

CHAPTER ONE

INTRODUCTION

1.1 Background

The major objectives of the e-government are improved transparency, better services to citizens, rapid processing, low-cost output, saving effort and highly revenue.

An E-government maturity model provides guidance on how to gain control of our processes for developing and maintaining E-government services and how to evolve toward a culture of excellence in providing and managing E-government. A maturity model can guide us in selecting process improvement strategies by determining current process maturity and identifying the few issues that are most critical to E-government quality and process improvement. By focusing on a limited set of activities and working strenuously to achieve them, we can steadily improve our organization-wide E-government processes and enable continuous and lasting gains in our E-government capabilities.

The CMM referred to earlier is one such model. However, in its simplest form, a maturity model is an enumeration of attributes for a sequence of maturity levels. For good or bad, no well-developed maturity models for E-government exist; the best available models are simple, but still useful for understanding some key facts about E-government.

1.2. Statement of the Problem

The implementation of e-government is very challenging to the government in Somalia.

There is a need to Propose a model for the implementation of E-government in Somalia there is also a need to know the factors that affect the Adoption of these systems by the citizens.

1.3. Objectives of the Study

The main objectives of this study are to:

1. Propose a model for the implementation of E-government in Somalia.
2. Examine the factors might affect the implementation of E-government systems in Somalia.
3. Determine the Factors that affect the Adoption of E-government systems in Somalia.
4. Proposing a model for the factors that affect the Adoption of E-government systems in Somalia.

1.4. Research Question

The main questions of this study are:

1. What are the main issues that face the implementing e-government systems in Somalia?
2. What are the main factors that affect the adoption of e-government system in Somalia of this implementation model?
3. What are the Attributes that affect the Adoption e-government system in Somalia

1.5. Research hypotheses

H1: Ease of use will have a positive influence on the adoption purpose to use e-government services

H2: Trust will have a positive influence on the adoption purpose to use e-government services.

H3: Attitude will have a positive influence on the adoption purpose to use e-government services.

H4: Awareness will have a positive influence on e-government usage of e-government services.

H5: Security issues to use e-government services will have a positive influence on the usage of e-government

H6: Perceived value will have a positive influence on adoption purposes to use e-government services.

H7: Adoption to use e-government services will have a positive influence on the usage of e-government

H8: The adopters of e-government will be more from male than female gender.

1.6. Scope of the Study

1.6.1. Geographical Scope

The study of proposing a model for the implementation of E-government system will be carried in Somalia.

1.6.2. Time Scope:

The study covered the period between August to December 2014, this period was chosen because the implementation of E-government system in Somalia practices were at the highest level.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction to E-government

E-government is an idea raised by former U.S. vice president (Al Gore), within his vision of linking the citizen to the various agencies of government for getting all kinds of government services in an automated and automatic way, in addition to the completion of the government working itself depending on information and communication networks to reduce costs, improve performance, speed up delivery and effectiveness of implementation.

E-government program seeks achievement of greater efficiency in government performance, through raising the performance of services for beneficiaries and investors from all segments of society easily, accurately and efficiently, to become a new type of performance of official governmental and governmental transactions. Online interactive services may include such facilities as petitioning, rate paying, licensing or information queries. There continues to be a diversity of implementation quality and levels for such services (Middleton, 2007). [1]

To achieve this requires utilizing the latest means of technology, communications and follow-up to the rapid global developments, and look at the reasons for the failure and the success of E-government programs. To encourage the use of technology and increase the number of users of computers and Internet tools effectively, and these points are what this paper tries to concentrate on.

2.2 E-Government

For one to understand the idea of E-government, must first understand government in general. Government is actually a dynamic mixture of goals, structures and functions (Pardo, 2000). [2]

E-government is more than a website, email or processing transactions via the internet.

E-government becomes a natural extension of the technological revolution that has accompanied the knowledge society.

The E-government added new concepts such as: transparency, accountability, citizen participation in the evaluation of government performance (Mohammad,2009). [3]

2.2.1 Definition of E-Government

Like other contemporary concepts there are multiple definitions of E-government among researchers and specialists, but most of them agreed to define Electronic government as government utilization of information communication technologies to offer an opportunity for citizens and businesses to interact and conduct business with government by using different electronic media such as telephone touch pad, fax, smart cards, self-service kiosks, e-mail / Internet, and EDI. It is about how government organizes itself: its administration, rules, regulations and frameworks set out service delivery and to co-ordinate, communicate and integrate processes within itself.

Another definition of E-government was presented by **United Nation's** website to be "E-government refers to the use of information and communication technologies (ICT) - such as Wide Area Networks, the Internet, and mobile computing - by government agencies". While OECD noted that Electronic government refers to the use of information and communication technologies, and particularly the Internet, as a tool to achieve better government (OECD, 2003). [4]

2.2.2 Maturity of E-Government

In the concept of government in general, as well as of E-government, we can distinguish between 3 groups': citizens, businesses and services, and governmental departments of the country. And use abbreviations such as G2C refer to the relationship between government and citizen, G2B denote the transaction between the government and businesses and industrial departments, and G2G indicate the relationship between different government units. Most of the governments begin to provide information across direct on-line, but the public needs require quick more services and usually take this form gradually. E-government becomes more widespread; one is beginning to see the progress through six stages. Not all governments will reach all stages, and there will be much diversity within a government, with different agencies at different stages.

The stages are:

- (1) Using internal network and setting up an email system;
- (2) Enabling inter-organizational and public access to information;
- (3) Allowing 2-way communication;
- (4) Allowing exchange of value;
- (5) digital democracy;
- (6) joined-up government.

Implementing E-government is a proceeding process, and most often the development is conceptualized in stages. The widely known maturity model suggested by Layne and Lee (Layne and Lee, 2001) who sees E-government as an evolutionary phenomenon, from which E-government initiatives should be derived and implemented.

They assume four stages of a growth model for E-government:

- (1) Cataloguing.
- (2) Transaction.
- (3) Vertical integration, and (4) Horizontal integration.

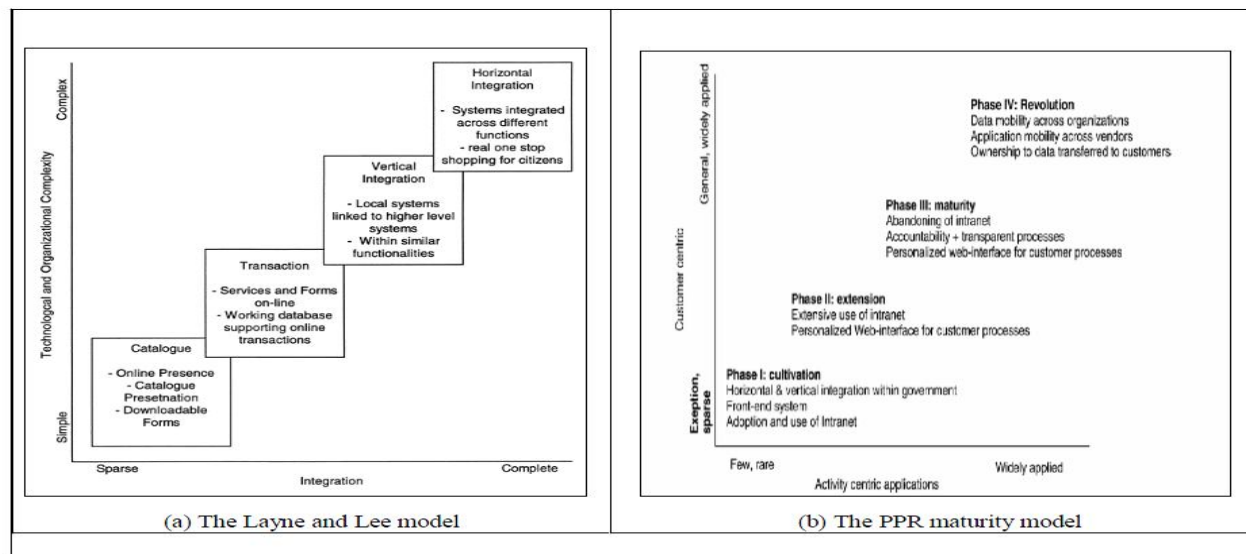


Figure (2.1) The maturity models of E-government development [51]

As shown in Figure (2.1) The maturity models of E-government development (a) The Layne and Lee model. (b) The PPR maturity model.

This model is developed by increasing the level of complexity and integration from (1) to (4). Andersen and Henriksen (Andersen and Henriksen, 2006) complement the maturity model with strategic ambitions of governments' use of IT, and present what they call the PPR (Public Sector Process Rebuilding) model. They argue that the Layne and Lee model build on the same rationale that have dominated the traditional motives for IT adoption; increase in information quality, efficiency and effectiveness. The PPR model expands the E-government focus to include the front-end of government, the major difference between the Layne and Lee model and the PPR model is the activity and customer centric approach rather than the technological capability.

2.3 E-governance Components

Governments are increasingly looking to cut down on operating costs and improve delivery of services to citizens and employees. The focus is slowly shifting towards giving self-service process improvements through online web based applications. The three main target groups that can be distinguished in e-governance concepts are government, citizens and businesses/interest groups. The external strategic objectives focus on citizens and businesses and interest groups, the internal objectives focus on government itself.

The major components involved in E-governance are

- i.** Government to Government (G2G)
- ii.** Government to Citizens (G2C)
- iii.** Government to Business (G2B)
- iv.** Citizen to Government (C2G).

2.3.1 Government to Government (G2G)

All the G2G interactions and dealings are required for planning, decision support and implementation of its action plans. The goal of the Government-to-Government (G2G) system is to forge new partnerships among various levels of government. These partnerships facilitate collaboration between levels of government, and empower state and local governments to deliver citizen services more effectively. The time gap can be greatly reduced once the E-governance system is in place.

It requires a single interface to government offices and staff, to effectively carry out functions like human resource management and financial resource planning in an integrated environment. Further, all government agencies to be linked through a modern computerized network that allows secure communications and interaction. Existing government systems are either

replaced or integrated into the new technology, depending on the functionality and adaptability of legacy systems.

2.3.2 Government to Citizen (G2C)

It is basically serving the customers on the Web. The customers need not to visit, each time, the government departments with Xerox copies of documents. The documents submitted at any of the facility center is made available across the departments so that carrying of volumes of documents and feeding them into computers is totally eliminated or minimized to a maximum extent. Each citizen will have a unique identification number and all the facilities and services rendered to a particular citizen can be tracked easily. Once implemented, this will drastically reduce the workload of the government departments. For example, as the government units are functioning in silos, it requires issuing various certificates to the general public for availing some facilities. Instead if common general-purpose citizen identification is given to each citizen, there won't be any further need for issuing the same set of certificates again and again. The concerned departments can verify the details from the central database.

2.3.3 Citizen to Government (C2G) is the online relationship between the citizen and all of the various government departments one would like to interact to so that the citizen gets some services without actually physically visiting the various government offices. The role of C2G is to introduce the citizen to websites that one will find the most useful, in daily life and times of need. This is an application to make public-to-government transactions more efficient, effective and productive, while enhancing the quality of services, by facilitating public transactions with government using various electronic channels. The association between citizens and the government as a grievance redresser in an online environment can easily be leveraged to provide many more services to citizens from different providers.

2.3.4 Government to Business (G2B) and Business to Government (B2G)

In order to implement the government's various plans and projects it needs the business communities' services. Services like e-procurement, e-payment, project monitoring and implementation forms part of this model. E-Procurement is an application to transform the existing manual system of government procurement into an efficient electronic based one.

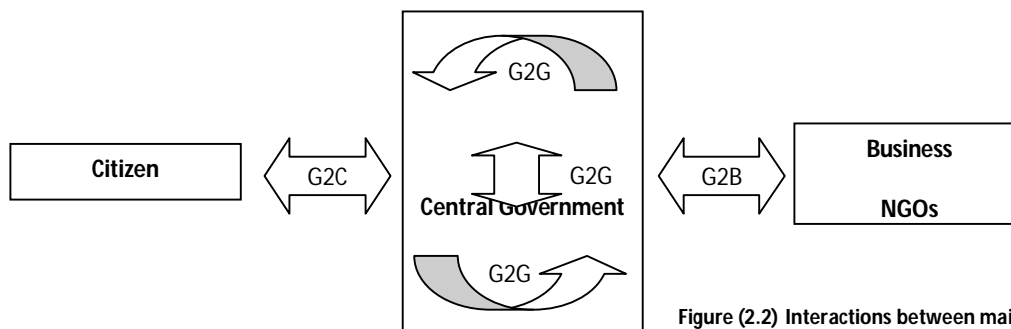


Figure (2.2) Interactions between main groups in e-governance [6]

2.3.5 Gartner, an international e-business research consultancy firm, has formulated a four-phase E-governance model. This e-governance model can serve as a reference for governments to position where a project fits in the overall evolution of an e-governance strategy. In most cases, governments start with the delivery of online information, but soon public demand and internal efficiency ask for more complex services. Of course this change will take effect gradually, some services will be online earlier than other services. In some cases the public demand is the driving force, in other cases cost saving aspects for the government are leading. According to Gartner, e-governance will mature according to the four-phase e-governance maturity model.

2.4 E-Governance Maturity Model (Gartner)

Early 90's Information → Presence

Mid 90's Interaction → Intake process

Present Transaction → Complete transaction

Future Transformation → Integration and organizational changes

In each of the four phases, the delivery of online services and use of ICTs in government operations serve one or more of the aspects of e-governance: democracy, government, business.

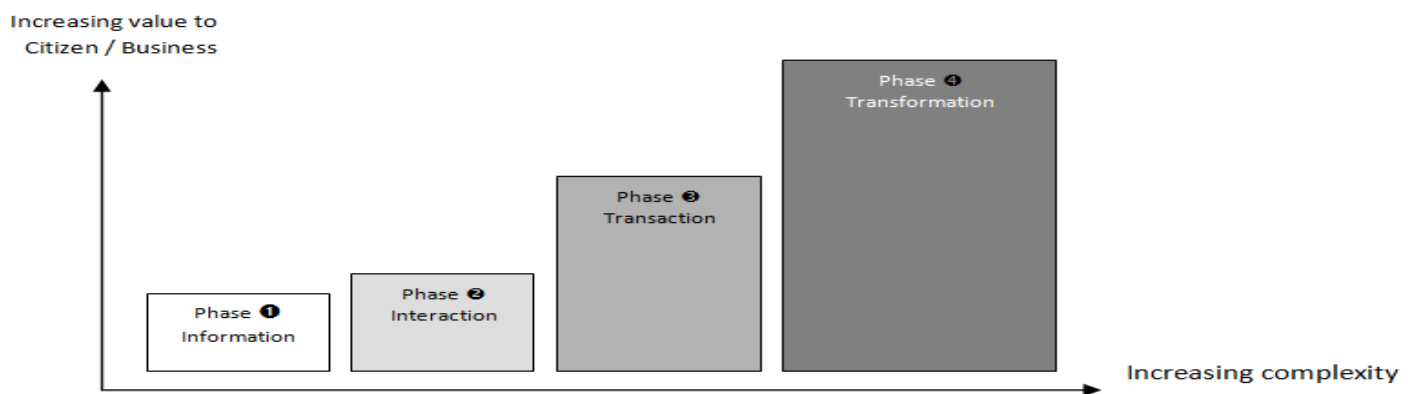


Figure (2.3): E-Governance Maturity Model (Gartner, 2000) [7]

The model does not mean that all institutions have to go through all phases and all at the same time. On the contrary, in the Western world government institutions are in phase 1, 2 or 3. The differences can be huge: the tax department can be in phase 3, while the department of public works is just in an early stage of phase one. It all depends on where the advantages are highest.

Another remark must be made. This model shows four phases for different e-governance (e-democracy and e-government) solutions. The assumption made is that the government has already defined an overall vision and e-policy. In the chapter "Implementation of e-governance", this remark will be further explained.

2.4.1 Phase ❶: Information

In the first phase e-governance means being present on the web, providing the external public (G2C and G2B) with relevant information. The format of the first government websites is similar to that of a brochure or leaflet. The value to the public is that government information is publicly accessible; processes are described and thus become more transparent, which improves democracy and service.

Internally (G2G) the government can also disseminate information with static electronic means, such as the Internet. This phase it as all is about information. From a 1-page presence website to a site with all relevant government information available to the public, in order to improve transparency and democracy.

Table (2.1): Examples of information that Government ...		
<i>... wishes to disseminate</i>	<i>... may make available</i>	<i>... is required to supply</i>
<ul style="list-style-type: none"> ✚ Press notices. ✚ Consultation papers. ✚ Policies. ✚ white papers. ✚ News. ✚ Health and safety advice. ✚ Benefits and entitlements. ✚ Applicable regulations. 	<ul style="list-style-type: none"> ✚ Geographical data. ✚ Demographic data. ✚ Economic data. ✚ Information collected. ✚ Information generated routinely. ✚ Value added services. ✚ Business yellow pages. 	<ul style="list-style-type: none"> ✚ Performance indicators. ✚ Environmental indicators. ✚ Audited accounts. ✚ Personal data. ✚ Internal policy documents. ✚ Correspondence. ✚ Management reports.

2.4.2 Phase ②: Interaction

In the second phase the interaction between government and the public (G2C and G2B) is stimulated with various applications. People can ask questions via e-mail, use search engines for information and are able to download all sorts of forms and documents. These functionalities save time. In fact the complete intake of (simple) applications can be done online 24/7. Normally this would have only been possible at a counter during open hours.

Internally (G2G) government organizations use Local Area Networks (LAN), intranets and e-mail to communicate and exchange data.

The bottom line is that more efficiency and effectiveness is achieved because a large part of the intake process is done online. However, you still have to go to the office to finalize the transaction, by paying a fee, handing over evidence or signing papers. The use of electronic communications tools speed up the internal government processes.

2.4.3 Phase ③: Transaction

With phase three the complexity of the technology is increasing, but customer (G2C and G2B) value will also be higher. Complete transactions can be done without going to an office.

Examples of online services are filing income tax, filing property tax, extending/renewal of licenses, visa and passports and online voting. Phase three is mainly complex because of security and personalization issues – e.g., digital (electronic) signatures are necessary to enable legal transfer of services. On the business side the government is starting with e-procurement applications.

In this phase, internal (G2G) processes have to be redesigned to provide good service. Government needs to create new laws and legislation that will enable paperless transactions with legal certification. The bottom line is that now the complete process is online, including payments, digital signatures etc. This saves time, paper and money.

2.4.4 Phase ④: Transformation

The fourth phase is the transformation phase in which all information systems are integrated and the public can get G2C and G2B services at one (virtual) counter. One single point of contact for all services is the ultimate goal.

The complex aspect in reaching this goal is mainly on the internal side, e.g. the necessity to drastically changed culture, processes and responsibilities within the government institutions (G2G). Government employees in different departments have to work together in a smooth and delicate way. In this phase cost savings, efficiency and customer satisfaction reach the highest possible levels.

Table (2.2) : Overview e-governance solutions for each phase			
	External: G2C	External: G2B	Internal: G2G
Phase ①: Information	Local / Departmental / National information (mission statements and organizational structure Addresses, opening hours, employees, telephone numbers Laws, rules and regulations Petitions, Government glossary, News.	Business information Addresses, opening hours, employees, telephone numbers, Laws, rules and regulations	Knowledge base (static intranet). Knowledge management (LAN).

Phase ② Interaction	<p>Downloading forms on websites Submitting forms Online help with filling in forms (permits, birth / death certificates)</p> <p>Intake processes for permits etc.</p> <p>E-mail ,Newsletters, Discussion groups (e-democracy),</p> <p>Polls and questionnaires,</p> <p>Personalized web pages,</p> <p>Notification.</p>	<p>Downloading forms on websites Submitting forms</p> <p>Online help with filling in forms (permits)</p> <p>Intake processes for permits etc.</p> <p>E-mail Notification.</p>	<p>E-mail Interactive knowledge databases</p> <p>Complaint handling tools.</p>
Phase ③ Transaction	<p>License applications / renewals</p> <p>Renewing car tags, vehicle registration, Personal accounts (my tax, my fines, my licenses etc.).</p> <p>Payment of (property) taxes</p> <p>Payment of tickets and fines</p> <p>Paying utility bills Registering and voting online</p>	<p>License applications and renewals via website</p> <p>Payment of taxes</p> <p>Procurement</p>	<p>Inter-governmental transactions</p>
Phase ④: Transformation	<p>Personalized website with integrated personal account for all services</p>	<p>Personalized website with integrated business account for all services</p>	<p>Database integration</p>

2.5 E-Government in Somalia

In general, most of developing countries are lagging behind e-Government development compared to developed countries. Like other developing countries, the Government of Somalia recognized the importance of establishing services to the citizens using electronic access. The government aim was to become more accessible and transparent to its citizens. Based on global e-Government survey conducted by united nations, for the e-government readiness, Somalia was ranked 189th on 2005 and decrease into position 109th on 2012 [8].

The government is facing a pressure to enhance the quality of the services to its citizens and to improve the dissemination of information; hence, the existing traditional government with the paper-based is left behind.

Furthermore, as mentioned before, the development of e-Government in Somalia is facing many challenges:

1. lack of public access and inadequate infrastructure is another challenges facing the government of Somalia.
2. Lack of IT Infrastructural and Internet weakness.
3. Lack of knowledge about the e-government program.
4. Lack of security and privacy of information.
5. Lack of qualified personnel and training courses.
6. Human resources: the application of e-Government needs to be supported by the employees who understand technology. As the rapid development of information technology, the employees should be motivate and able to learn to manage the change. Moreover, Somalia has severe problem regarding to the corruption and transparency of public services. The corruption practices need to be vanished first, so that government can deliver clean and transparency public services. In this point, e-Government is not just about technology but also about changing the culture.
7. Culture differences.
8. Absence Leaders and management support.
9. Lack of policy and regulation for e-usage.
10. Lack of partnership and collaboration.
11. Lack of strategic plans
12. Resistance to change to e-systems.
13. Shortage of financial resources

To address the challenges listed above, the government should make an attempts to improve the quality of human resources by providing training for the government officers, commitment from government officials, restructured organization if needed, such as vanishing the corruption and collusion, the standardized policy for the manual of e-Government implementation. Government should create an innovative strategy according to the needs and condition (citizen needs).

2.6 Maturity Model

Maturity models (MMs) in general are designed to assess the maturity based on more or less a set of criteria, including competency, capability and level of sophistication. MMs are developed to assist the organizations as a basis for evaluating and comparative degree for the organizations improvement [9].

In his dissertation, Tapia [10] explained that MMs describe the evolution of specific entity over time in organizations, so the organizations recognize which activities in each area and possess desire to achieve potential outcomes. He also argued MMs are descriptive and normative, but not prescriptive. It describes each maturity level without prescribing on how to get there.

Furthermore, based on research [11,12,13], there are some benefits of implementing a maturity model in government: First, MMs play crucial roles as a roadmap in guiding the governments in long-term plans. Second, MMs depict the conceptual guidelines about essential requirements in each maturity stage that enables employees to understand the government activities. Third, MMs can be used as communication tools to illustrate government potential capabilities. Public will understand in which levels are the government position currently, and government, in the other hand will enhanced their capabilities to improve the services to the citizens.

Moreover, there are some components that may or may not be present in the MMs as described by Haris in his thesis [14] : number of levels,

description for each level, a general description of the characteristics of each level as a whole, numbers of dimensions or process area, numbers of activities for each dimensions and description of each activity at each maturity level.

In the following parts, we will describe several maturity model in the area of e-Government.

2.7 E-Government Maturity Model

2.7.1 Delloite's six-stage Model

Nowadays, Most of the government focuses on provision of services by the government in comprehensive way. The Delloite group reviewed that e-Government is an evolutionary transformation that affects the way in managed and delivered public service. It is also affects every aspect of how an organizations delivers service to the citizens, namely technology, business process and human resources. They put the customers as a central that makes a citizen-government relationship to be more inclusive and direct.

Delloite group proposed six stages of e-Government maturity model as follows:

Stage 1: Information publishing

It's a one-way communication, each government agencies establishes their own website to provide information about themselves. By publish the information on the website, the citizens can reach the government easier and reducing the number of phone calls from the citizens who need information about government services.

Stage 2: two way transaction

In stage 2, citizens can submit their personal information and transact information with individual departments with secure websites. The citizens are able to have electronic interaction with the government services. Moreover, the security is a concern in this stages, each department should

be able to keep all the information private and free from piracy by using digital signature or security keys.

Stage 3: Multi-purpose portal

A portal allows the citizens to use a single point of entry to send and receive information across multiple departments. It is a concept to meet broader user needs both within and outside government services.

Stage 4: Portal Personalization

In this stage, citizens are able to customize portal. Sophisticated web programming is needed to allow user customized their portals with their desired features.

Stage 5: Clustering of Common service.

In this stage, citizens view the services as a unified package through the portal. Real transformation of government structures takes shape. All services clustered along common lines by government.

Stage 6: Full integration and enterprise transformation

In this stage, the silos services have been change into integrated technology. The government provide sophisticated, full service centre, personalized to each user's needs and preferences.

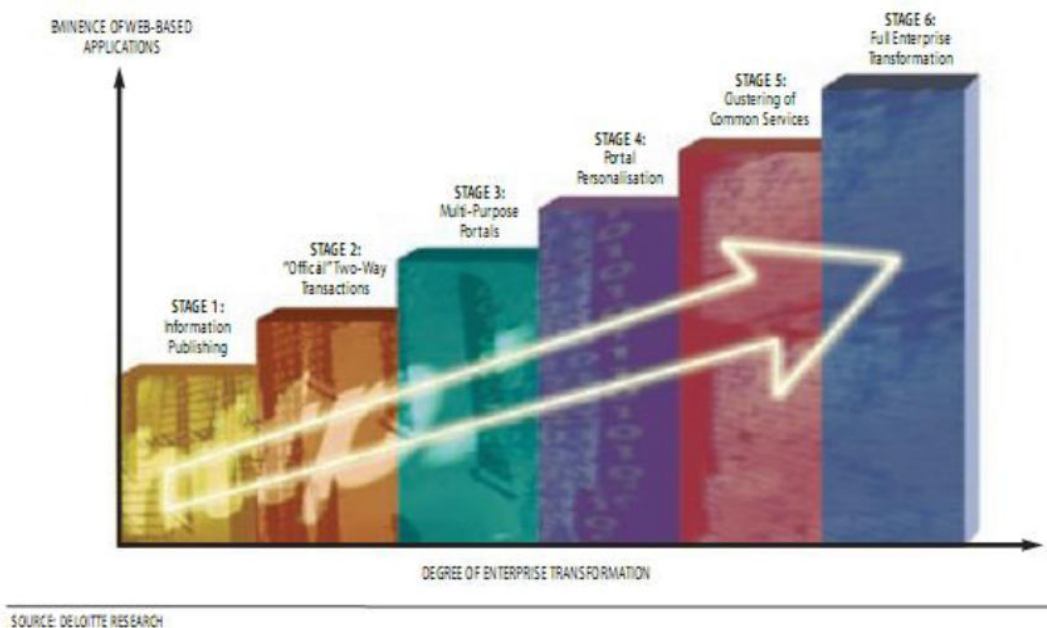


Figure (2.4) Delloite's six-stage model [15]

Deloitte's six-stage model: Deloitte and Touche (2001) had proposed a six-stage model as described below:

Stages 1 : Information publishing/dissemination

Governments provide users with increased access to information.

Stages 2: Official two-way transaction

Agencies are used to provide interaction between governments and users by using information and communication technologies such as digital signatures and security keys

Stages 3: Multi-purpose portals

Governments utilize a single portal to provide universal service across multiple departments.

Stages 4: Portal personalization:

governments enable users to customize portals according to their own desires.

Stages 5: Clustering of common services:

Governments enhance collaboration and reduce intermediaries (between operational processes) in order to provide a unified and seamless service.

Stages 6: Full integration and enterprise transaction

an ideal vision in which governments provide sophisticated, unified and personalized services to every customer according to their own needs and preferences.

2.7.2 UN five-stage Model

United Nation (UN) defined 5 stages of e-Government maturity model. Each of the stage is a gradually process for quantifying progress in order to achieve success [16].

Stages 1: Emerging

A limited web presence is established. Basic and static information of government provides through a few independent official sites.

Stages 2: Enhanced

The online presence begins to expand the content into dynamic website. Information is regularly update as its number of official websites increase. Hyperlinks to other departments, government publications and newsletter are available.

Stages 3: Interactive

In this stage, interaction between government and citizens is present. User can access broader range of government institutions and services. User can download forms, contacts the official and making appointment. The content is regularly updates.

Stages 4: Transactional presence

In this stage, government transform themselves by using two-way interactions online for 24/7. Complete and secure transaction provided. Secure sites, digital signatures and user passwords are also present. User can pay online for the financial transaction services.

Stages 5: Seamless /connected / fully integrated

All services across departmental boundaries are fully integrated, all in a “unified package”. The services are clustering along common needs, it provides services across the different lines and level of department with the highest level of integration.

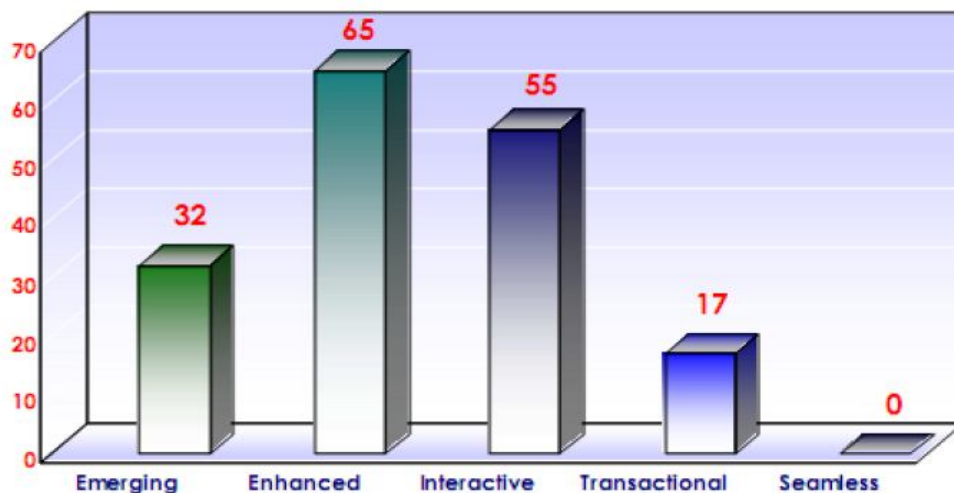


Figure (2.5): UN five stages model with the number of country positions in 2001 [17]

2.7.3 Layne and Lee four-stage Model

Besides the model proposed by institution, some researchers also proposed some stages of the e-Government maturity model based on their research. Layne and Lee proposed four stages of a growth model of e-Government in terms of complexity and different level of integration [18].

Stage 1: Cataloguing

In this stage, initial efforts are focus on set up of an online presence for the government. The websites delivers static and basic information. The functionality is limited to online presentation of the government information and ability of downloadable forms.

Stage 2: Transaction

The capability is extended and allowing citizens to transact. This stage can be called transaction-based e-Government, by putting live database links to online interface so that the citizens or citizens enables to fulfill some simple online transactions such as pay fines, renew their licenses and filling out government forms.

Stage 3: Vertical integration

In their stage model, Layne and Lee, divide the integration into two, vertical and horizontal. Vertical integration, connect different levels of governments with different services within similar functionality. In this stage, initiates the transformation of government services rather than only the automation of the existing processes. Central database or a connected web of database is used, it is expected for each different levels of government, to be connect and communicate each other so that the results of transactions can be interchanged from one system with another.

Stage 4: Horizontal integration

This stage integrate different levels and across different functions of government. Varying functions of separate systems and different functional areas will communicate with each other and share information to provide citizens a unified services. The integration across different functions enables

one department to automatically checks against data in other functional departments.

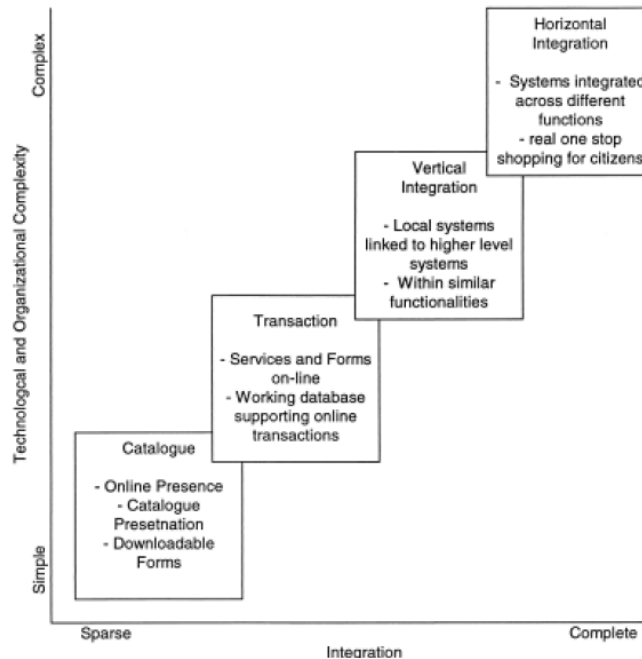


Figure (2.6): Layne and Lee’s dimensions and stages of e-Government development [10]

2.7.4 West’s four-stage Model

Darrell West investigate in his research whether the interactive features of internet is useful to improve service delivery, democratic responsiveness and public outreach. He identified four stage of e-Government transformation as follow [19]:

Stage 1: The billboard stage

In the first stage, government set up a basic websites contain static mechanism to display information as same as billboards. The government reports, publications are accessible by the citizens but they cannot interact with it, so there is no two-way communication.

Stage 2: The partial-service-delivery stage

Citizens can access, manipulate information, and search informational databases. Some services online are provided, so that user can order and doing online services, access to what they need.

Stage 3: The portal stage

This stage provided fully executable and integrated service delivery. All different levels of government are fully integrates, so that improving citizen ability to find information and services. Security and public privacy is a highly concerns, translation options in multi language are available.

Stage 4: Interactive democracy with public outreach and a range of accountability measures

In this stage, governments are moves from service-delivery model to system wide political transformation. The websites offer a customize personalization and push technology, such as emails and electronic subscriptions, provide feedback, make comments and enhance democratic responsiveness. These all features help citizens to have interactive and two-way communications between citizens and government officials.

2.7.5 Gartner four stage model

Gartner had a research in e government phase model showed the progression of e-Government in the connected environment. The model proposed four stages maturity model as follows [20,21]:

Stage 1: Presence

The government establishes a website to provide basic information about the government. Government reports and publications are available on the website.

Stage 2: Interaction

In this stage, some features are expanded, such as a downloadable forms, basic search capabilities, link to the other agencies or relevant sites and email address for interactions.

Stage 3: Transaction

The online transaction with good security is available in this stage, such as payment online, tax filling, receiving licenses or renewal the documents. This stage focuses on self-service application so that citizens can access it online.

Stage 4: Transformation

The government delivers fully integrated services among internal and external applications by providing a single point of contact as a central to the citizens in order to provide full communication between the official, citizens or other non-governmental organizations. As we can see in Figure (2.7), the transaction stages triggered the transformation stages, it means, by the time that the government can fulfill all the

requirement in the transaction stage, it can be goes to the transaction stage with all the integrated services [22,23].

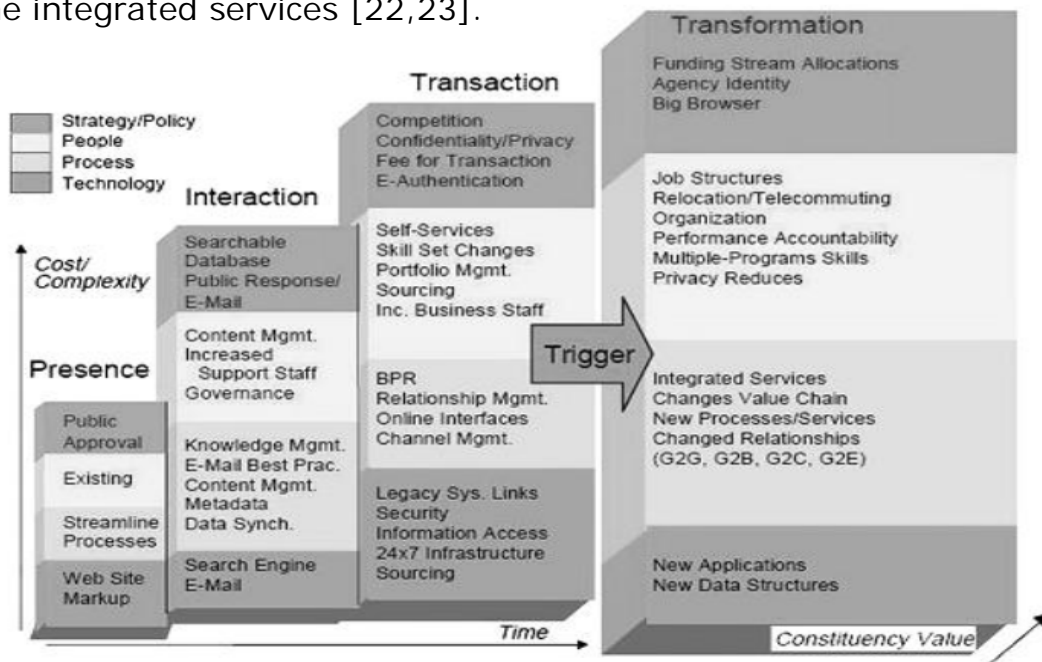


Figure (2.7): Gartner's four-stage model (cited from [50])

Based on the figure above, we can see that Gartner research had four domains supported the e-Government coverage area, namely strategy / policy, people, process and technology. They defined the requirement needed for each stage with the time, cost and complexity as an indicator. Meanwhile, the transaction cost, trigger the transformation stage with the constituency value as an indicator.

2.8 Summary

In this chapter, we provided definitions and overview of e-Government with the challenges and benefit that it provides. We started presenting the e-Government in general and specifically e-Government in Somalia as an example of conditions in a developing country.

Finally, we presented the nature of maturity model. The definitions, general characteristic of the various types of maturity model, why the government uses maturity models, and how to make the assessment framework of maturity model.

The above summaries provides as definitional background for the rest of the thesis and e-government maturity models. In the next chapter, we will explore related work, which attempt to show the proposed e-Government Maturity Model in Somalia.

CHAPTER TREE

RESEARCH FRAMEWORK

3.1 Introduction

This chapter describes and develops the research methodology of the work in this thesis. This explanation is within the perspective of research methods that is used generally the quantitative (survey) methods to explore practices and experiences of implementing and adopting e-government systems in the State of Somalia.

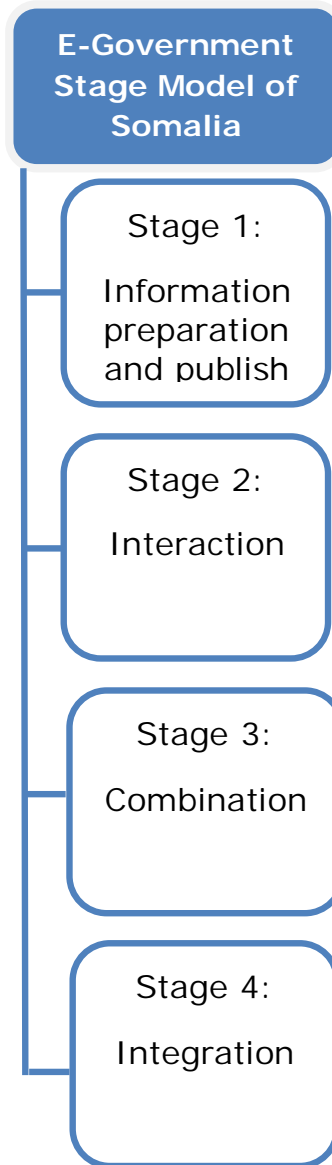
A case study (Qualitative method) was used in the organization responsible for implementation of e-government system in Somalia, to understand the challenges facing implementation, and this was complemented with a survey (Quantitative method) of Somali citizens, to analyze citizens' attitude and usage towards e-government adoption.

Initially, a review of both positivism and interpretive will be conducted. Then, a discussion explains the justification for the selection of a method research approach for the thesis and justifies the selection of the case study and a survey research strategy. The author presents in detail the results of the empirical research methodology, which acts as a framework for conducting the empirical enquiry. Finally, the overall research protocol used for data collection and analysis is discussed.

The primary focus of the methodology is to identify the issues of e-government implementation and adoption in the State of Somalia.

3.2 E-Government Maturity Model in Somalia

In this section the e-Government maturity models are presented, also In this chapter we explain the customization model that suites in Somalia. And also In this part we explain the proposed stages of e-Government model in Somalia briefly in the figure (3.1) as the following below.



3.2.1 Stage 1

As shown in figure (3.1), this stage is an initial stage and is a prerequisite for going to the next stage. It's a one-way communication, each government agencies establishes their own website to provide information about themselves. By publication the information on the website, the citizens can reach the government easier and reduce the number of phone calls from the citizens who need information about government services.

3.2.2 Stage 2 and stage 3

The second stage refers to the interaction stages. It provides two-way communication between the government and the users. As can be seen, the interaction are in the second stage after Information preparation and publish (stage 1). Before going to the interactive stage, which is enhanced and migration stage. That is why the interactive stages are put together - a combination of stages 2 and stage 3 in the cell boundaries. is within the same scope with the interaction stage.

3.2.3 Stage 4

This stage is an important development model that comes after the combination stage. The description of this stages is reference to the same services: one-stop services by integrating all the service between different levels and different structures of government to be clustered along common lines.

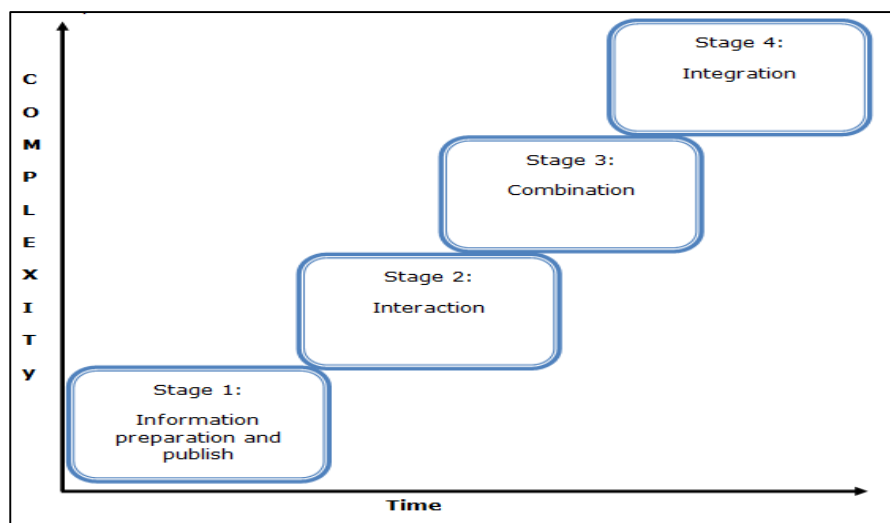


Figure (3.2): proposed stages of e-Government model

by Abdisatar Arabow

3.3 Model of the factors that affect the adoption of e-government system in Somalia

In Somalia, there is a huge gap in e-Government implementation between the cities regarding the infrastructures, distance, literacy, citizens' readiness, management and organizational factors, including human resources. Some literature has dealt with the opportunities, challenges and features of e-Government. The government still not tried to implement the success factors and opportunities that had been researched in some governmental projects. Nevertheless, there are still other factors to be defined that give stronger influences for developing better services with the limited circumstances.

3.3.1 Factors that affect the adoption of e-government system in Somalia.

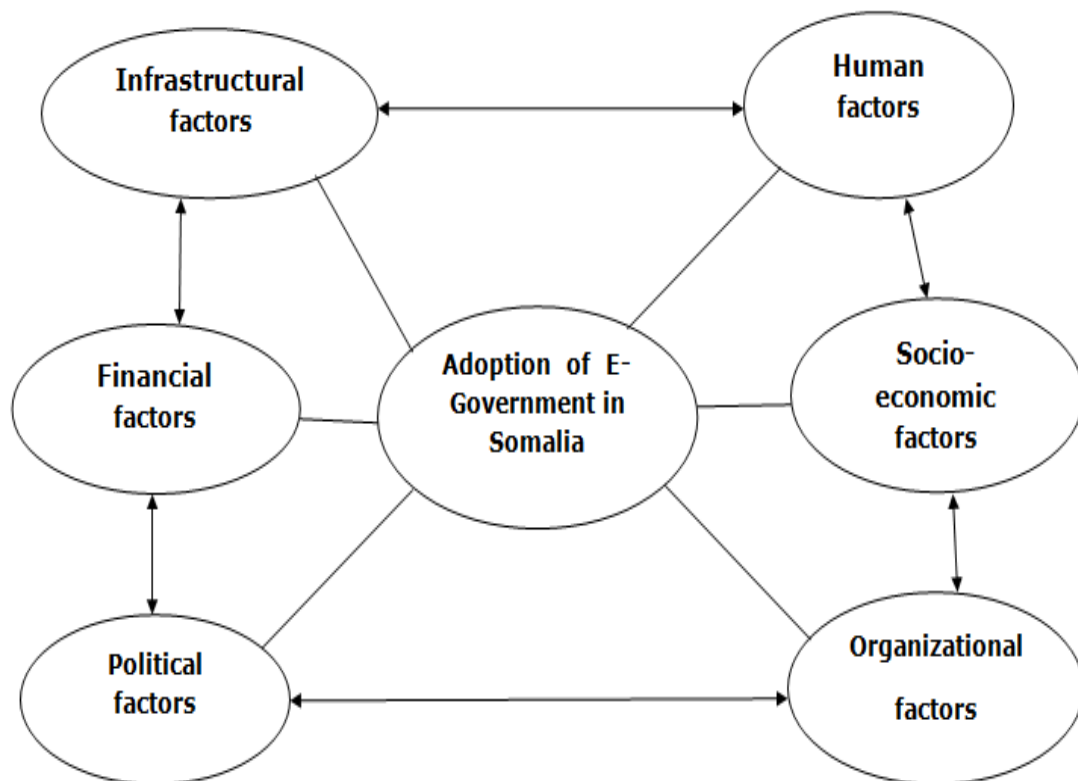
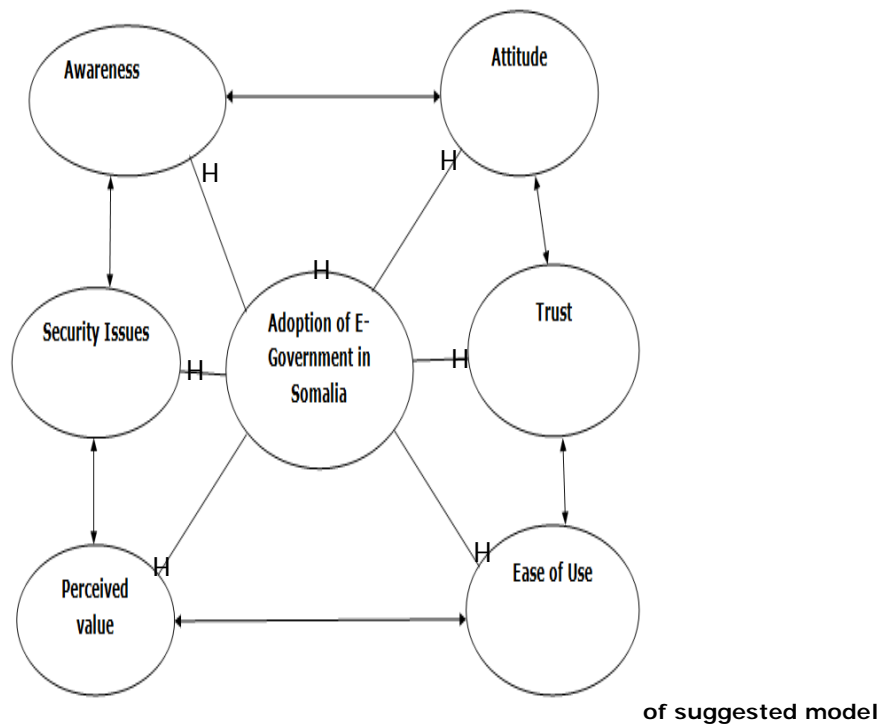


Figure (3.3): Factors that affect the adoption of e-government system in Somalia.

3.3.2 Attributes of suggested model from the maturity model to customize a model that suits Adoption of E-Government system in Somalia



3.3.3 The Proposed Model for the implementation of e-government systems

The Proposed Model for the implementation of e-government systems is to assess the existence a proposing model for the implementation of E-government, to develop e-Government framework, we identified various e-Government maturity model as a foundation for proposed the model consisted of four steps stages. The first stage It's a one-way communication, each government agencies establishes their own website to provide information about themselves. By publication the information on the website, and the second stage presents the interaction stages. It provides two-way communication between the government and the users. and third stages is combination stages before going to the interactive stage, which is enhanced and migration stage. That is why the interactive stages are put

together - a combination of stages 2 and stage 3 in the cell boundaries, and fourth stage is the integration stage for this stage is an important development model that comes after the combination stage. this stage its refers by integrating all the service between different levels and different structures of government to be clustered along common lines.

3.3.4 Sampling

One of the essential requirements for a sample is the size. The sample size must provide the statistical confidence that a survey applied a number of randomly selected individuals will yield results that under the established limits, will accurately represent the entire population (Sierra-Brova , 2005). The sample size must be big enough to convey statistical confidence but must be small enough to accommodate the practical considerations of cost, effort, and time available for the study (Creswell, 2005; Sierra-Bravo, 2005; Sproul, 2003 ; Zikmund,1997).

Alpha level for this study, findings significant at the $P=.05$. However, due to the exploratory nature of this study, finding significant at $P=.10$ level e were noted to suggest avenues for future research.

Data were Initially tabulated using standard summary statistics like means, standard deviation, frequencies, and percentages. As a general data analysis approach the comparisons were performed using Pearson product-moment correlation and t tests for independent means ore one-way analysis of variance (ANOVA) test, Multiple regression prediction equation were created to test the hypotheses.

The determination of an adequate sample size for the regression models was calculated using a formula recommended by Tabachnick and Fidell (2001,p.117). They recommended that the sample simple = $104 + m$ where m where m equals the number of independent variables.

Given that formula, the sample size for this study was of 200 citizens. The researcher allowed an oversampling margin to accommodate invalid or incomplete surveys.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

The questionnaire is conducted as part of my project. The main goal of the research is to propose and validate a stage maturity model for e-Government implementation, in this case is specifically to Somalia. The research aims to provide brief findings of the conceptual model and the recommendations for Somalia to implement e-Government as a future.

The goal of this questionnaire is to investigate the opinion from the experts to examine the main factors that affect the adoption of e-government system in Somalia in order to facilitate these systems., as identified within this study so far. The initial model were provided based on the literature review, consist of four stages.

The questionnaire is conducted to retrieved more information, insight, and to Propose A Model for the implementation of E-government in Somalia.

4.2 Data collection, Results and discussion

This chapter aims to present the findings that were obtained from a nationwide survey that was conducted to examine the factors that effects the adoption of the e -government system in Somalia among the citizens in the state of Somalia.

This chapter also discusses the results of e-government survey questionnaire targeted towards Proposing A Model for the implementation of E-government in Somalia , and it provides a representative account of the citizens' perceptions of the e-government services adoption plan of e-government service users in Somalia.

4.3 Data collection

4.3.1 Sample Size

Data was collected from survey questionnaire that was distributed to a total of 220 citizens between the period of June and July 2014. From 220 questionnaires distributed, 209 responses were received. Of the 209 completed and received, 9 questionnaires were discarded (because the respondents gave more than one answer to a question that expected only one answer) and less questions were unanswered. This meant that, from the final sample of 209 questionnaires, 200 usable responses were obtained and used for all subsequent analysis. Of these 200 usable respondents, the demographic background is as follows:

Relating to the respondent’s gender, (21.8%) of the 200 usable responses were females, while (78.2%) of the total respondents were male. Table 1 below shows the demographic characteristics of the respondents.

Table 4.1: Gender of respondents

		gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	147	73.5	78.2	78.2
	Female	41	20.5	21.8	100.0
	Total	188	94.0	100.0	
Missing	System	12	6.0		
Total		200	100.0		

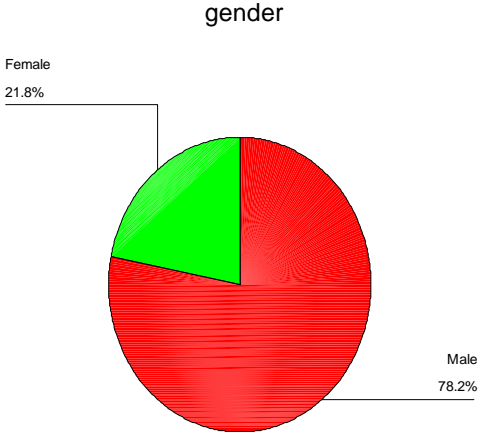


Figure 4.1: Gender of respondents

Table 4.2: Respondents' Age

What is your age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 18	8	4.0	4.0	4.0
	18-24	110	55.0	55.0	59.0
	25-29	65	32.5	32.5	91.5
	30-44	15	7.5	7.5	99.0
	45-54	2	1.0	1.0	100.0
	Total	200	100.0	100.0	

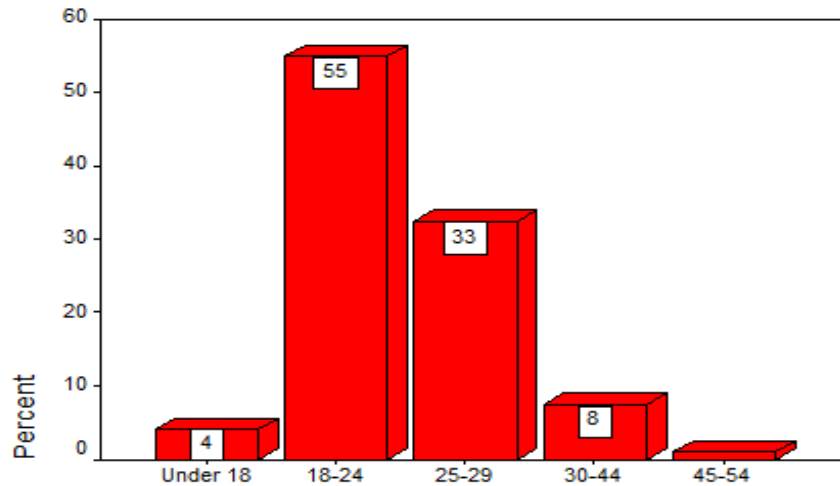


Figure 4.2 : Respondents' Age

In terms of age, the results revealed that the largest percentage of respondents were in the age group of 18-24 (55.0%), followed by the age group of 25-29 constituting around (32.5%) of the total respondents, whilst the age group 30-44 consisted of (7.5%). In contrast, the youngest (less than 18) and the older (greater than 54) age groups together consisted of (5%) of the total respondents (see Figure 4.2).

Table 4.3: Respondents' Occupation

What is your occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Student	142	71.0	91.0	91.0
	Manager	3	1.5	1.9	92.9
	Deblomacy	2	1.0	1.3	94.2
	Doctor	1	.5	.6	94.9
	Nurses	1	.5	.6	95.5
	Teacher	5	2.5	3.2	98.7
	computer maintenance	1	.5	.6	99.4
	Accountant	1	.5	.6	100.0
	Total	156	78.0	100.0	
	Missing	System	44	22.0	
Total		200	100.0		

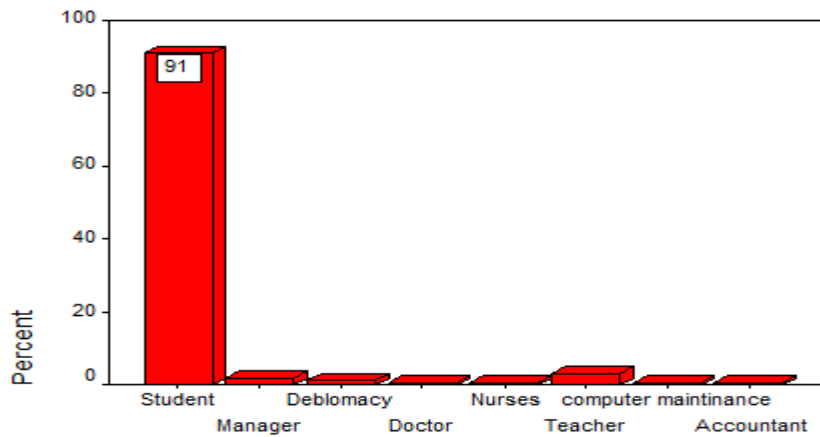


Figure 4.3 : Respondents' Occupation

Table 4.4: Respondents' Educational Backgrounds

What is your educational background

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High school & below	17	8.5	8.5	8.5
	Diploma	20	10.0	10.1	18.6
	Bachelor	122	61.0	61.3	79.9
	Higher Education (postgraduate qualification	40	20.0	20.1	100.0
	Total	199	99.5	100.0	
Missing	System	1	.5		
Total		200	100.0		

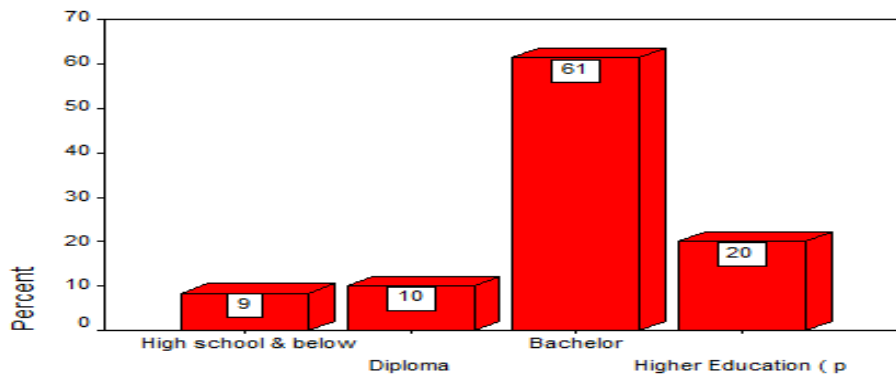


Figure 4.4 : Educational Backgrounds

In terms of educational backgrounds, the majority of respondents (61.0%) hold undergraduate level qualifications degrees (Bachelor), (20.0%) hold postgraduate degrees (Masters and PhD), (10.0%) Hold Diploma and (8.5%) hold either High school certificates or below, (see Figure 4.4).

Table 4.5: Nationality of Respondents

What is your nationality?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somali	160	80.0	80.0	80.0
	Others	40	20.0	20.0	100.0
	Total	200	100.0	100.0	

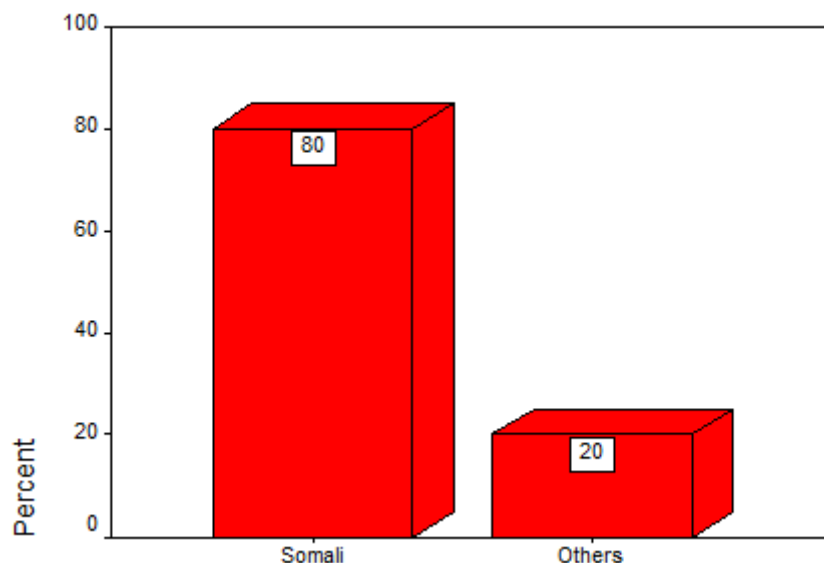


Figure 4.5 : Nationality of Respondents

In terms of nationality, Figure 4.5 shows that the majority of respondents (80 %) are Somali (citizens by birth) and (20%) are non-Somali.

Table 4.6: Respondents' internet usage

How often do you use the Internet?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Daily	134	67.0	67.0	67.0
	Two or three times a week	38	19.0	19.0	86.0
	Once a week	16	8.0	8.0	94.0
	Two or three times a month	7	3.5	3.5	97.5
	Once a month	2	1.0	1.0	98.5
	Less than Once a month	3	1.5	1.5	100.0
	Total	200	100.0	100.0	

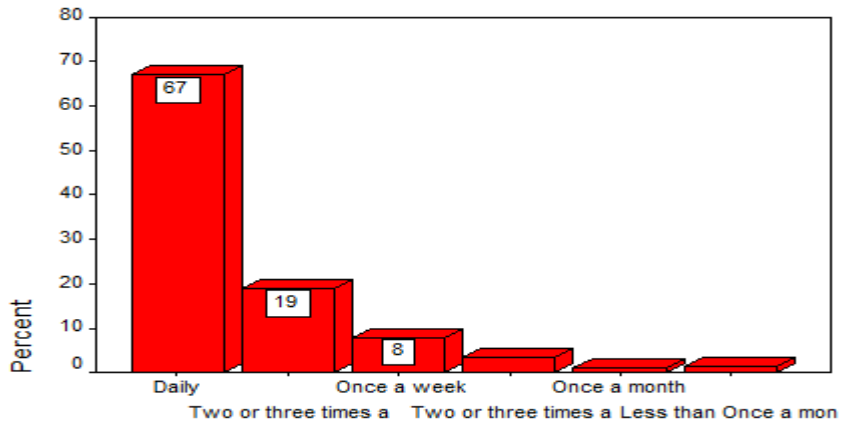


Figure 4.6 : Respondents' internet usage

In terms of internet usage in Somalia, the results revealed that the majority of respondents (67.0%) were found to use the internet on a daily base. This was followed by (19.0%) of respondents who use the internet two or three times a week, (8.0%) of respondents who use the internet once a week and (3.5%) of respondents who use the internet two or three times a week. Finally, the internet usage groups of several times a once month and less than once a month together equaled (10.1%) of the total number of respondents. In contrast, (2.5 %) of the total respondents mentioned that they do not use the internet at all (see Table 4.6).

Table 4.7: Respondents' internet experience

How many years have you been using the Internet					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - 6 months	7	3.5	3.5	3.5
	7 - 11 months	15	7.5	7.5	11.1
	1 - 2 years	18	9.0	9.0	20.1
	3 - 4 years	46	23.0	23.1	43.2
	More than 4 years	113	56.5	56.8	100.0
Total		199	99.5	100.0	
Missing	System	1	.5		
Total		200	100.0		

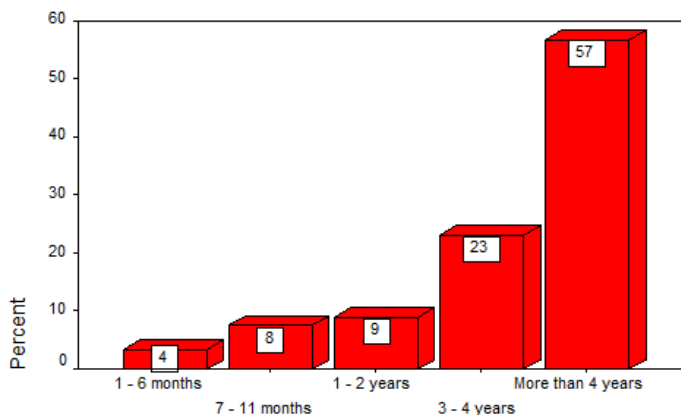


Figure 4.7 : Respondents' internet experience

In terms of internet experience, the results revealed that the majority of respondents (56.5%) were found in the internet experience group, over 4 years. This was followed by the internet experience group of 3-4 years, constituting (23.0%) of the total respondents, and finally the internet experience group of 1-2 years, constituted (9.0%). In contrast, the groups with the least internet experience (1-6 months and 7-12 months) together consisted of (11%) of the total respondents (see Table 4.7).

Table 4.8: Respondents internet Usage purpose

		What is the purpose of using Internet			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Email	7	3.5	3.5	3.5
	General Information Search	18	9.0	9.0	12.5
	Shopping online	2	1.0	1.0	13.5
	Entertainment	2	1.0	1.0	14.5
	Social Networks	20	10.0	10.0	24.5
	Education	23	11.5	11.5	36.0
	Government Services online	6	3.0	3.0	39.0
	Other	3	1.5	1.5	40.5
	ALL	11	5.5	5.5	46.0
	email/search	2	1.0	1.0	47.0
	email/social network	4	2.0	2.0	49.0
	email/ education	3	1.5	1.5	50.5
	email/search/entertainment	8	4.0	4.0	54.5
	email/entertainment/education	4	2.0	2.0	56.5
	email/social networks/education	8	4.0	4.0	60.5
	search/socail networks/education	5	2.5	2.5	63.0
	email/search/entertainment/social networks	4	2.0	2.0	65.0
	email/socail networks/search/education	17	8.5	8.5	73.5
	email/search/education/government services	2	1.0	1.0	74.5
	email / social network /education	9	4.5	4.5	79.0
	search/entertainment/social network/education	3	1.5	1.5	80.5
	email/search/entertainment/social networks	21	10.5	10.5	91.0
	email/search/social networks/education	15	7.5	7.5	98.5
	email/search/entertainment/social networks/education	3	1.5	1.5	100.0
	Total	200	100.0	100.0	

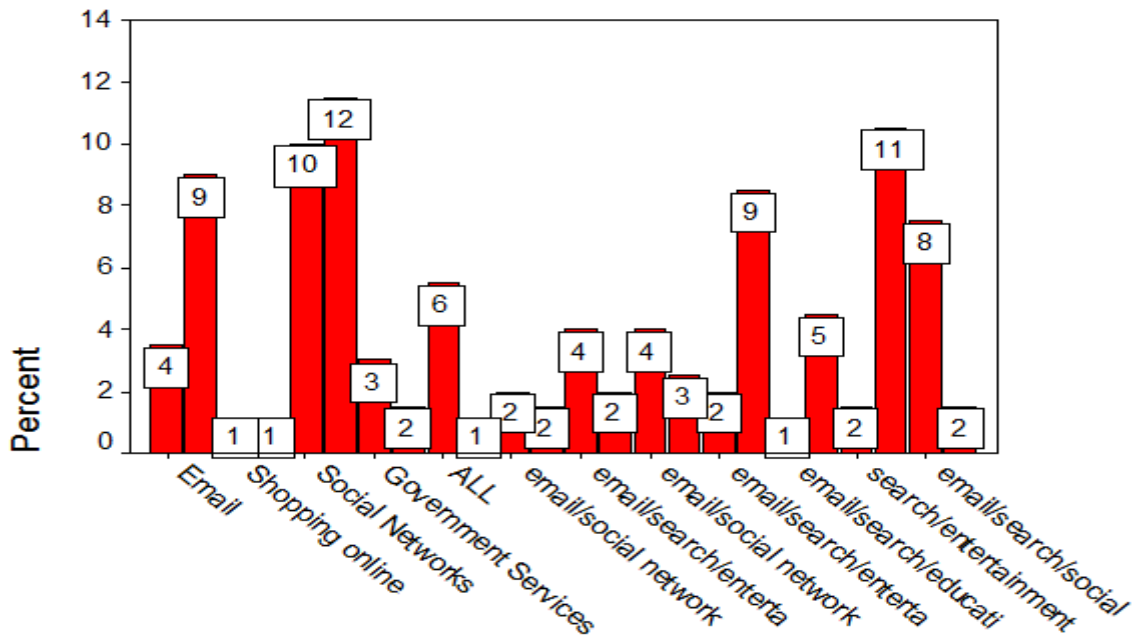


Figure 4.8 : Respondents' internet Usage purpose

Table 4.8 shows the majority of respondents use internet services for: Social Network (78%); Research (63%); Purchasing (32%); Fun (53%); and other reasons (6%), and each respondent had the choice of choosing more than one answer.

Table 4.9: Respondents internet Usage

How often do you use the Internet

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Every day	132	66.0	66.0
	Several times a week.	52	26.0	92.0
	Several times a month	10	5.0	97.0
	Once a month	4	2.0	99.0
	Never	2	1.0	100.0
	Total	200	100.0	100.0

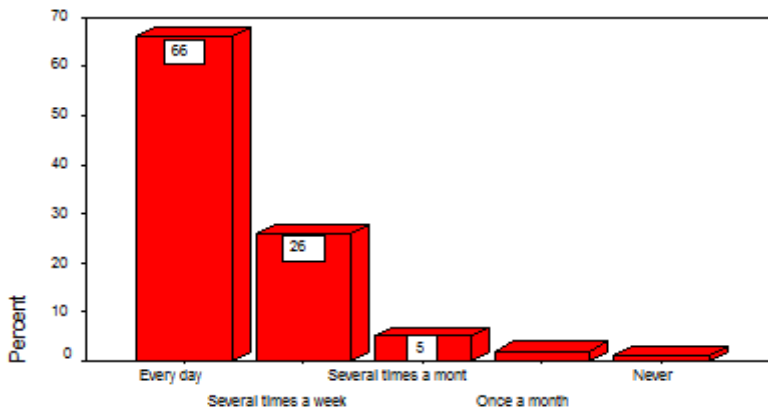


Figure 4.9 : Respondents' internet Usage

Table 4.10: Respondents Usage for Somalia e-government services.

Have you ever used any of Somali e-Government Services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	49	24.5	24.9	24.9
	No	148	74.0	75.1	100.0
	Total	197	98.5	100.0	
Missing	System	3	1.5		
Total		200	100.0		

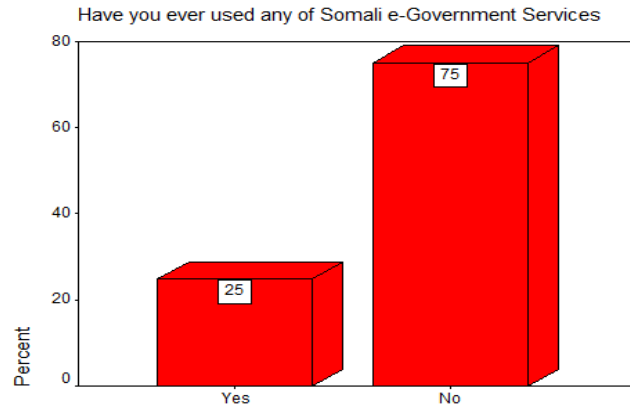


Figure 4.10 : Respondents' Usage for Somalia e-government services.

Table 4.11 : Respondents' General computer knowledge

How do you describe your general computer knowledge?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Poor	8	4.0	4.0	4.0
	Poor	4	2.0	2.0	6.0
	Moderate	34	17.0	17.0	23.0
	Good	82	41.0	41.0	64.0
	Very Good	72	36.0	36.0	100.0
Total		200	100.0	100.0	

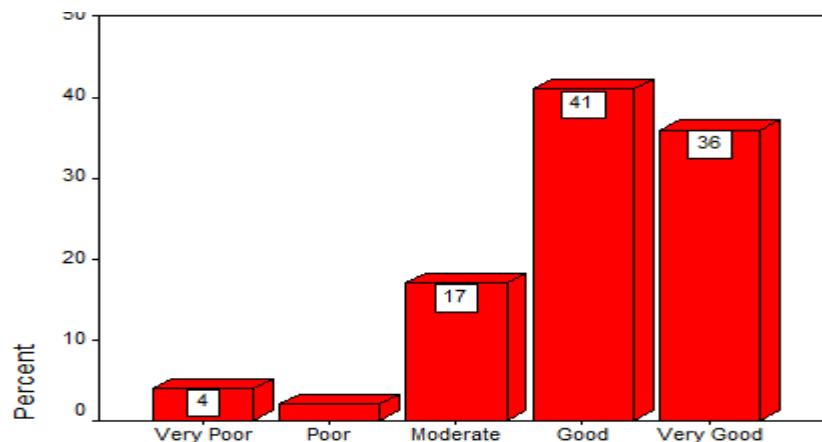


Figure 4.11 : Respondents' General computer knowledge

Table 4.12 : RESPONDENTS EASE OF USE

I would find the e-government system easy to use if I got suitable training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	3.0	3.0	3.0
	Disagree	15	7.5	7.6	10.6
	Uncertain	11	5.5	5.6	16.2
	Agree	101	50.5	51.0	67.2
	Strongly Agree	65	32.5	32.8	100.0
Total		198	99.0	100.0	
Missing	System	2	1.0		
Total		200	100.0		

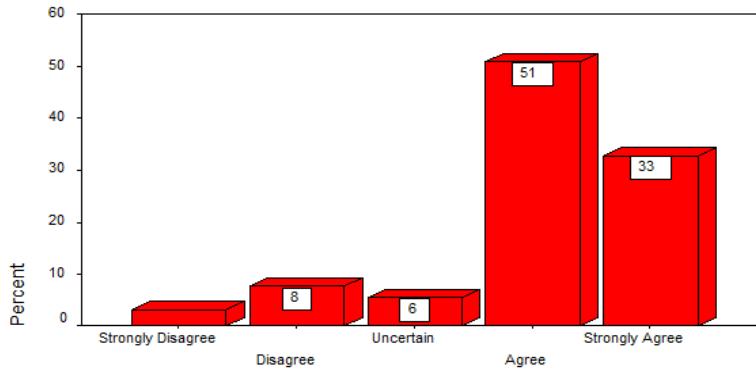


Figure 4.12 : RESPONDENTS OF EASE OF USE

Table 4.13: RESPONDENTS OF TRUST

The E-Government project must increase the level of trust among the citizens.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	5.0	5.0	5.0
	Disagree	24	12.0	12.1	17.1
	Uncertain	18	9.0	9.0	26.1
	Agree	86	43.0	43.2	69.3
	Strongly Agree	61	30.5	30.7	100.0
Total		199	99.5	100.0	
Missing	System	1	.5		
Total		200	100.0		

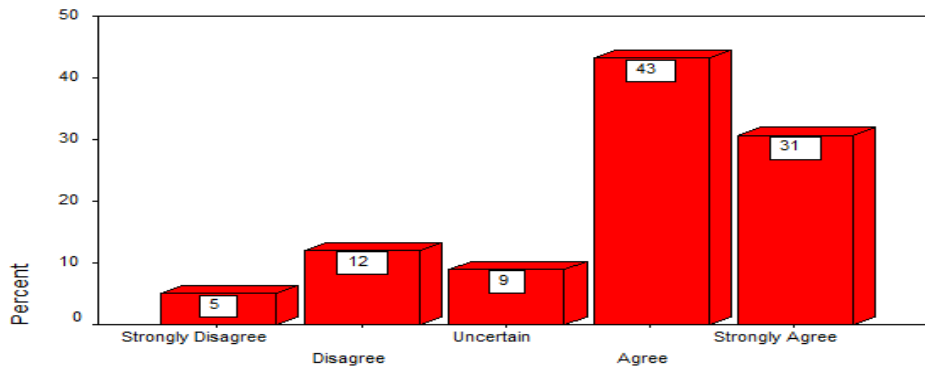


Figure 4.13 : RESPONDENTS OF TRUST

Table 4.14 : RESPONDENTS OF ATTITUDE

E-government requires change in the attitude and mindset of the government which is a big challenge.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	3.0	3.0	3.0
	Disagree	22	11.0	11.2	14.2
	Uncertain	25	12.5	12.7	26.9
	Agree	97	48.5	49.2	76.1
	Strongly Agree	47	23.5	23.9	100.0
	Total	197	98.5	100.0	
Missing	System	3	1.5		
Total		200	100.0		

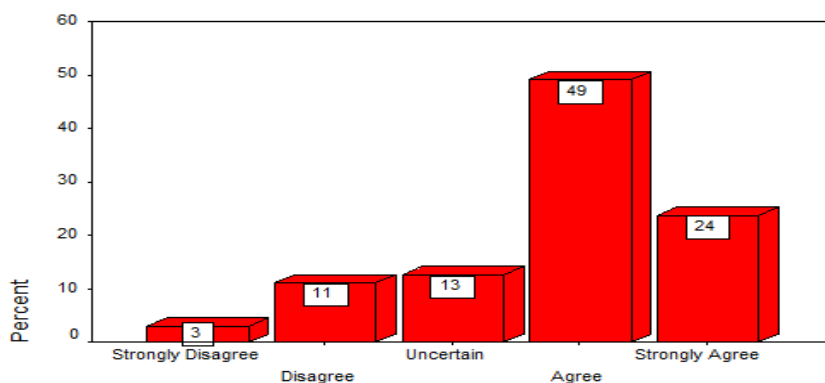


Figure 4.14 : RESPONDENTS OF ATTITUDE

Table 4.15 : RESPONDENTS OF AWARENESS

Lack of technology awareness among citizens.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	4.0	4.1	4.1
	Disagree	23	11.5	11.7	15.7
	Uncertain	28	14.0	14.2	29.9
	Agree	93	46.5	47.2	77.2
	Strongly Agree	45	22.5	22.8	100.0
	Total	197	98.5	100.0	
Missing	System	3	1.5		
Total		200	100.0		

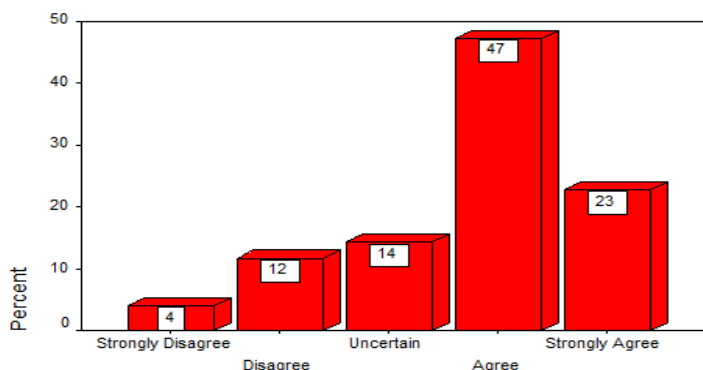


Figure 4.15 : RESPONDENTS OF AWARENESS

Table 4.16 : RESPONDENTS OF SECURITY ISSUES

I am satisfied with the security and privacy measures provided with the e-government system.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	21	10.5	10.6	10.6
	Disagree	30	15.0	15.1	25.6
	Uncertain	32	16.0	16.1	41.7
	Agree	81	40.5	40.7	82.4
	Strongly Agree	35	17.5	17.6	100.0
	Total	199	99.5	100.0	
Missing	System	1	.5		
Total		200	100.0		

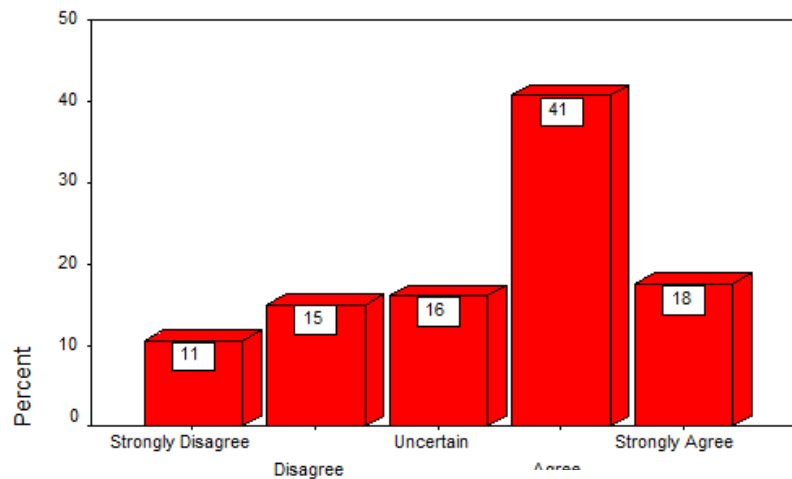


Figure 4.16 : RESPONDENTS OF SECURITY ISSUES

Table 4.17 : RESPONDENTS OF PERCEIVED VALUE

Online government system would enable me to access government information and services when I need them - 24 hours/day, 7 days/week.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	5.0	5.0	5.0
	Disagree	28	14.0	14.1	19.1
	Uncertain	21	10.5	10.6	29.6
	Agree	93	46.5	46.7	76.4
	Strongly Agree	47	23.5	23.6	100.0
	Total	199	99.5	100.0	
Missing	System	1	.5		
Total		200	100.0		

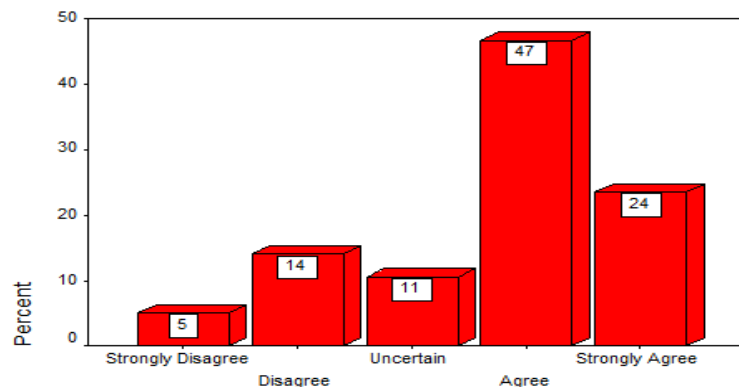


Figure 4.17 : RESPONDENTS OF PERCEIVED VALUE

Table 4.18 : RESPONDENTS OF ADOPTION

I predict using the e-government system in the future.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	13	6.5	6.6	6.6
	Disagree	11	5.5	5.6	12.1
	Uncertain	13	6.5	6.6	18.7
	Agree	111	55.5	56.1	74.7
	Strongly Agree	50	25.0	25.3	100.0
	Total	198	99.0	100.0	
Missing	System	2	1.0		
Total		200	100.0		

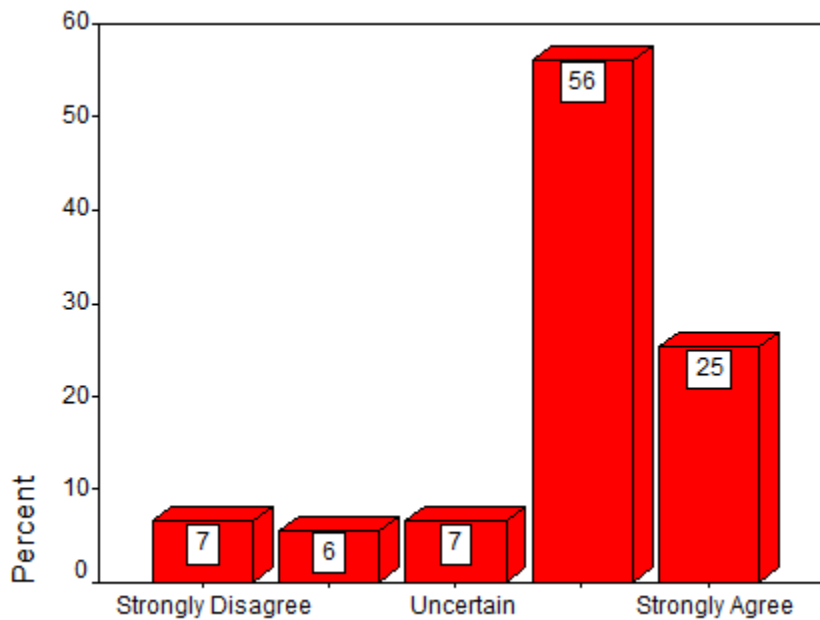


Figure 4.18 : RESPONDENTS OF ADOPTION

Table 4.19 : Ease of use**Descriptive Statistics**

	N	Mean	Std. Deviation
Learning to operate the e-government system is easy for me.	200	3.58	1.145
I would find the e-government system easy to use if I got suitable training	198	4.03	.982
Overall, I believe that the online government system is easy to use.	195	3.55	1.090
I find it difficult to use the e-government services due to lack of information and awareness campaigns.	195	3.59	1.147
It is easy for the internal stockholders (employees etc..) to adopt the e-government process.	197	3.53	1.176
It is easy for me to become skilful in using the e-government system	199	3.74	1.147
Valid N (listwise)	187		

Table 4.20 :Trust**Descriptive Statistics**

	N	Mean	Std. Deviation
The extent of reliability (technical/commercial) of the project is high.	196	3.38	1.173
The E-Government project must increase the level of trust among the citizens.	199	3.82	1.143
Citizens' trust, leading to adoption and use of e-Government systems.	198	3.62	1.155
Trust on the government, perceived usefulness and perceived quality of the e-Government services.	195	3.61	1.132
The trust in technology will positively influence the trust in e-Government services.	197	3.82	1.136
Valid N (listwise)	191		

Table 4.21 : Attitude

Descriptive Statistics

	N	Mean	Std. Deviation
Increased level of citizen's comfort with the electronic medium is driving e-government.	196	3.58	1.132
E-government requires change in the attitude and mindset of the government which is a big challenge.	197	3.80	1.025
Culture of civil services/bureaucrats is a critical success factor for e-government.	195	3.70	1.173
Using the E- government system would be a good idea.	196	4.18	.989
Using the E- government system would be a pleasant experience.	196	4.05	1.011
Valid N (listwise)	191		

Table 4.22 : Awareness

Descriptive Statistics

	N	Mean	Std. Deviation
Lack of technology awareness among citizens.	197	3.73	1.066
The E-Government project must increase the level of awareness for all citizens about e-Government project, through developmentally appropriate programs.	199	3.90	1.101
Awareness is a critical factor to the success of e-government, from a number of perspectives.	199	3.72	1.202
There is a lack of awareness and usage of e-governance among female.	198	3.30	1.321
Increased awareness of rights of civil society and obligations of government.	194	3.81	1.114
lack of awareness of e-government services.	199	3.78	1.097
Valid N (listwise)	188		

Table 4.23 : Security issues

Descriptive Statistics

	N	Mean	Std. Deviation
I am satisfied with the security and privacy measures provided with the e-government system.	199	3.40	1.238
I believe that security is very important to increase citizens trust in e-government service.	198	4.04	1.019
The privacy and security of personal information issues should be initiated from the very beginning of e- government initiative.	200	3.81	1.050
E-government consider security and privacy as one of the key challenges for the implementation of an e-government system.	200	3.81	1.100
The e-Government project must increase the level of security and confidentiality.	200	4.20	1.017
Valid N (listwise)	198		

Table 4.24 : Perceived value

Descriptive Statistics

	N	Mean	Std. Deviation
Online government system would enable me to access government information and services when I need them - 24 hours/day, 7 days/week.	199	3.70	1.128
Using the e-government system will enable me to accomplish tasks more quickly.	198	3.85	1.046
Overall, the e-government system is useful to me and other citizens.	197	3.74	1.084
Using e-government system saves me time doing the rational paper process.	197	3.86	1.125
ICT (Information & Communication Technologies) is a tool for achieving better governance.	197	3.92	1.069
E-Government project has resulted in substantial cost savings (Infrastructure, operational, personnel cost) to the government.	199	3.82	1.095
Valid N (listwise)	191		

Table 4.25 : Adoption

Descriptive Statistics

	N	Mean	Std. Deviation
I predict using the e-government system in the future.	198	3.88	1.059
I plan to use e-government system in the future.	197	3.90	.972
I intend adopting e-government system in the future.	192	3.91	1.009
The adoption e-government has the potential to provide service to citizen as lower cost.	199	3.81	1.065
e-government adoption refers to the intention of citizen to use e-government information service.	197	3.96	.925
Valid N (listwise)	190		

4.3.2 Reliability of data

The research instrument was tested for its reliability and construct validity before presenting the findings. The following section illustrates reliability.

***** Method 1 (space saver) will be used for this analysis

—
R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P
H A)

Reliability Coefficients

N of Cases = 154.0 N of Items = 38

Alpha = .9341

Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. A "high" value for alpha does not imply that the measure is unidimensional. If, in addition to measuring internal consistency, you wish to provide evidence that the scale in question is unidimensional, additional analyses can be performed. Exploratory factor analysis is one method of checking dimensionality. Technically speaking, Cronbach's alpha is not a statistical test - it is a coefficient of reliability (or consistency).

Cronbach's coefficient alpha values were estimated to examine the internal consistency of the data post-gathering, and Cronbach's alpha is a measure of reliability (Hinton et al., 2004; Field, 2005). More specifically, alpha is a lower boundary for the true reliability of the survey. Mathematically, reliability is defined as the proportion of the variability to the responses to the survey and is the result of differences in the respondents. Also, the results of the survey will differ because respondents have different opinions,

$$\alpha = \frac{k(\text{cov}/\text{var})}{(k-1)(\text{cov}/\text{var})}$$

not because the survey is confusing or ambiguous with multiple interpretations.

The computation of Cronbach's alpha is based on the number of items in the survey (k) and the ratio of the average inter-item covariance to the average item variance.

Under the assumption that the item variances are all equal, this ratio simplifies to the average inter-item correlation, and the result is known as the Standardized item alpha (or Spearman-Brown stepped-up reliability coefficient).

4.3.3 Measuring the Constructs of the model

Cronbach's coefficient alpha values were chosen to examine the internal consistency of the measure (Hinton *et al.*, 2004; and Field, 2005) (see Table 4.26). Hinton *et al.*, (2004) have suggested four different points of reliability: excellent reliability ranges (0.90 and above), high reliability (0.70- 0.90), high moderate reliability (0.50-0.70) and low reliability (0.50 and below). The reliability for each construct is illustrated in Table 6.10. A high Cronbach's value for all constructs implies that they are internally consistent and measure the same content of the construct.

Constructs	N	Number of items	Cronbach's Alpha (a)	Type
Ease of use	1184	6	0.886	High Reliability
Trust	985	5	0.916	Excellent Reliability
Attitude	980	5	0.794	High Reliability
Awareness	1186	6	0.845	High Reliability
Security issues	997	5	0.784	High Reliability
Perceived value	1187	6	0.843	High Reliability
Adoption	983	5	0.796	High Reliability

N= Sample Size

The aforementioned Table 4.57 illustrates Cronbach's coefficient alpha values that were estimated to test the internal consistency of the measure. Cronbach's results varied between (0.796) for the adoption to adopt e-government and (0.916) for the trust constructs. attitude revealed a reliability of (0.794) and awareness possessed a reliability of (0.845) and Perceived value obsessed a reliability of (0.843) and Security issues possessed a reliability of (0.784).The remaining construct, namely ease of use had a Cronbach's score of (0.886).

These values show that some of the constructs achieved between high reliability (from 0.70 to 0.90) according to Hinton's cut-off points of reliability (Nunnally, 1978). The high Cronbach's values of the constructs means that constructs were internally consistent and the reliability of the same construct is measured (Field, 2005). The findings show that all the alpha values indicates the study's instrument is reliable and the higher the Cronbach's (α) value of construct, the higher the reliability is of measuring the same construct (Dwivedi et al., 2006).

4.3.4 Hypotheses and model testing

The following Table shows whether these research hypotheses are supported or not. Table 4.58 demonstrates a total of eight research hypotheses that were tested to examine whether the independent variables significantly explained the dependent variables. The eight research hypotheses were supported by the data and it means that all the independent variables significantly clarified and explained the Proposing A Model for the implementation of E-government in Somalia to adopt e-government.

Table 4.27: Summary of research hypotheses		
HN	Research Hypotheses	Results
H1	Ease of use will have a positive influence on the adoption purpose to use e-government services.	Supported
H2	Trust will have a positive influence on the adoption purpose to use e-government services.	Supported
H3	Attitude will have a positive influence on the adoption purpose to use e-government services.	Supported
H4	Awareness will have a positive influence on e-government usage of e-government services.	Supported
H5	Security issues to use e-government services will have a positive influence on the usage of e-government	Supported
H6	Perceived value will have a positive influence on adoption purposes to use e-government services.	Supported
H7	Adoption to use e-government services will have a positive influence on the usage of e-government	Supported
H8	The adopters of e-government will be more from male than female gender.	Supported

4.3 The Relation between Trust and adoption

Crosstab

			I plan to use e-government system in the future.					Total
			Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	
The extent of reliability (technical/commercial) of the project is high.	Strongly Disagree	Count % within The extent of reliability (technical/commercial) of the project is high.	2 14.3%	5 35.7%	1 7.1%	3 21.4%	3 21.4%	14 100.0%
	Disagree	Count % within The extent of reliability (technical/commercial) of the project is high.	0 .0%	5 13.9%	6 16.7%	19 52.8%	6 16.7%	36 100.0%
	Uncertain	Count % within The extent of reliability (technical/commercial) of the project is high.	0 .0%	4 11.8%	3 8.8%	18 52.9%	9 26.5%	34 100.0%
	Agree	Count % within The extent of reliability (technical/commercial) of the project is high.	1 1.3%	6 7.6%	3 3.8%	50 63.3%	19 24.1%	79 100.0%
	Strongly Agree	Count % within The extent of reliability (technical/commercial) of the project is high.	1 3.3%	1 3.3%	2 6.7%	14 46.7%	12 40.0%	30 100.0%
Total		Count % within The extent of reliability (technical/commercial) of the project is high.	4 2.1%	21 10.9%	15 7.8%	104 53.9%	49 25.4%	193 100.0%

Table 4.28 : RELATION BETWEEN TRUST AND ADOPTION

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	36.088 ^a	16	.003
Likelihood Ratio	29.430	16	.021
Linear-by-Linear Association	12.990	1	.000
N of Valid Cases	193		

a. 14 cells (56.0%) have expected count less than 5. The minimum expected count is .29.

Table 4.29 : Chi-square Tests

Symmetric Measures

	Value	Asymp. Std. Error ^a	Approx. Z ^b	Approx. Sig. ^c
Interval by Interval Pearson's R	.260	.081	3.723	.000 ^c
Ordinal by Ordinal Spearman Correlation	.229	.075	3.244	.001 ^c
N of Valid Cases	193			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Table 4.30 : Symmetric Measures

4.4 Chapter Summary

This chapter presented the findings obtained from the data analysis of the survey that was conducted to examine the factors that affects the adoption of e-government system in Somalia. The findings were shown in several sections. The first step was a discussion of the validation and findings obtained on the adoption of the e-government system. The section presented findings that illustrated that the reliability test was confirmed and that the measures were internally consistent, as all of the constructs possessed a Cronbach's alpha above (0.70).

The construct validity was established utilizing the PCA. A significant probability tests resulted. The components consistent with the number of independent factors in the conceptual model resulted that Eigenvalues above (1), and factors validity were loaded and resulted in all items having a score of at least (0.40) (Straub *et al.*, 2004; Dwivedi *et al.*, 2006)In addition, the results revealed that there were no cross loading above (0.40), and this confirmed that both types of the construct validity existed in the survey instrument.

Finally, Findings from descriptive statistics imply that all the constructs rated strongly in the (1-5) liker scale. This concludes that the respondents showed strong agreement with factors included in the study for examining the adoption of e-government system in Somalia.

CHAPTER FIVE

Conclusions and suggestions Future Work

conclusions and suggestions Future Work

Maturity models have been developed to assess different specific areas. Based on the maturity assessment, organizations can identify the gap between the current situation and their desired one. They could predict the extent to which activities that have the potential to achieve the desired outcomes.

Although literature proposes Maturity models of e-Government, In this thesis, we have introduced the stage maturity model of e-Government in order to improve e-Government services by utilizing e-Government features. In chapter two, the background and definitions of e-Government and challenges are presented. The research selected appropriate maturity model of e-Government.

Finally, we validated the usability of our model in practice by conducting case studies using maturity assessment tools in two different government areas.

Research can usually be further developed and the research presented here is no exception. However, there are some areas that relate to this research which need to be investigated and explored further. Also, there are some alternative directions of further work could be embarked upon. These are as follows:

1. Further research should be more detail in the different types of interactions, including G2C, G2G, G2B and G2E. The research should include other third-parties organizations besides the government, such as private companies, telecommunication provider, etc.
2. Detailed research to assess the need of the government for the whole e-Government project. Providing detailed requirements, and provide

them with completed roadmap including the timeline, complete actions with the blueprint and guidelines.

3. Use weighting factors for each key indicator within a maturity aspect, to calculate an accurate overall maturity value for the organizations.
4. Conducting additional case studies came from local government in rural areas and also possibility to conduct the case studies in other developing countries as well to generalize the model.

Conclusion

E-government implementation and adoption has been examined by many studies, but most of these studies concentrate on the implementation and adoption processes at local or state levels. Moreover, most studies focus separately on either implementation or adoption and no studies were found that take a cohesive view of e-government implementation and adoption collectively.

Furthermore this research introduces a model for the implementation and adoption of E-government systems in Somalia. To test the validity of models, a nationwide survey was conducted to examine the factors that affect the adoption of the e -government system in Somalia among the citizens in the state of Somalia.

The study also proposed a model for the implementation of e-government system in Somalia based on E-government systems maturity model which provided a guidance on how to gain control of the process of developing and maintaining E-government services and how to evolve toward a culture of excellence in providing and managing E-government. The models were validated using questionnaires that were collected from participants in the state of Somalia. the results showed the significant relation between all the attributes of the model.

The study also contributed significantly to the literature on the implementation and adoption E-government systems in Somalia since there was not enough published work about this topic.

RECOMMENDATIONS

This is extremely serious treatise on the electronic government implementation system in Somalia. I wish the government in my beloved country and people to read and assimilate this research project.

I recommend the Somali authorities kindly to adopt the following procedural tips;

- ➡ Promotional and enlightening campaign for the government employees and other people slides on E-government implementation through different media channels.
- ➡ Amendment and education curricula to upcoming generations and tune them for this newly applied revolution.
- ➡ Preparation of compatible and adjusted laws and regulations.
- ➡ Facilitate internal and external training programs.
- ➡ Improvement of infrastructures in Somalia for this schema.
- ➡ The organizations should have a clear vision and directions of the development of e-Government program. Therefore, commitment and support from top-level management is important to develop e-Government projects successfully.

I appeal my government to implement fruit of this paper urgently to collect the fast economic and social consequences.

The international experiments showed that the government did not embark the E-government from final. i.e. not presented as matured phase but implemented it as gradual program till they became mature E-governments.

Humble initiation is not shame, Somalia can try partially in some institutions like customers, higher education, passport and visa department for example.

I invite my citizens who educated related science to be utilized this research project and to be acquainted by training to share this upcoming revolution.

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