equal to almost 3% disagreed with the statement and 2 respondent equal to almost 6% didn't know.

The speed of communication through e-government depends solely on the quality of internet service, the quantity and quality of ICT devices, ICT knowledge of the user (employees) and employee's ICT readiness.

Through observations, MRCO uses wired/cable internet network which were connected across departments within the organization. When interviewed the Head of ICT unit explained that despite the expensiveness of wired internet network comparing to wireless network, the modern CAT6 wired network could provide up to 1000Mbps (1GBps) while a modern wireless router could provide up to 450 Mbps if device was close to it and up to 54Mbps when device was distant connected. So to have high speed and reliable internet connection wired internet network was suitable for the organization like MRCO.

There was a number of ICT devices connected across department and units at MRCO such as Server, switcher, routers, computers, printers, photocopy machines, IP PBX phones, internet cables, fax machines etc. these devices enabled the production and transfer of information very quickly hence speedup communication processes at MRCO.

The presence of these devices like IP PBX phones in each department changed old analog telecommunication system tremendously, IP PBX phone system were connected on the single network (Govnet and RCIP) hence free calls, also conversation through IP PBX phone system can be encrypted therefore difficult to be hacked thus ensures government data security and privacy. Subsequently the presence of these quality ICT devices managed to speed up communication processes at MRCO significantly.

In terms of employee ICT knowledge, the study found that most of MRCO's employees had basic ICT knowledge. 1 equal to 2.9% had advanced diploma but majority had basic ICT knowledge as presented on the chart below.

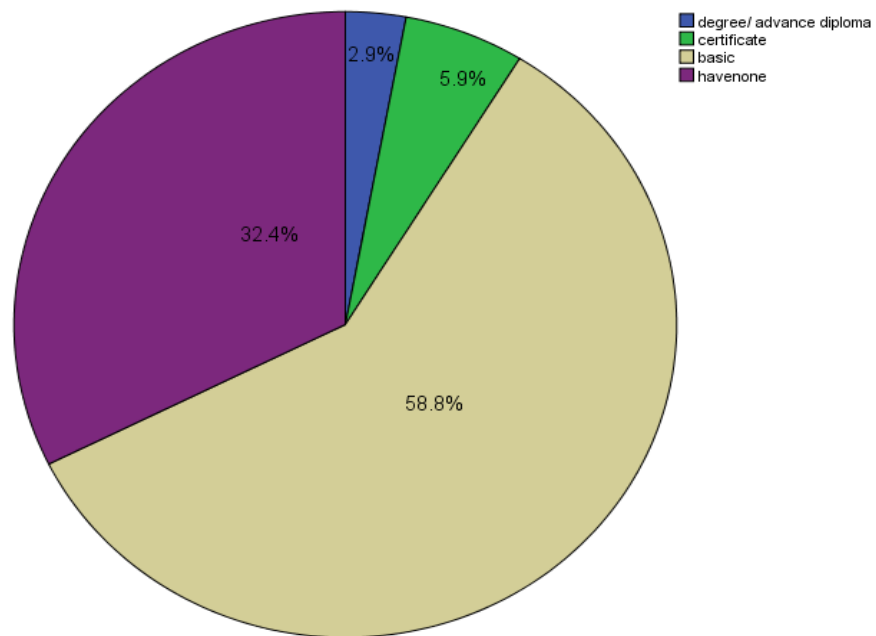


Figure 4.1 Employees ICT /e-government knowledge

Source: field data, 2018

Employees ICT Readiness

According to the study, most of MRCO employees preferred to use ICT/digital means of communication than analog. The study found that 27 out of 34 respondents equal to 79.4% preferred (Agreed + strongly agreed) to use ICT/digital means of communication, 5 out of 34 respondents equal to almost 15% did not prefer (disagreed+ strongly disagreed) and 2 equal to almost 6% of 34 respondents didn't know. These data are presented on the chart below.

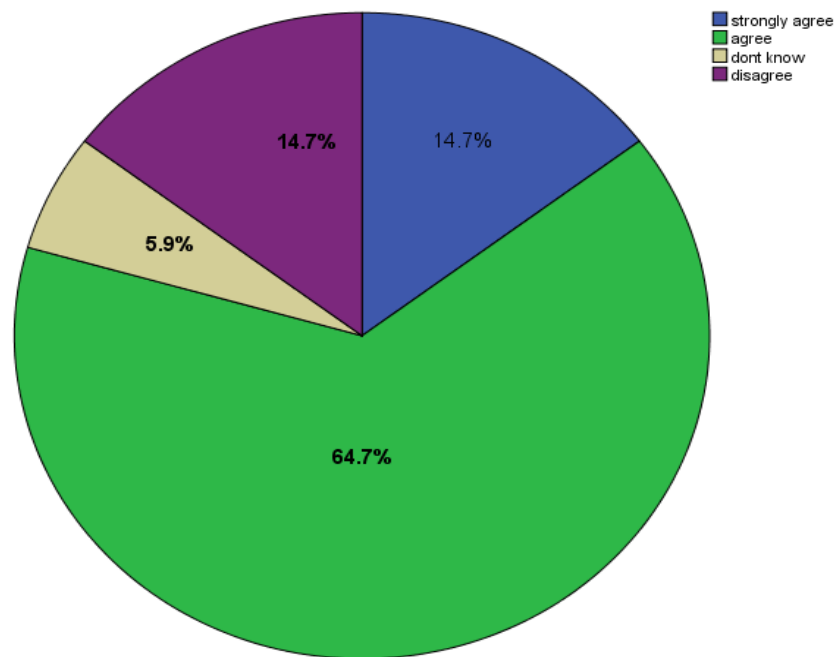


Figure 4.2 Employees' ICT readiness

Source: field data, 2018

Information sharing

Information sharing in the organization is the key factor for an organization performance (Moberg et al. 2002).

According to the response from questionnaires the study found that 23 out of 38 populations equal to almost 60% agreed (Agree + strong agree) to the statement that e-government improved organization information sharing at MRCO, 8 respondents equal to 23.5% disagreed (Disagree + strongly disagree) with the statement and 3 respondents equal to almost 8.8% didn't know.

Formally, information sharing at MRCO was being done through organization website www.morogoro.go.tz and government mail ras.morogoro@tamisemi.go.tz but through website examination visiting number of MRCO employees to the website or using organization e-mail was not satisfactory enough. According to the MRCO Website Survey by the researcher on 30/04/2018 the average attendance for the past 30 days were 10 people, and for the past 10 visitors attendance according to

the Nationality only 3 visitors were Tanzanians and it was unknown whether among those three Tanzanian visitors how many were employees.

MRCO website started to be uploaded on March, 2018, before then it was dormant. Since then the website information uploading started to be at least active but some information were missing, for example the name of Information and communication department at MRCO was missing in Units list tab on the website.

Minimizing communication bureaucracy

The study found that, 16 out of 34 respondents equal to 47.1% disagreed with the statement that e-government succeeded to reduce communication barrier between middle and lower cadre employees and top management at MRCO. Only 14 out of 34 equal to 41.2% respondent agreed to the statement, and 4 equal to 11.4% out of 34 were neutral.

Despite of having quality ICT infrastructure MRCO failed to initiate systems which could enable employees to communicate direct to each other across departments and positions. For lower cadre employees to communicate with RAS, AAS or RAS, they had no other communication alternative rather than meeting them face to face or writing formal letter in a hardcopy filing system which took too long to be responded.

According to Dawson (1992), a culture which focuses on improving organization excellence and reducing organization bureaucracy is a necessity toward achieving public organization performance.

Adherence to ICT law and polices

The study also found that, 16 out of 34 questionnaire's respondents equal to 47.1% didn't know whether MRCO online communication activities were governed by Tanzania ICT law and directives. 4 out of 34 respondent equal to almost 12% disagreed with the statement and 14 out of 34 equal to 41.2% agreed with the statement.

When interviewed the Head of Administration and HR department admitted that all official online communication at the top management at MRCO followed the National ICT guideline of 2012. The establishment and implementation of e-government projects such as website, e-mails were governed by the National ICT guideline (Mwongozo kuhusu matumizi bora, sahihi na salama ya vifaa vya TEHAMA serekalini) issued by The president Office Civil Service Management in 2012. for example it was required all confidential information to be transferred through government e-mail not personal e-mail, all government website and e-mail should end with (*organization name.go.tz*) (NICT guideline, 2012. Pg 4), MRCO website follows this pattern (www.morogoro.go.tz) and e-mail (ras.morogoro@tamisemi.go.tz) (NICT guideline 2012. Pg 3). Also all government computers in which confidential information are prepared and stored should not be direct connected to the internet network for the security reasons (Pg. 13).

On the other hand, through observation and interview many employees at MRCO didn't follow NICT 2012 guidelines for example page 10:2.2.2 of NICT 2012 guideline instructed all employees to use government owned data storage/transfer device for government activities, and government and personal data should not be mixed in the same storage device but through observations, there were no government owned mobile data storages like flash disk, external hard disk or removable memory card at MRCO, personal data storage devices such as flash disks were being used to transfer and store government data hence the mixture of private and government data in the same device which was strictly prohibited by the Guideline. Even Researcher's flash disk was used to transfer government data from one government computer to another in a certain department at MRCO and the data were never deleted from the flash disk.

NICT 2012 guideline prohibited employees to use organization internet for the personal use such as studying unless it is beyond working hours (page 13) but researcher observed some employees at MRCO used office's computers and internet network for personal interest like watching music through youtube (social media) and visiting facebook pages during working hours.

In page 14: 5.2.1 of NICT 2012 guideline instruct ICT technicians to ensure all government computers have antivirus programme installed and updated as required but through observations many computers had antivirus installed but barely updated. Also Page 6 and 12 of NICT guideline 2012 instruct ICT department technical staff to provide frequent e-mail and internet training to the government employees but the study revealed that 22 out of 34 respondents equal to almost 65% disagreed to the statement that they were given ICT training. 6 respondent equal to 17.6% agreed to the statement and 6 respondent equal to almost 18% didn't know.

Referring to the above explained organization KPI's used to measure how e-government impacted MRCO's communication performance. It was worth to argue that implementation of e-government at MRCO improved organization communication performance at MRCO.

This stance was strongly supported by study findings when respondents were asked whether or not the implementation of e-government at MRCO improved communication performance within the organization. 31 out of 34 respondents equal to 91.2% agreed and only 3 respondents equal to almost 9% disagreed as presented on the pie chart below:

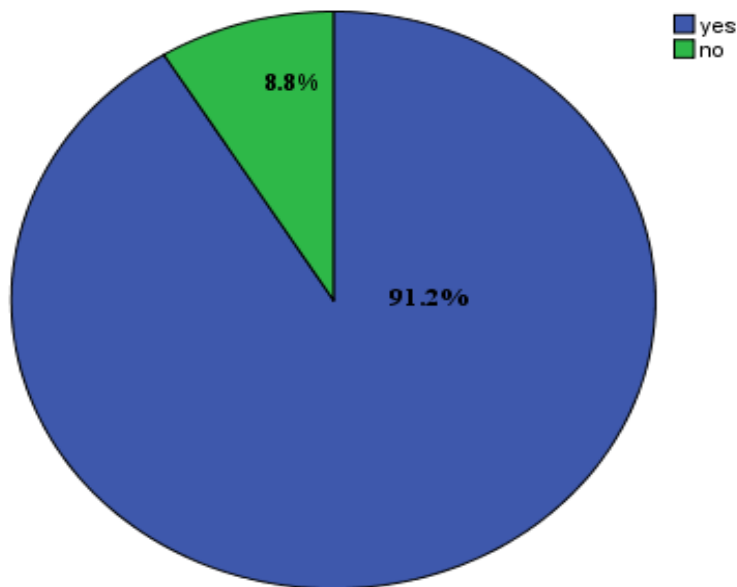


Figure 4. 3 E-government improved organization communication performance

Source: Field data, 2018

This finding is similar to the findings presented by Agboola (2013) who studied the impact of ICT on organization communication on health care organization and concluded that ICT enhanced society and organization communication performance.

4.2.4 Challenges facing MRCO on the implementation and integration of e-government on organization communication process

Results of the study were as presented on the table 4 below then followed by detailed explanation and analysis.

Table 4.4 Challenges Responses according to the questionnaires.

S/N	Challenges	Sample	frequency	Percent
1	inadequate number of ICT devices	34	19	55.9%
2	Low internet quality and access	34	16	47.1%
3	Limited employees' e-government trainings	34	11	33.3%
4	Shortage of electric power	34	10	29.4%
5	Information and data security	34	6	17%
6	Poor condition of ICT devices	34	5	14.7%
7	Inadequate number of ICT technical staff	34	5	14.7%
8	Addiction to social media	34	5	14.7%
9	Low motivation and limited website updating	34	3	8.8%

Source: Field data, 2018.

Inadequacy number of ICT devices

Through observations, some computer system lacked UPS (Uninterruptible Power Supply), or if present they were not properly working which could lead to the risk of losing unsaved data or stagnation of service provision whenever there were power shortage, this was caused by lack of backup automatic generator to act as an alternative power supply.

According to the questionnaires, the study found that, 19 out of 34 respondents equal to almost 60% mentioned inadequate number of ICT devices to be the major challenge toward implementation and integration of e-government on organization communication process at MRCO.

According to interview with the Head of ICT Unit, there was a need of another high capacity server which would facilitate the introduction of internal information sharing data base where by employee from all level would be able to share and access organization information easily and enable free information flow hence reduce communication bureaucracy within the organization. Also the head of Information and communication department declared that the shortage of ICT devices in his office hindered his working efficiency because his duty of collecting

and disseminating information solely depended on the quantity and quality of available ICT infrastructure. In his department there was a shortage of a computer, printer, photocopy machine, digital camera, television set, and data storage devices. Wired internet network was not yet connected.

Employees failing to have necessary ICT devices hinder fully implementation of e-government implementation at MRCO. This lack of adequate number of ICT devices was presented by Onyango and Ngugi, (2004).

Low internet quality and access.

The study found that 16 out of 34 questionnaire's respondents equal to 47.1% were complaining about the quality and access of internet network at MRCO. Through observation, the access to e-government/ ICT equipment was prioritized to the top and middle management cadre employees but lower cadre employees had been marginalized. This group of lower cadre employees which comprised employees like clerks, guards and drivers had no access to internet network because internet network at MRCO was supplied through wired network while these employees had no access to office ICT connected devices. This created online communication gap between top, middle management and lower cadre employees. Also the quality of internet seemed not to be much reliable.

Limited employees' e-government training

Most of employees at MRCO had ICT skills such as how to use ICT devices but the knowledge concerning e-government especially on how to use and maintain government owned e-government systems and infrastructures according to the guideline provided by the Tanzania NICT guideline of 2012 was a challenge to most of them regardless their statuses. Mostly they used government ICT devices to produce and transfer office information but about 47.1% didn't know whether they were using them according to the required government rules and regulations or not.

The response from questionnaires about the statement if Administration and HR department and ICT Unit had conducted e-government training at MRCO, about 22 out of 34 respondents equal to almost 65% disagreed (Strongly disagree + Agree). Only 17.6% respondents agreed and another 17.6% didn't know.

This findings were supported by the response from the interview conducted with the Head of ICT Unit who acknowledged that they never conducted e-government training but what they were always do was to train specific officers when there was newly introduced ICT program.

Having full ICT integration on organization communication system is useless if the end users do not have adequate e-government knowledge such as how to use ICT devices and fully understandings of e-government laws and regulations. This finding, the lack of employee's e-government training was also presented in the work of Onyango and Ngugi, (2004) and Jae Moon, 2002).

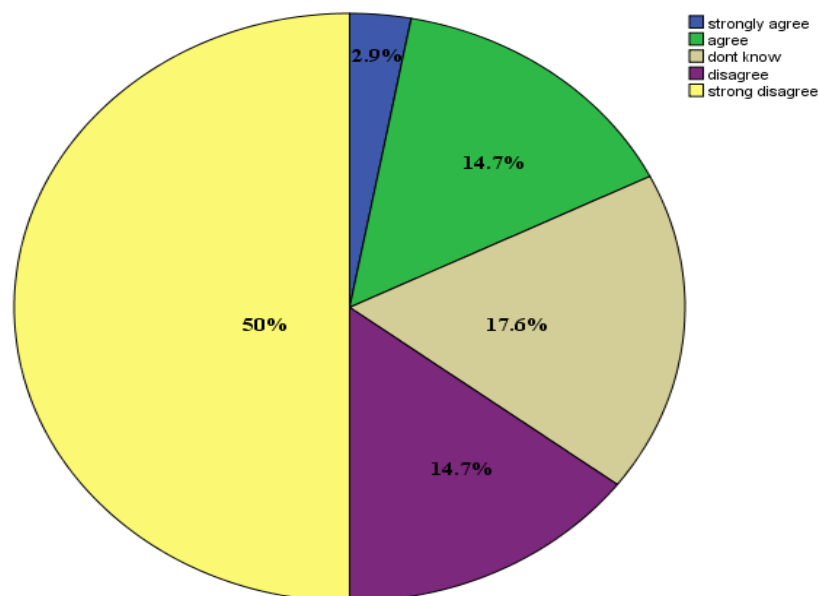


Figure 4.4 Provision of e-government training to employees at MRCO

Source: Field data, 2018

Shortage of electric power

About 10 out of 34 questionnaires' respondents equal to 29.4% mentioned shortage of power supply as the challenge toward effective implementation and integration of e-government on organization communication process at MRCO.

Through observation, some computer system installed at MRCO lacked UPS or if available they were not properly functioning. Apart from UPS there was no backup generator which could be the alternative power supply when there was a shortage of electric power. Without reliable electric power it is difficult to have effective and efficient e-government implementation.

Data and information security

Through questionnaires response, 6 out of 34 respondents equal to 17% claimed security issues to be the part of challenges which faced MRCO in the implementation and integration of e-government on organization communication processes.

Through observation, Government data and systems at MRCO were at risk due to the fact that many computers' antiviruses were out of date. Also many data storage and transfer devices were private owned hence posed the threat of transferring viruses from individual computers to government owned computers which could destruct government data and information stored. Also the excessive use of social media such as whatsapp groups and facebook pages without extreme precautions could lead to the leakage of government information.

Poor condition of ICT devices

According to the questionnaire respondents, 5 out of 34 respondents equal to almost 15% mentioned poor condition of ICT devices to be the obstacle toward effective implementation of e-government at MRCO.

Some ICT devices at MRCO were not properly working; devices such as fax machines and computer's UPS in some departments were not working as required. This situation hindered effective implementation of e-government at MRCO.

Inadequate number of ICT technical staff

According to the questionnaires' respondents, 5 out of 34 respondents equal to almost 15% claimed insufficient number of ICT technical staffs to be the obstacle toward effective implementation of e-government at MRCO.

When interviewed, the head of ICT unit and the head of Administration and HR department agreed that there was a serious shortage of ICT technical staffs because there were only two staffs at ICT unit by then, the head of ICT unit and his assistant.

Having adequate number of ICT technical staff at MRCO is very important toward successful implementation and maintenance of e-government system in the organization. These two ICT experts were not merely serving at MRCO but also provided ICT technical service and consultation to all councils and District Commissioner's offices within the region. According to the head of ICT unit the last time to have satisfactory number of ICT technical staff was in 2014-2015 when the number were 4 staffs, so there was a need of other 4 staffs at MRCO.

This shortage of ICT experts also become a setback toward full communication transformation from analog to digital mode of organization communication at MRCO. This challenge was also present in the work of Onyango and Ngugi, (2004)

Addiction to Social Media

When interviewed, the Head of Information and Communication department and ICT unit declared that the tendency of employees to visit organization website or using office e-mail as a means of communication was not satisfactory because information sharing within the organization was being done through created whatsapp groups named "*RS family*" a whatsapp group for middle and lower cadre employees and "*RS management*" a whatsapp group for Top management. Also there was facebook page known as "*RS Morogoro*". So, most of urgent issues like call for meetings, breaking news and other information at MRCO were shared through these social media networks.

According to the questionnaire's respondents, 5 out of 34 respondents equal to almost 15% mentioned excessive use of social media network for office information exchange as the obstacle toward effective implementation of e-government at MRCO.

Today social media became the cheapest and fastest way to transfer information from one part to another across the globe, Information in a form of documents, voice, pictures or videos are obtained and transferred through social media as fast than any other existing means of communication like television, radio, telephone, websites, e-mails, letters, magazines etc. Most of internet users are addicted to social media like whatsapp, facebook, tweeter, and instagram. This affected even employees at MRCO.

Misuse of ICT facilities

Misuse of ICT facilities was another obstacle toward having successful implementation of e-government at MRCO. This challenge was reported by 2(6%) respondents out of all 34 respondents.

Through observations some employees at MRCO were using ICT devices contrary to the guidelines provided by the ministry. Employees were using government computers to listen music, storing personal data like music and movie file while it was strictly prohibited to mix personal data and office data in the same storage or data transfer device (NICT Guideline 2012). Internet was being used for personal interest like surfing, visiting social media like facebook, YouTube and movie downloads sites.

4.2.5. Measures to be taken to ensure effective and efficient organization communication performance through the use of ICT at MRCO

In this study, measures to the identified challenges were suggested by interviewee and through questionnaires and observations. Summary of the results were as presented on the table 5 below.

Table 4.5 Measures according to the questionnaires response.

S/N	Solutions	Sample	Frequency	Percent
1	Provision of e-government training	34	24	70.6%
2	Provision of adequate number of ICT devices	34	21	61.8%
3	Improving internet quality and access	34	17	50%
4	Employing ICT technical staff	34	11	32.4%
5	Ensuring sufficient electric power	34	10	29.4%
6	Introducing wireless internet network	34	6	17.6%
7	Introduction of Video Conference technology	34	5	14.7%
8	Discouraging frequent use of Social media for office communication	34	4	11.8%
9	Ensuring online data security	34	4	11.8%
10	Adequate ICT budget	34	3	8.8%
11	Website updating and online interdepartmental communication	34	2	5.9%

Source: Field data, 2018.

E-government training and capacity building

Many employees at MRCO identified e-government training as the solution toward moving from analog to digital organization communication. 24 out 34 questionnaire respondents equal to almost 71% suggested e-government training have to be provided to the employees at MRCO in order for e-government to achieve its intended objective.

The failure of e-government implemented at MRCO on improving organization communication performance was contributed by the employees' limited e-government knowledge resulted by the lack of training. To have effective e-government implemented at MRCO, e-government training must be conducted especially on the issue on how to effectively and efficiently use available ICT infrastructures, to differentiate between formal online organization communication and the use of social media.

Employees must be capable to communicate through available e-government designed mechanism such as website and office e-mail to ensure safe and successful organization communication process at MRCO. Also the deep understanding of NICT guideline 2012 was vital to every employee in order to have safe online organization communication process.

Adequate number and quality of ICT devices

Through questionnaires' responses, the study found that 21 out of 34 respondents equal to almost 62% suggested that the number of ICT devices must be increased for the effective and efficient organization communication at MRCO through e-government technologies.

According the interview with the Head of ICT Unit, to perform its duties accordingly, ICT unit have to be provided with high quality server to be able to design a system which would enable internal information sharing system possible. Also ICT devices such as computers, printer, photocopy machine, digital camera and television set, data storage and transfer devices like flash disk and external hard disk must be bought and given to the Information and communication department to ensure effective and efficient information collection and dissemination at MRCO.

Through observation, Open Registry office at MRCO was an essential area to be provided with adequate number of ICT facilities because of its necessity, it is the place where organization information are being collected, stored and disseminated.

Improving internet quality and access

The study found that 17 out of 34 questionnaire's respondents equal to 50% demanded the improvement of current internet network quality, also 6 out of 34 equal to 17.6% advocated the introduction of wireless internet network to improve internet access level at MRCO.

Together with the available wired internet network, it was necessary to have wireless internet network at MRCO because not all employees had accesses to office computers hence difficult to have reliable online communication access. Through wireless internet network employees will be able to connect their devices such as personal laptops, Smartphones and tablets. This may reduce ICT government owned device dependency and increase the number of online communication users at MRCO, also wired network workload will be reduced amid the introduction of wireless internet network.

Adequate numbers of ICT technical staffs

11 out of 34 equal to 32.4% questionnaire's respondents suggested the availability of adequate number of ICT technical staff at ICT unit as another factor for effective e-government implementation at MRCO because in the ICT unit there were only two technical staffs thus not enough for the effective and efficient implementation of e-government at MRCO.

To ensure e-government is well maintained and serving the intended purpose the adequate number of ICT technical staffs at MRCO has to be ensured. Administration and HR department had to prioritize the issue of increasing number of ICT technical staff because the situation was not satisfactory.

Power supply

The study found that, 10 out of 34 equal to 29.4% of questionnaire's respondents suggested the need of having reliable source of power supply like backup generator.

The performance of e-government infrastructure depends solely on the availability of power (electricity). In Morogoro region there was frequent breakup of electric power so it was wise for the MRCO administration to acquire automatic backup generator to ensure reliable power supply at MRCO and to guarantee all computers have workable UPS attached.

Discouraging excessive use of social media for organization communication

The study found that 4 out of 34 questionnaire's respondents equal to almost 12% suggested the minimal use of social media as a means of organization information exchange.

At MRCO the use of social media become the easiest way to communicate various organizational and private matters. This tendency loosened the effort toward the use of e-government as a major alternative toward the provision of safe and reliable organization communication. Administration and ICT Unit at MRCO must become champions of the implementation of e-government by discouraging excessive use of social media for organization information exchange.

Security measures

The study found that 4 out of 34 equal to almost 12% of questionnaire's respondents suggested that security measures should be taken into consideration in order to have safe data storage and information transfer at MRCO.

In order for MRCO to stay secure from online and virus attack ICT unit must ensure all computers contains updated antivirus programs, and only government owned data storage and transfer devices are supposed to be used for office use, also all government documents should not be transferred through social media like whatsapp or personal mails.

Ensuring government data and information security is crucial issue to consider when designing e-government projects. Online organization communication poses a big threat to the government data and information security due to the increasing number of online data hacking and data destruction through computer viruses

Website maintenance

2 out of 34 equal to almost 6% needed the improvement of MRCO website.

Website was the center of most of the online organization communication hence it required to have newly updated information according to the emergence of new information. MRCO website www.rasmorogoro.go.tz was dormant for so long which resulted to a loss of many visitors, so to regain the faith of both employees and citizen ICT unit and information and Communication department responsible for website maintenances and information uploading must make sure the website is always active and updated.

Information sharing

The study found that, 2 out of 34 equal to almost 6% suggested the need of having a mechanism which will allow free information sharing where by employee could send and receive organization information online.

Information sharing is one among of the indicators for effective organization communication performance. MRCO management has to design intra organization communication network which allow free movement of information across department and positions. This will break communication bureaucracy and increasing organization communication speed and help to foster organization operations.

Adequate ICT budget

The Head of ICT unit when interviewed suggested the need to increase and implement ICT budget for the improved communication performance through e-

government technologies. Also 3 out of 34 questionnaires respondents equal to almost 9% proposed the need to increase ICT budget.

Having adequate ICT budget will cater major e-government solution within MRCO because most of the challenges of improving organization communication through e-government were due to the shortage of fund. Having adequate fund could improve internet quality, employing ICT technical staffs, increasing quality and adequate number of ICT equipments, and improving online security would be possible.

Other suggested measures

About 5 out of 34 questionnaire respondents equal to 14.7% suggested the introduction of video conferences at MRCO, and about 4 out of 34 equal to 11.8% questionnaire respondent suggested the need for the administration to design a motivation strategy where by employees would be motivated to use e-government technologies for communication purposes within the organization.

4.3 Discussion of the findings

MRCO like many other public organization which implemented e-government faced many challenges which become a barrier toward implementation and integration of e-government on organization communication processes. E-government improved organization communication performance at MRCO by reducing communication cost and minimized communication time as also found in the work of Hinds and Kiesler (1995). But it is true that the state of e-government practices at MRCO was not sufficient enough for effective and efficient communication process within the organization. Many challenges need to be addressed to ensure fully organization shift from analog communication to fully digitalized organization communication processes. Some of the challenges faced MRCO were lack of ICT knowledge and to employees which become major problem because even if MRCO had every technology needed to support implementation and integration of e-government on organization communication process but without ICT knowledgeable to the end-users the purpose of e-government implementation is very difficult to be realized. So frequent ICT training is essential to overcome this ICT illiteracy situation at MRCO.

Also there is a need for e-government training which will inflict ICT technical skills and National e-government policy knowledge to the employees.

The problem was worsened by the Administration at MRCO because even the top management had its own whatsapp group so it presented bad example to lower cadre employees. This tendency had to be discouraged in order for the e-government to be fully utilized as a means of communication within the organization because to have successful e-government implementation at MRCO there is a need of full leadership and lower cadre employee's commitment regardless the status and position one occupies within the organization. This finding was also supported by Torres, Pina and Royo (2005) who found that, standard technology is not sufficient if leaders and managers are not ready to use them.

There is a great need for the top management at MRCO to introduce wireless network in order to extend employees' involvement and participation on e-government practices. Many lower cadre employees were marginalized because they lacked access to ICT devices within MRCO. Having wireless network at MRCO will enable employees to use their own devices such laptop, Smartphone and tablets to connect on the wireless network, hence would encourage employee fully participation on e-government activities.

National ICT policy and guideline also have to be reviewed in order to enable government institutions to succeed in implementation and integration of e-government on organization communication process. For example, the guide line required all government computers which were used to produce or storing confidential information not to be direct connected to the internet in order to protect them from online threats like data stealing. This has two implications, first it may increase operational cost because in some department at MRCO there were more than one computer used, one used only for production and storing confidential information and another connected to the internet, this coasted the organization a lot of money to buy extra computers or causing shortage of ICT devices to other department. Another implication is that, in some departments where there was

shortage of computers may decide not to connect their devices on the internet in order to protect government data. So the government must find another way of protecting its data from online threat because this approach increases cost while the main aim of introducing e-government to the government institutions is to reduce operational cost and improve provision of social services.

Effective implementation and integration of e-government on organization communication at MRCO was not without adequate number of ICT technical staffs who were willing and committed to ensure successful e-government implementation at MRCO. These staffs had to go beyond just repairing e-government system and projects but also to be the champions of e-government implementation at MRCO, they had to make sure all working process possible to be automated are automated in order to increase communication efficiency. The existed number of ICT technical staff (2) reflected on how the Administration and human Resource department were not really dedicated to improve the situation because it was about 3 years back since ICT Unit had adequate number of ICT experts.

Even though it is difficult to accomplish all demands for successful implementation and integration of e-government on organization communication process due to the shortage of ICT budget but the existed ICT infrastructure at MRCO could be utilized effectively and managed to improve status of online communication process at MRCO. What required mostly is the dedication and commitment from all e-government stakeholders such as Administrators, ICT technical staffs and employees from all cadres.

Most of the identified challenges at MRCO are not unique because they have also been identified in various studies conducted at different places. For example challenges like lack of training, underutilization of ICT infrastructure, poor website management, shortage of ICT experts, inadequate financial resources, and security issues were all identified in the work of Donald and Moon (2005), Poor e-government management presented by Brown (2000).

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

The general objective of this study was to assess the influence of e-government on organization communication performance where by Morogoro Regional Commissioner's Office was the focal point of the study. Summary of the findings, conclusion and recommendations are presented in this chapter.

5.1 Summary of the findings

The total population at MRCO comprised of 102 employees whereby among them 38 equivalent to 97% employees were selected as sample. Data were collected through Interview, questionnaires, document review and observations. 3 respondents (Head of ICT Unit, Head of Administration and Human Resource Department and Head of Information and Communication Department) out of 3 identified interviewers equal to 100% were interviewed, and 34 out of 35 respondents equal to almost 92% filled and returned the distributed questionnaires.

Generally, The study focused on the influence of e-government on the organization communication performance at MRCO with specific objective like the state of e-government at MRCO, integration of e-government on organization communication processes at MRCO, the efficiency of e-government on organization communication, challenges facing MRCO on the implementation and integration of e-government on organization communication process at MRCO and finally what to be done to ensure successful communication performance at MRCO through e-government initiative.

The study found that, there were latest ICT devices and projects implemented at MRCO and some of equipments were integrated in organization communication process like IP PBX phone system. E-government projects like website, government mail, HR and Integrated financial system were implemented to facilitate organization communication within and outside MRCO.

The general objective of the study, e-government at MRCO managed to improve organization communication performance within MRCO. This stance was supported by 91.2% of respondents who agreed with the statement that e-government influenced communication performance at MRCO.

Even though e-government improved communication process at MRCO but various challenges such as inadequacy of ICT equipments, inadequate number of ICT technical staffs, low employees' e-government knowledge and awareness, employees' addiction to social media, security issues, under utilization of ICT facilities and avalanche of technology become a barrier toward full integration of e-government with organization communication processes.

In order to have effective and efficiency e-government implementation and integration on organization communication, the researcher discovered that there was a great need to improve e-government practice at MRCO. These practices could be improved by increasing ICT technical staffs, increasing ICT budget, provision of e-government training and capacity building, creating employees positive attitude toward e-government practice, enabling internal organization information sharing, website maintenances and dealing with security threats.

5.2 Conclusion

Generally, the research attained its general objective of assessing the influence of e-government on organization communication performance at Morogoro Regional Commissioner's Office. The contribution of e-government on organization communication at MRCO cannot be objectively ignored. Despite the challenges, e-government changed communication process at MRCO contrary to the situation before the implementation of e-government. Communication cost was dramatically reduced and communication speed within the organization was very much improved hence reduced organization communication time and cost at MRCO, despite this success but there were a lot to be done to ensure complete e-government success at MRCO. Therefore, for the successful organization communication performance at MRCO, the identified e-government challenges and suggestions have to be taken into

consideration as a cornerstone for the improved organization communication process through e-government initiatives within MRCO.

5.3 Recommendations

These recommendations originate from researchers' view point according to his observation, interview, and document review; these recommendations supplement the already suggested measures by the study respondents in chapter 4.

i. Creating employees positive attitude toward e-government

MRCO management must play mobilization role to change employees' negative attitude toward e-government initiative, this can be done by showing why e-government is important, why Tanzania government spent a lot of money to invest on e-government, and educating them on why online communication through e-government technologies is crucial over organization communication through Social Medias like whatsapp and facebook. This has to go parallel with motivating employees who will have high tendency of using e-government infrastructures and technologies for office communication processes.

ii. ICT Devices cost

One factor which hindered e-government implementation at MRCO was the cost of ICT devices such as computers, server, and routers. To overcome this problem the government has to tax free or subsidize ICT devices in order to minimize device expenses hence many people will manage to buy and use them. For the employees, government have to provide ICT devices such as laptop to its employees as a loan which will help the government to overcome the burden of buying a lot of ICT devices to its institutions like computers and their peripheral devices.

iii. Introducing suitable ICT policies

The government must enact suitable ICT or e-government policies to match with the intended e-government objective which is to improve service delivery and reduction of operation cost. National ICT guideline of 2012 had some weaknesses for example it created avalanche of technology in the organization because computers which were used to produce and store confidential data and information were strictly prohibited to be direct connected to the internet network, this created a situation where by one office had more than one computer, one which was connected to the network for communication purpose and another only used to produce and store data. This tendency increased operational cost which is contrary to the e-government initiative goal. So the government must amend all policy areas which hinder effective e-government implementation in the public institutions.

iv. Underutilization of ICT infrastructures

Utilization of ICT infrastructure at MRCO had not reached to its full potential which consequently led to retardation of e-government implementation at MRCO. Even though there were quality ICT devices but their utilization had not reached to its full potential, for example there was quality internet network connection but collection and dissemination of information at Open Registry office was being done manually. Letters, Memos and other documents were collected, stored and allocated to the destined department by using analog filing system. This tendency resulted into delay of information feedback and sometimes loss of information or files.

ICT department have to be creative enough to utilize available e-government technologies to improve communication process within MRCO, for example they must design a network system which will enable free information sharing database and file tracking system.

v. Supportive leadership

Vividly, e-government at MRCO was being treated as something belongs to the ICT unit and not the concern of other stakeholders like top management and other employees. It is necessary for the ICT unit and Administrators to be e-government champions and inflict the sense of e-government ownership to other employees. Creating employees e-government awareness and sense of e-government ownership will attract employee commitment which consequently will enable e-government to improve communication performance at MRCO.

vi. Responsibility and accountability

Assigning responsibilities and holding accountable to all ICT stakeholders at MRCO such as those who have been authorized to ensure effective and efficient implementation of e-government at MRCO is a necessary step toward solving e-government malpractice at MRCO. This will make those responsible for maintaining e-government to do their work effective and efficiently.

5.4 Area for further research

This study recommends the following areas of further research;

1. Assessment of the effectiveness of e-government on service delivery in the public organization.
2. Assessment of the impact of social media on organization communication performance in any public organization.
3. The role of National ICTs' laws and policies on e-government adoption and implementation in the public organization.

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APPENDICES

APPENDIX I

INTERVIEW GUIDE FOR THE HEAD OF ICT UNIT AND INFORMATION AND COMMUNICATION DEPARTMENT

Respondent particulars

Questions which will be asked to the heads of departments will focus on the following:

- (i) Age group of the respondent.
- (ii) Sex/ Gender.
- (iii) Educational level
- (iv) Working experience

Information concerning the study

1. What are the functions of your Unit/ Department at MRCO?
2. What is current state of e-government at MRCO?
3. The quality of e-government infrastructure sufficient enough to fulfill the need of MRCO communication process?
4. Is the current ICT budget enough to support and improve the implementation of e-government at MRCO? (only for ICT Unit)
5. Is e-government at MRCO succeeded to improve internal communication process at MRCO? (Like minimizing communication cost and time).
6. The use of e-government at MRCO adhering to the policies and guidelines provided by the government?, which policies or guidelines you are currently using.
7. What are challenges which you Unit/ Department are facing to ensure effective implementation of e-government?
8. What to be done to overcome those challenges?
9. To what extent is e-government is integrated with organization communication system at MRCO?

10. To what extent e-government succeeded to improve organization communication process at MRCO?
11. What are the challenges which act as a barrier to transform the current communication process from analog to fully digital (online) communication process at MRCO?
12. What to be done to ensure efficient and effective organization communication through e-government at MRCO?

APPENDIX II INTERVIEW GUIDE

HEAD OF ADMINISTRATION AND HUMAN RESOURCE DEPARTMENT.

Respondent particulars

Questions which will be asked to the heads of departments will focus on the following:

- (v) Age group of the respondent.
- (vi) Sex/ Gender.
- (vii) Educational level
- (viii) Working experience

Information concerning the study

1. As the Head of Administration and Human Resource Department, What is the role of your department in the implementation of e-government at MRCO?.
2. What is the current situation of e-government implementation at MRCO?
3. What is the impact of e-government on organization communication performance at MRCO?
4. Is e-government/ICT budget satisfying the need? If not why?
5. The current status of e-government implemented at MRCO enough to ensure effective and efficient communication process?
6. How can you explain the employee commitment on the use of e-government technology as a means of organization communication?
7. What are the challenges facing MRCO on the implementation and integration of e-government on organization communication processes?
8. What should be done to ensure effective and efficient implementation and integration of e-government on organization communication process?

APPENDIX III
CHUO KIKUU MZUMBE
DODOSO KWA WAFANYAKAZI

Jina lagu ni *Zidikheri Mussa Shemsanga* mwanafunzi wa Shahada ya Uzamili (Msc Human resource management) kutoka chuo kikuu cha Mzumbe , Morogoro. Utafiti huu ni sehemu ya kazi ya kitaaluma na matokeo ya utafiti huu yatautumika kwa malengo ya kitaaluma tu na si vinginevyo. Lengo la dodoso hili ni kukusanya taarifa kuhusiana na mchango wa Serekali Mtandao katika mfumo mzima wa mawasiliano ndani ya Ofisi ya Mkuu wa mkoa wa Morogoro. Taarifa zozote za mtumishi zitakuwa ni siri baina ya mtumishi na Mtafiti.

SEHEMU A: TAARIFA ZA JUMLA

1. Jinsia (*Tiki kisandu husika*)
 - i. Mme ☐
 - ii. Mke ☐

2. Kundi la umri (*Tiki ndani ya kisanduku husika*)
 - i. Chini ya miaka 20 ☐
 - ii. Kati ya 21 na 30 ☐
 - iii. Kati ya 31 na 40 ☐
 - iv. Kati ya 41 na 50 ☐
 - v. Zaidi ya miaka 50. ☐

3. Kiwango cha Taaluma (*Tiki sehemu inayohusika*)
 - i. Darasa la saba ☐
 - ii. Kidato cha nne ☐
 - iii. Kidato cha sita ☐
 - iv. Stashahada ☐
 - v. Shahada ☐
 - vi. Shahada ya Uzamili na kuendelea ☐

4. Unafanya kazi katika Idara / Kitengo gani ?

.....

5. Umefanya kazi katika Ofisi ya Mkuu wa Mkoa kwa muda gani? (***Tiki ndani ya kisanduku husika***)

- | | | |
|-------|---------------------------|--------------------------|
| i. | Kati ya miezi 0 mpaka 11 | ☐ |
| ii. | Kati mwaka 1 mpaka 5 | ☐ |
| iii. | Kati ya miaka 6 mpaka 10 | ☐ |
| iv. | Kati ya miaka 11 mpaka 20 | ☐ |
| v. | Kati ya miaka 21 mpaka 30 | ☐ |
| vi. | Kati ya miaka 31 mpaka 40 | ☐ |
| vii. | Kati ya miaka 41 mpaka 50 | ☐ |
| viii. | Kati ya miaka 51 mpaka 60 | ☐ |

SEHEMU B

TAARIFA KUHUSU MALENGO YA UTAFITI

6. Kipi ni kiwango chako cha Elimu kuhusu TEHAMA? (***Tiki ndani ya kisanduku husika***)

- | | | |
|------|----------------------------|--------------------------|
| i. | Shahada ya udaktari (Phd) | ☐ |
| ii. | Shahada ya Uzamili | ☐ |
| iii. | Shahada/ Stashahada ya juu | ☐ |
| iv. | Stashahada | ☐ |
| v. | Cheti | ☐ |
| vi. | Msingi | ☐ |
| vii. | Sina taaluma ya TEHAMA | ☐ |

7. Kifaa gani cha TEHAMA kimeunganishwa kwenye Ofisi / Idara/ Kitengo yako? (***Tiki vilivyopo***)

- | | | |
|------|----------|--------------------------|
| i. | Kompyuta | ☐ |
| ii. | Simu | ☐ |
| iii. | Printa | ☐ |
| iv. | Faksi | ☐ |
| | | ☐ |

v. Mashine ya alama za vidole

vi. Mashine ya fotokopi

☐

vii. Vinginevyo

.....

8. Kwa mtazamo wako unadhani mfumo wa serekali mtandao katika Ofisi ya Mkuu wa Mkoa uko katika kiwango gani kukuwezesha kufanya mawasiliano yako ya kiofisi? (***Tiki kisanduku kimoja***).

i. Unavutia sana

☐

ii. Unavutia

☐

iii. Unavutia kiasi

☐

iv. Mbaya kiasi

☐

v. Mbaya

☐

vi. Mbaya sana

☐

vii. Sijui

☐

9. Kwa kiasi gani unatumia vifaa vya TEHAMA vya Ofisi (simu, faksi, barua pepe, n.k) katika kufanya mawasiliano yako ya kiofisi ya kila siku? (***Tiki kisanduku kimoja***)

i. Mara nyingi sana

☐

ii. Mara nyingi

☐

iii. Mara chache

☐

iv. Mara chache sana

☐

v. Situmii

☐

10. Maelezo jinsi serekali mtandao inavyochangia katika kuboresha mfumo wa mawasiliano katika Ofisi ya Mkuu wa Mkoa (***Tiki ndani ya kisanduku sahihi***)

		Kweli kabisa	Kweli	Sijui	Sio kweli	Sio kweli kabisa
11	Ubora wa intaneti katika Ofisi ya Mkuu wa Mkoa wa Morogoro unakidhi mahitaji yaliyotarajiwa.					
12	Serekali mtandao imeongeza kasi ya mawasiliano ndani ya Ofisi ya Mkuu wa Mkoa wa morogoro.					
13	Mfumo wa serekali mtandao umewawezesha wafanyakazi kuweza kupata na kutoa taarifa mbalimbali za Ofisi ya Mkuu wa Mkoa wa Morogoro kupitia mtandao wa intaneti (kama vile website na barua pepe)					
14	Serekali mtandao (kupitia barua pepe, simu, na arahisisha mawasiliano baina ya wafanyakazi wa chini wa juu katika Ofisi ya Mkuu wa Mkoa wa Morogoro.					
15	Ofisi ya Utawala na TEHAMA zimetoa elimu ya kutosha kwa wafanyakazi ili kuwawezesha kutumia vifaa na mifumo wa serekali mtandao kwa usahihi na ubora unaotakiwa.					
16	Mawasiliano yako ndani ya Ofisi ya Mkuu wa Mkoa wa Morogoro yanaongozwa na sheria na sera za serekali mtandao/ TEHAMA.					
17.	Katika shughuli zako za mawasiliano yako ya kiofisi ya kila siku huwa unapendelea kutumia vifaa na mifumo ya serekali mtandao (barua pepe, fax, simu n.k) kuliko analogia (kuandika barua ama kubeba mafaili).					

18. Unadhani kuna changamoto ambazo zinazorotesha matumizi sashihi ya serekali mtandao katika Ofisi ya Mkuu wa Mkoa wa Morogoro?

i. Ndio ☐ ii. Hapana ☐

19. Kama ndio (*Kutoka swali la 18*) taja changamoto hizo

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.....
.....

20. Unadhani nini kifanyike ili kuboresha matumizi ya serekali mtandao katika Ofisi ya Mkuu wa Mkoa wa Morogoro?

.....
.....
...

21. Unadhani teknolojia ya serekali mtandao imefanikiwa kuboresha mfumo wa mawasiliano ndani ya Ofisi ya Mkuu wa Mkoa wa Morogoro ?

i. Ndio ☐ ii. Hapana ☐

22. Kama jibu ni ***hapana*** (kutoka swali la 21 juu) taja changamoto zinazokwamisha teknolojia ya serekali mtandao kuboresha shughuli za mawasiliano ndani ya Ofisi ya Mkuu wa Mkoa wa Morogoro.

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.....
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23. Unadhani ni nini kifanyike ili TEHAMA itumike katika kuboresha mfumo wa mawasiliano ndani ya Ofisi ya Mkuu wa Mkoa wa Morogoro?

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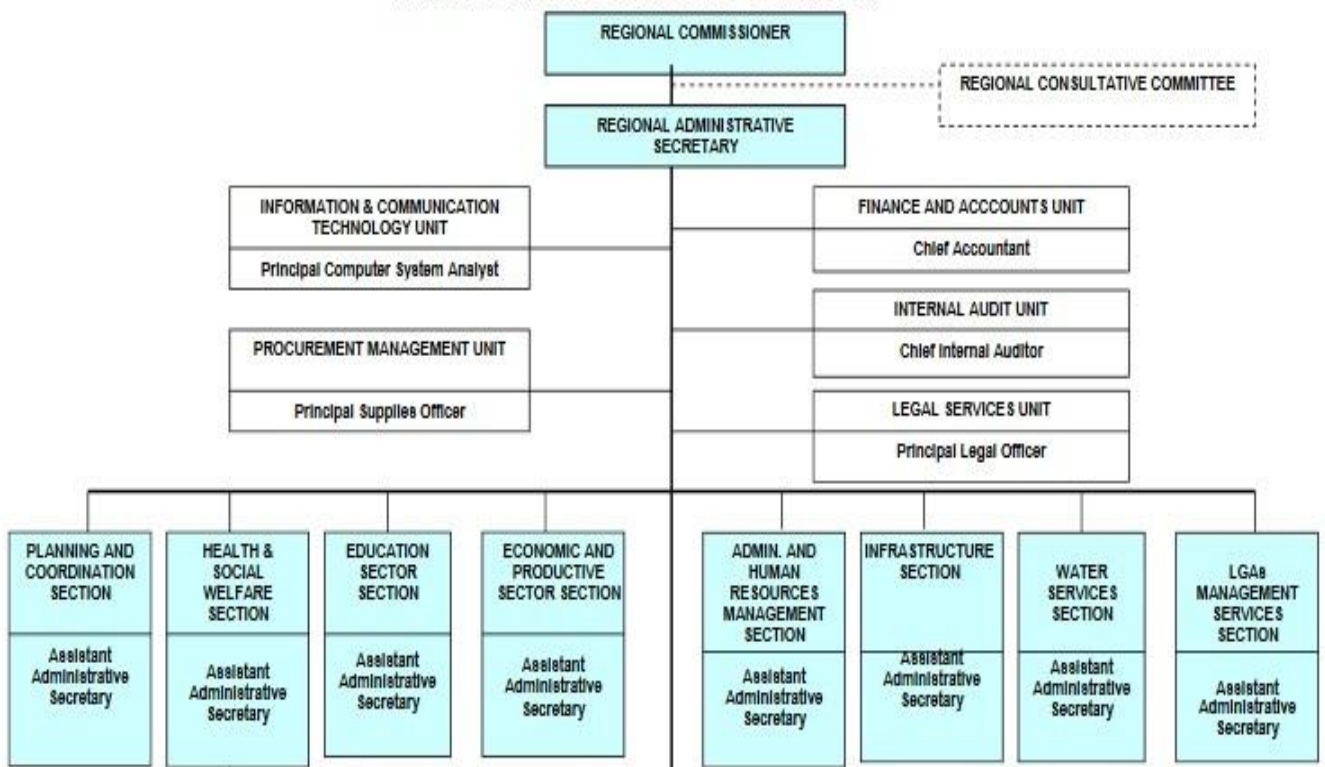
MWISHO WA DODOSO.

APPENDIX IV

MOROGORO REGIONAL COMMISSIONER OFFICE ORGANIZATION CHART.

THE ORGANIZATIONAL STRUCTURE FOR REGIONAL SECRETARIATS

(Approved by the President on 3rd June, 2011)



Source: MRCO website (www.morogoro.go.tz)