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MASTER'S THESIS

E-government in Developing Countries

Opportunities and Implementation Barriers

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(Opportunities and Implementation Barriers)

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Luleå March 2007

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Abstract:

E-Government, or electronic government, is the usage of information and communications technology to support internal processes of government and the delivery of government products and services to citizens and industry. The purpose to adopt ICTs is to give an opportunity to citizens, so they can get involve in decision making process. E-government has become priority for developing countries after reaching in developed countries. There has been a considerable revelation that E-government has made constructive changes in the delivery of services, information and internal administration of the public sector. Many developing countries feel to take some advantage of the new electronic channels. The purpose of this research was to gain a better understanding of E-government in developing countries and to identify barriers and also discuss how to deal with those barriers for a successful implementation; therefore research questions have been formulated to achieve the purpose. Based on detailed literature review, a frame of reference was developed, which helped to answer research questions and guide to data collection. A qualitative research approach was used to get better understanding of this issue. However, empirical data were collected through self administered questionnaire. Finally, in the last chapter findings and conclusions were drawn by answering research questions. In the research it was found that E-government increases interaction between citizens and governments and developing countries has realized the importance of ICT, therefore talking steps for E-government. Both respondents seem to have the same description, motivation and underlining objectives.

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Chapter 1: Introduction

This first chapter begins with a general background of our area of study. This is followed by a problem discussion and overall specific purpose. The chapter ends with an overview of the entire thesis.

1.1 Background

Choudrie (2005) identified that as the influence of e-commerce and e-business is increasing in our lives, the government, organization and society as whole have started to recognize the need of information technology and Internet. At the same time private sector always want to keep in line with new trends, but now governments are also focusing to provide maximum service online, to successful implementation of this purpose, information and communication technology (ICT) has been viewed, as previous experiences have been successful. Therefore governments are eager to promote the access and usage of ICTs. (ibid) The purpose to adopt ICTs is to give an opportunity to citizens, so they can get involve in decision making process. (Signore *et al.*, 2005) As Ebrahim and Irani (2005) talked about ICTs, the adoption of ICTs and related technology has given the comfort and awareness with technologies in many contexts (e.g. communicating with people, e-marketing and etc). The ICT infrastructure helps e-government to communicate with its citizens, support e-government operation and provide effectiveness, offer better services. Private sectors have many choices of application and technologies to support e-business. Due to continual improvement in ICTs these application and technologies help the public sector to implement valuable e-government and support their business process. (ibid)

According to Burn and Robins (2003) the Internet has been playing a huge role, to interact with the organizations on the large scale. It has the potential to communicate information and develop business transitions. Now new environment has created where companies can work together through networks of customers and suppliers. The Government has reached on the Internet, with the few exceptions. Therefore through online services major government change and re-invention of government are becoming fast. According to Davison *et al*., (2005), in the business world significant concentration has been taken placed on the adoption of web based technologies, precisely in B2B (Business to Business) and B2C (Business to Customer), but new segments has gained the interest specially those who involved with the government, such as G2B (Government to Business), G2C (Government to Citizens), G2E (Government to Employees) and G2G (Government to Government).

Many people are having their own definition about E-government. Some say's E-government is about to put services online. Other observers define E-government is to automate the government services.

Definition: E-government is to provide better service by using technology and streamline government process through emerging dislocated information. (Limayem, 2006)

A concept of E-government is the use of information technology among all levels of government, citizens and the business sector, also offer services and products provide information and complete financial transaction. (Fang, 2002)

Facilitating governmental agencies by providing better services to their citizens, such as pay taxes online, renewal of driving licenses, applying for jobs, voting and many other services can be done rapidly and professionally. (Chircu *et al.*, 2005)

Backus (2001) state, this is not a dream that government offer their services on one counter without wasting citizens time, 24\7 services available. This will be possible in near future if governments are willing for E-government. Each citizen can fully utilize government service through a website where all forms, news, information and other service will be available. In Europe and USA, commercial banks have introduced this technology. Citizens can do many transactions through ATM, by email or by the Internet, which can increase revenue, save time and also enhanced citizen's trust. Government can also adopt this trend to make their internal operation more efficient, save cost and serve their customers in a better way. Long term goals and short term steps make good approach towards implementing E-government. (ibid)

Basu (2004) described that, developed countries are getting many benefits and increasing their efficiency in different citizen's services through E-government. Developed counties experience shows that it is not difficult for developing countries, if they start reengineering, decentralize the process and use Internet. E-government is not just to put a website on the Internet. This is strategically to support and reduce the gap between government and the citizens. The use of ICT facilities the governments operation and help them to develop effective and efficient interaction between citizens, business, public and other agencies. (ibid)

Discussed by Ndou (2004), many developing countries are not having sufficient ICT infrastructure for E-government development. The basic infrastructure is required to take benefits from new technologies for implementing E-government. Government should consider all access methods like cellular phone, Internet, email, satellite receivers, etc., to ensure that all members of society can be served. The availability of technological and maintenance skills required for successful E-government implementation as well as ability for using and managing online procedures and functions are required. (ibid)

According to Ebrahim and Irani (2005), government leaders and officials know the importance of E-government to improve the government services towards citizens and give plenty of benefits to the community, but adoption of E-government is not so simple and can't be applicable in a short time. It needs a proper planning, framework to put government information and services online. Due to lack of planning and framework, many government organizations are still on the immaturity level. (ibid) Basu wrote in 2004 that ICT has the potential to reach in developing countries and promote E-government. Development of E-government is directly connected with IT infrastructure that can help to execute E-government. Comprising security, network, management, development tools called E-government infrastructure, on the other hand many

developing countries still not have this infrastructure to deploy E-government. The gap between educated and uneducated is wide in developing countries. Educated people have all necessary information and have resources to use IT. In fact E-government is the hope to provide better services for citizens. In remote area may not have roads, school or telephone lines, but through cyber cafe, and satellite channels, it is possible to connect the people with whole world, furthermore it is comparatively cheap to connect people by IT rather to bring them online. Nowadays many developing countries are realizing that E-government is not only to improve governance and create jobs, but also to enhance the living style of people. (ibid)

As Burn and Robins (2003) described E-government has the opportunity to interact with the citizens and the organization to fulfill their demands by offering new methods of service delivery. Internet is a cost effective device for the government to stipulation of information and all the time service. As per Chao and Tong (2005) E-government is a combination of fast information technology and government transformation. It uses new information skill and executive theory to frequently change and improve conventional government and then understand governmental directions and examine effectiveness. The E-government covers a broad variety of fields with different services. E-government has different characteristics, such as G2G and G2C. (ibid) Burn and Robins (2003, p.26) noticed "E-government is not just about putting forms and services online, it also provides the opportunity to rethink how the government provides services and how it links with them in a way that is tailored to the users needs". E-government provides clear picture of the government and new way of services to the people. The government to E-government process gives governments an exclusive way to improve not only in operational activities, but also in-house competence. (Davison *et al.,* 2005)

However, as discussed by Jaeger and Thompson (2003), E-government is still facing many challenges as it is in development process. Government must considers some elements of policy, including authoritarian issues, economics matters and the right of users before designing and executing E-government websites. They further explained some challenges to implementing the E-government (1) Maintaining a citizen relation (2) Protecting individual privacy (3) Suitable security control (4) Generating standardized service to the public.

As per Ebrahim and Irani (2005), many governments are taking steps for E-government and some major problems and barriers are already in consideration. Technology can't give the assurance for successful E-government, but it is required for any E-government to have enough resources, adequate infrastructure, trained staff, strong IT training and support. According to Lam (2005), a lack of common goals and objectives with governments bodies as a major barrier. It is necessary to have common thoughts between government agencies for E-government. E-government initiatives require sufficient investment. Complexities can be accruing during obtaining funds, especially if financial support is from funding pool and that is for multiple purposes. There is a need for proper funding, mainly for long period e-government plans. Citizens are very concern about their privacy. Consequently it is continue threat in E-government and it is recommended that sharing of data between government agencies should be done in controlled and

proper way to protect sensitive information regarding citizens. Some of agencies have found it difficult to manage and fail to run with the speed of reform. It is necessary to change state of mind rather then governments focus to move towards more technology oriented environment. This is the fact that e-government is a new concept and has the potential to affect on citizens that's why policy matters must be look carefully. Proper planning and discussion needed before implementation. (ibid)

According to Ebrahim and Irani (2005), qualified IT staffs give power to the government to struggle with private firms. Private sectors are required to get in touch with E-government services to enhance the effectiveness of E-government and there is a need for IT professional and highly trained people. Because with out having qualified staff, there is a possibility to loose the customer service benefits driven by technology, so training and tools are essential for the employees to do their jobs in an efficient manners. One of major problem with E-government implementation is the organizational barriers, to minimize this problem there is a need to change organizational culture, strategy and individual attitudes within the organization. Some of organizations are reluctant to share their information to other department or with external parties. They feel this sharing will reduce their power of authority and this is also a hurdle of E-government adoption. (ibid)

(Choudrie *et al*., 2005) identified that, with Innovation of technology and organizational idea, the E-government will raise a number of barriers for the citizen and government similar. Therefore government and citizen face the big challenges to overcome these obstacles. Due to the lack of knowledge many citizens can't participate in government services. To reduce this gab, government cooperate with elder, poor, language limited and uneducated groups that don't have the Internet access facility. The lack of computer knowledge is another important issue when considering the E-government aspect. On the other side, distribution of information and connecting with other government organizations could be the pressure on the management of the local government. Furthermore some employees can resist changing when new technologies are introduced. (ibid)

Why E-government?

The process of globalization is a step towards plummeting costs difference and rising income among countries. Initiatives of E-government will be a powerful tool to bring together all benefits on international level. Direct outcomes of E-government consist of saving in tax collection, public and government operation. The distance between government and citizens is going to be reduced due to continuous interaction with citizen, especially in remote area. Indirect outcomes are as important as direct, like transparency and accountability in dealings and public decision making process, ability to reduce corruption, but E-government is not a magic to solve all the problems of corruption and inadequacy, or it can conquer all barriers to society. Although it brings change and shows more new way of organizational process. This is why E-government has become priority for developing countries after reaching in developed countries. (The World Bank e-government hand book, 2002)

According to Ke and Wei 2004, E-government aim is to provide citizens with the fastest and most convenient way of getting government services. But E-government is not straightforward matter. Even though many federal, state and governments have enthusiastically considered to a digital future and supported it as a policy direction since the mid-1990s and their efforts towards E-government have been blocked by various challenges. World Markets Research Center found that 2,288 national governmental Web sites in 196 countries, only 8% of the Web sites offered online services, and only 6% supplied integrated services at their portals hence; E-government is still in infancy. Successful E-government implementation has become a great challenge to public sectors around the world. (ibid)

1.2 Problem Discussion

According to Davison *et al.,* (2005), this is not unusual that governments are slower to reach on the web scale. Additionally government is a more conservative body, slower to change to slower to adopt new technologies than commercial field. Practically it is necessary to whether government really want to change to E-government. Davison further argued about the barriers of associated with the E-government, such as privacy and security issue of citizen, insufficiently capable citizens and government employees and the tendency of change to government to E-government. Lastly there is the issue to access. Some have and some have not is still a problem in society and miserably many people who want to gain some from E-government are not linked, less educated and also not has the awareness of how to do so. (ibid) Lam (2005) found, that lack of communication, common target and purpose between the governments agencies are the main problem in E-government. Without having common set of ideas multiple government agencies can get confused and conflict in responsibilities can be raised. Agencies need guidance to establish the vision of E-government. They need to know how to implement service for E-government (ibid)

Cleveland (2005) stated, that rules and regulations, procedure, mechanical support, power are the typically products of government but among these policy is difficult to customize. Consequently government not only need speedy computer to do the tasks. Especially they need intellectual, skillful people to control the computer and keep telling when and how to make exceptions to routine and more precisely what to perform or declare , and why or to whom. Computer connected with technologies can facilitate the most responsible stage of government, but only to perform strategy analysis, the writing and the communication more efficient. The excellence thoughts generated, the clarity of the words, are away from any machine. E-government is a new word, helpful for the public representatives to formulate the information technology but the “e” means a visualization of good government, not a purpose or mission. The objective is to run successfully and efficiently with a human touch. “Machines don’t govern but people do”. (ibid)

Yen & Evans (2005) indicated, to plan a proper E-government structure, it is important to learn from field experience. Numerous factors are involved with effective coordination between state and local system. Previously, coordination has been poor but it is expected that E-government applications will increase the coordination and reduce the gap between state and local bodies. (ibid) Moreover, E-government doesn’t happen to buy

computer and design colorful website. Online services can't be effective and cost saving automatic. E-government is a process that needs proper planning, support, resources, funds and lastly political spirit (The World Bank e-government hand book, 2002)

Ndou 2004 identified that, ambiguity and misinterpretation in E-government development concept, is also a cause to fail E-government programs. E-government is an extensive and multidimensional area. To implement a successful E-government, there is a need for understanding and clarity in concept. As Davison *et al.,* Wrote in 2005, that Government should change the view of people it is there to make their life easy. If the governments can realize their role then E-government has the power to convert, not in way what public sectors are doing but build a bridge between citizens and governments. (ibid)

1.3 Research Purpose and research questions

The purpose of this entire thesis is to gain a better understanding of E-government in developing countries and to identify barriers and also discuss how to deal with those barriers for a successful implementation.

To reach this purpose we have formulated following research questions.

Q.1 How can E-government be described?

Q.2 How can barriers of E-government be described?

Q.3 How can successful implementation of E-government be described?

1.4 Delimitation

Due to time constraint we have chosen a limited research area for this thesis. E-government has many groups like G2C, G2G, G2B and G2E, but the study will focus only one area of E-government and that is G2C. The aim of study is to investigate the barriers from the government perspective not a citizen's point of view.

1.5 Overview of the entire Thesis

This thesis will be based on seven chapters. In this first chapter, an introduction to the related field was given, followed by the research purpose and the research questions. The next chapter will explain the literature review and theories allied with research questions. The third chapter will be based on frame of reference. In the forth chapter methodology will be discussed. In the fifth chapter we will present the empirical data. In chapter sixth, the empirical findings, theories will be examined, in order to conduct an analysis. Finally in chapter seven findings and conclusion of this study will be presented.

Chapter 2: Literature Review

The earlier chapter provided the background and the problem discussion of the area of this study. Now we are going to present literature review. This chapter will talk about appropriate theories required to find answers and connect to our research questions. The aim of this chapter is to provide relevant literature in the field we are studying. The chapter has been divided into three segments including E-government, barriers and successful implementation of E-government.

2.1 E-government

According to Silcock (2001) the technology has changed every aspect of life, how people live, work, companies do business and especially how governments serve their people. Now there is a real opportunity to reinvent government with the help of technology. Governments are applying principles and technologies to achieve similar transformation. Similarly, E-government is a way to utilize technology, to enhance access and services. It has the power to create a mode of service for their citizens. E-government affects every aspects of organization. It is not just technology; not even business activity or not human resources. It is all about combined areas and at the centre there is customer. (ibid)

Studied by Burn and Robins (2003) E-government is about to building relationship with community and the origin of up coming generation. It is about to developing the public contract to deliver better services to citizens and businesses. E-government has four major laws. (a) Deliver better services around increasing alternatives for the citizens. (b) Fabricate government and its services more reachable. (c) Spread social activates and build relationship. (d) Utilize information. Pardo Said in 2000, E-government is not about putting a few computers or creating a website for information; it is about transforming the relationship between government and the citizens.

World public sector report (2003) defined E-government is a way transforming internal and external relationships with the use of present information and communication technology (ICT).

"E-Government is defined as the usage of Information and Communication Technologies (ICT) to support processes within the government as well as for the delivery of services to citizens, organizations and businesses." (http://www.pakistan.gov.pk)

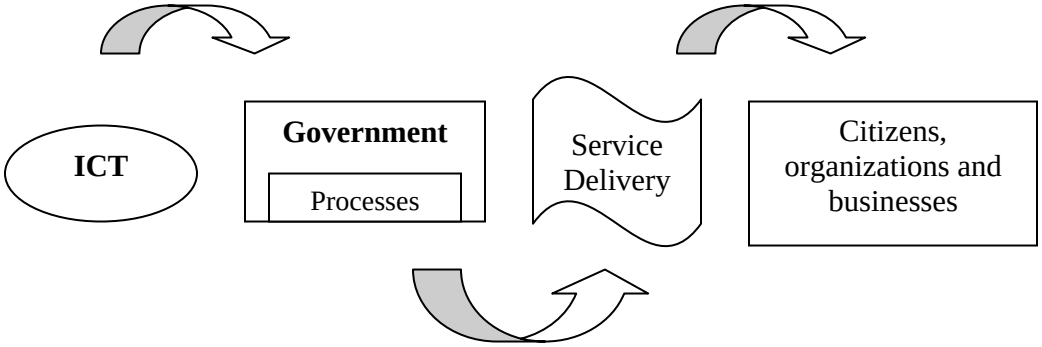


Figure: 2.1 Definition of E-government
Adopted: (http://www.pakistan.gov.pk)

According to Ni and Ho (2004), E-government means government's effort to improve interaction, communication and delivery of government information, services to citizens, industry, employees and governmental bodies via computer and web-enabled presence. E-government is a choice but essential for those countries who are looking for better governance. In successful E-government nations and policies play a major role. Technology plays a supportive role but important. However it can't work alone. (ibid) Gupta and Jana, (2003) mentioned "Sometimes E-government referred to as the second revolution in public management after new public management (NPM)". E-government not only provides better services, but also builds long term relationship with citizens and other governmental bodies. Generally E-government executes business operations through Internet based technologies. (ibid) At the level of service, E-government assures to provide 24/7 services, user-friendliness environment and to get government services without visiting an office due to augmented technological intermediation.
(Teicher *et al...* 2002)

Ebrahim and Irani (2005) stated that, in current environment E-government is an essential aspect to recognizing the needs of governmental institutions. It is the way of exchange views with citizen and business. It gives variety of data to citizens and business through Internet. On the other hand, the characteristics of E-government is not simply to provide information and services to citizens but also expand the strategic links between community and their departments, and involve with government levels (e.g. central, city, and local). This link and involvement support the coordination between them and smooth the progress and implementation of the government strategies, transactions, and guidelines, and also better use and running of government operations, information, and resources. Governments can also finance electronically to other governmental organizations or supply information to public workforce through an intranet. (ibid)

2.1.1 E-government functions

Fang (2002) has written about E-government that, it is like a wave and keeps rising in public sector across the world. Many governments have started using communication technology specially Internet or web-based network, to offer better service among governmental bodies, citizens, businesses, employees. Further he explained its functions as follow:

Citizen access to government information

Giving access to view government information is the common digital government initiative. This type of initiative refers launch system, for instance, portal, website based on customer point of view.

Facilitating general compliance.

Digital government also represents electronic access to services that facilitate compliance with a set of rules or regulations.

Citizen access to personal benefits

Online application and other information give personal benefits to the citizens.

Procurement including bidding, purchasing, and payment

Private sector can get the benefits through electronic commerce applications, as procurement applications allow government agencies to take this chance. Electronic transaction fulfills the need of government to government and other private partner.

Government-to-government information and service integration

Electronic information sharing and integration requires integrating service delivery programs across government agencies and between different levels of government

Citizen participation

Citizens can participate in decision making process through online discussion forums and e-voting. These serve the community at large. Many governments are taking it into the consideration.

2.1.2 E-government: a classification

Government to citizen (G2C)

According to Yen and Evans (2005), this group of service keeps an eye on the activity of government and citizen to exchange information to each other in a competent and electronic way. The citizen can get benefits from this government information. A primarily benefit of G2C is the simple posting of forms and applications online. 24/7 services are available through the Internet. Citizen can access government information instantly, conveniently without visit office. Other benefits to serve citizens are the enhancement of education information, jail security, and e-voting. (ibid) Described by (Fang, 2002) government to citizens refers to put public services online for personnel use. These services involve renewal of driver's license, payment of taxes, fines, and fees to state and local government and different types of bills. Ndou (2004) identified that G2C allows citizen to access electronic government services anytime, directly and conveniently through the use of various channels (PC, WebTV mobile phone or wireless device). It also allows government to talk, listen, support and communicate with its citizens and encourage their involvement in a local community life through email or online discussion forum. (ibid)

Government to Business (G2B)

Yen and Evans (2005 mentioned that, this category focuses on the ability to cut the cost, collect information and make better inventory control. In G2B government can acquire items, pay invoices, and perform other business activities in a more beneficial way. Obtaining data to scrutinize and assist in decision making can be done, to support the government through G2B. Some of the advantages for this type are the online regulations availability for agencies and increasing electronic tax facilities for industry. In the past, it was big haggard for industries to search information pertaining to their business. Now all the information can be check in one place for strength, safety, employment, environment, and tax rules. (ibid) Fang, 2002 discussed that, governments to business are those services which use by businesses, agencies, corporations for a commercial purpose. For e.g. acquiring business permit, get support with site locations, and obtaining work force information. (ibid) G2B consist of e-procurement and electronic transaction dealings with agencies and private sector. It also creates an electronic market place for government and reduces red tape, makes the process more easy and help in establishing a web presence fast and cheaper. (Ndou, 2004)

Government to government (G2G)

Yen and Evans (2005) explained that this category of service includes improving the efficiency of transaction and business functions within itself or with other governments. In order to recognize the importance of single access point, association and cooperation along with different governmental departments and agencies is required. It allows the government to eliminate unemployment, crime, and homeland security. For this act government has introduced intergovernmental assistance, amplify the emergency help

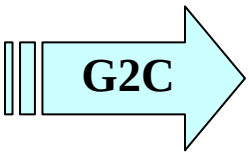
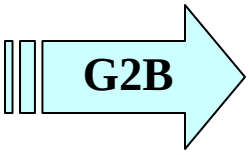
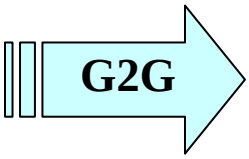
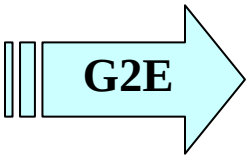
line response, and connection of law enforcement agencies. (Fang, 2002) wrote that G2G provide cooperation of both external and internal agencies and improve service inside or outside of governments. It is also include exchange information within the governments. Ndou (2004) said that G2G build relationship with organizations, such as national, local, regional and with other foreign government organization. Online communication and cooperation play major role between government agencies and departments to share databases, resources, pool skills and capabilities, enhancing the efficiency and processes. (ibid)

Government to Employees (G2E)

According to Fang (2002) This group of service consist of relationship between government and its employess.G2E encourage employees to participate in an effective way and also provide e-learning, bring employees together, increase efficiency among them. Ndou (2004) He further explained that it gives the possibilities to employees to accessing the policies related to compensation and benefits. G2E another large area which requires a full attention

G2E facilitate the management and communicate with government employees in order to make e-career and e-office. Fang (2002)

Table 2.1 Characteristics of Classifications of E-government
Adopted: Fang (2002)

Classifications	*Information*	*Communication*	*Transaction*
	Information about taxes, driver's license, fees, fines and different types of bills.	Talk, listen, support and communicate with Government, encourage citizens to involve in a local community life through email.	Online discussion forum, e-voting, online service delivery.
	Information about business permits, safety, employment, environment, and tax rules.	Communicate with Government, involve in decision making process.	E-procurement, e-transaction, e-market, online service delivery.
	Exchange information regarding databases, resources, policies within itself or with other governments.	Online communication with national, local, regional and other foreign government organization.	Intergovernmental assistance, share data, information.
	Information about compensation policy, benefits, career management and employee's development.	Communicate with Government, involve in decision making process regarding work and performance.	Share data, information, e-learning, e-office online participation.

2.1.3 E-government and E-governance

According to Fang (2002), the scope of E-governance is beyond the E-government. While E-government is define as service delivery and information to the public through Internet. E-governance allows citizen to participate in governmental activities, such as e-voting, online discussion forum. So, E-governance cover government, citizen's participations, parliament and judiciary functions. It bring new concept of citizenship and allow citizens to communicate with government, participate in policy making. Therefore, E-governance has more implication than E-government. (ibid) Basu (2004) has identified that E-governance is more than to create a government website on the Internet. E-governance support and simplify governance for all three groups, like government,

business and citizens and the use of ICT help to maintain relationship between this group and support processes and activities. E-governance means to support and stimulate good governance. As Backus 2001 explained E-governance help to support, stimulate and mange affairs of a country at all levels. However the objective of E-government is to fulfill the citizen's needs, significant cost saving, and modifying the interaction with various online services. Government activities can create transparent, accountable, and effective relationship with the public, business and other agencies by the help of ICT. (Ibid)

Table 2.2: Objectives of E-government and E-governance
Source: Basu (2004, p.111)

E-government	E-governance
Policy coordination and implementation; delivery of services online	Facilitation of interactions between citizens, government organizations and elected offices including governing and policy-making process
Developing citizen-centric programs	How technology (particularly the web) is transforming governing process
Promoting and enhancing citizen participation	E-federalism: the changing relationship among the levels of government; and E-democracy: enhancing citizen participation online voting, issue of ethic, security and privacy
Perfecting online service delivery through analysis and evaluation; measuring efficiency and benchmarking against other forms of service delivery	Legislative and policy-making environment framework; policy initiatives governments are taking: the regulatory framework, implications of initiatives like recognizing the legality of e-signatures, greater citizen participation in policy making environment (e-democracy)
Country indexing (performance measurement benchmarking) portal analysis, website analysis	International implications: lowering of borders through information exchanges-impacts and consequences; international standards and best practices; information management and e-government

2.1.4 Relationship between Government, business and citizens

Fang (2002) has explained the relationship between government, business and citizens as follows;

E-government features in E-government.

Relationship between central government and local governments

Relationship between organizations and department or agencies

Relationship between legislature and the executive

E-Business features in E-government.

Relationship between governments and markets

Relationship between government and private sector

E-citizens features in E-government.

Relationship between governments and citizens

Relationship between government service delivery and citizen's needs

Relationship between countries and international institutions

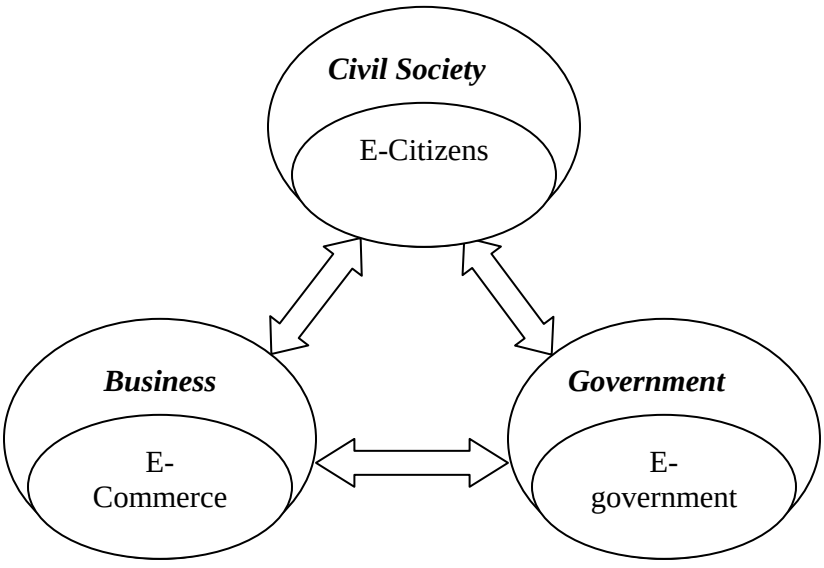


Figure: 2.2 *Relationship between E-government, Business and citizens*
Adopted: Fang, 2002

2.1.5 Stages of E-government

The four stage model of E-government development summarizes the organizational change of e-government as governments are moving toward electronically enabled government. Based on technical, organizational, managerial possibilities, E-government is found to be an evolutionary incident and therefore E-government plan should be implemented accordingly. In this regards four stages of a growth model will explain different level of complexity and integration. (Layne, 2001)

Stage One: Cataloguing

In this stage, government creates a state website, due to the demand of external sectors, like citizens, employees and stakeholder. In this stage government don't have much IT expert, therefore they go for small project to reduce the risks. Many citizens and business have access on the web. They can see all information about service and related to other issues from private sector, as they expect the same from government. To fulfill the expectation of citizens government want to move this electronic cataloguing stage. (ibid)

Consequently, more and more citizens will look for government information on web instead searching through other resources. They can be frustrated if they fail to find related information about their government. To create a website is also positive sign from the government side, because employees get busy in answering queries, the web presence will increase citizens trust and reduce the work load on frontline employees. From the website citizens can learn basic functions, policies and procedures, where to go, and how to utilize government's services. This stage offers minimum functionality for users. It establishes a departmental presence as suppose to proving a service access points. (ibid)

At this stage, technology is comparatively easy but, still there are some challenges to manage these sites. Government need to acquire different amount of on line presence and balance demand resources required by different department. In a political organization it is very difficult to maintain the information. Web pages, policies, procedures and other related information which citizen can view, need to be updated. Privacy is another issue at this stage. At the time of establishing the site policies issues must be decided by the agency. The reduce scope of the web site under site makes organizational challenges limited. The first challenge is assigning the responsibility for coordination and planning for services and its maintenance. The second problem is assigning the job for answering an email. Webmaster can get some emails which are beyond his capacity, therefore there is need to establish a process that how these email will be handled and how promptly. (ibid)

Stage Two: Transaction

This Stage empowers citizen to perform transaction online anytime, saving time of paperwork. The demand of e-transaction pushed the administration to build online interface directly connected with government system to minimize the interaction with

employees. This stage presents government on Internet as an active respondent. Citizens can pay taxes, fees, renew their licenses, register vehicles and etc. Now it's a two way communication where citizens can interact with government. (ibid)

Citizens can be served online by E-government. Citizens make transaction with government by filling out forms and government gives response by providing them conformation. Citizens not only can done transaction but also participate through online forum and help in decision making process. As citizens are connected more and more with Internet, governments have only one choice to think about E-government both externally and internally as a service channel. (ibid)

Transaction fulfillment is a critical issue at this stage. Government must answer a lot of questions. The issue of integration comes on the sight. Organizational challenges are much greater in this stage. Existing electronic databases must be reprogrammed to meet the requirements of users in current system. Issues of trust and confidentiality must be considered. (ibid)

Stage Three: Vertical Integration

At this stage, the focus is on towards transformation of government services, rather then automating and digitizing existing processes. E-government is not simple to put existing government services online. It requires a re-conceptualization of the government services. Finally, the complete benefit of E-government will be realized when organizations are ready to accept the technological changes. Citizen's expectations will increase when online transaction services become common and mature. At this stage local, federal, and state counterpart system interact more closely to each other. (ibid)

Citizens prefer to perform task through their local portal because they are most familiar with the local government and the local system are connected to upper level systems, directly or indirectly. One application of vertical integration could be the business license application process. In many states, business requires a license to start. The target of vertical integration is to integrate the state's system with federal and local system for cross referencing and checking. (ibid)

Beginning in stage three, an issue is where to stop arises, when integrating entire government levels. Accordingly, the role of government's employees is changing. In conventional offline government process, employees are responsible for localized governmental transaction. Once system are integrated and automated and scope of activities performed by each employee will extend beyond functional department boundaries. Example for vertical integration is Washington State website, in which a federal employer identification number (FEIN) can be requested through the same process as a state business license http://www.wa.gov/dol/bpd/startbus.htm# (ibid)

Vertical integration is not a new idea. Many governments have started this integration like, universities and local school work together. High school students can take university level classes. Automated fingerprint identification systems have been introduced, which

send data based on certain criteria to state finger print system. There is a need in various levels of government to allow some flexibility in the development of their databases. Although, this stage may provide improved efficiencies, privacy and confidentiality issues. Government must consider the issue on privacy of personal information and right of individuals to access public records. (ibid)

Stage Four: Horizontal Integration

To achieve the full potential of information technology from citizen's perspective horizontal integration can be done by different functional walls. Through Internet the limitations of the functional nature of public and private sector will become clearer. Typically, citizens look for assistance in different field of services from government like, education, housing, food medical etc. To solve this issue, governments provide one stop service centers, where citizens get more than one service. (ibid)

The horizontal integration will greatly improve those efforts. Information obtained by one agency will spread through out all government functions when different data bases communicate with each other and share information as well. Currently, two "Access America" sites, one for senior citizens http://www.seniors.gov and one for students http://www.students.gov/index.html locates multiple services available to these two groups at all levels and functions of government, although databases are not currently shared. Also citizens could conduct business across a wide variety of requirements. For e.g. when citizen move to another city, the basic records could be propagated to different services branches of government, so that citizens does not have to fill out personal information to obtain each service. Horizontal integration refers to system in which different transaction can automatic check against data in other agency. This stage gives hope for improved efficiencies because of its vertical and horizontal integration. Each organization may have to give some power to facilitate one stop shopping for citizens. (ibid)

Technically, integration of database, resolving conflicting system and to fulfill the requirement of agencies is major huddle for any government. Data and process requirements are different in one service to another. There is a need to change in the mindset of officials. Many officials perceive their department as important and ignore other agency. Horizontal integration provides more access for other governments and businesses than citizens. (ibid)

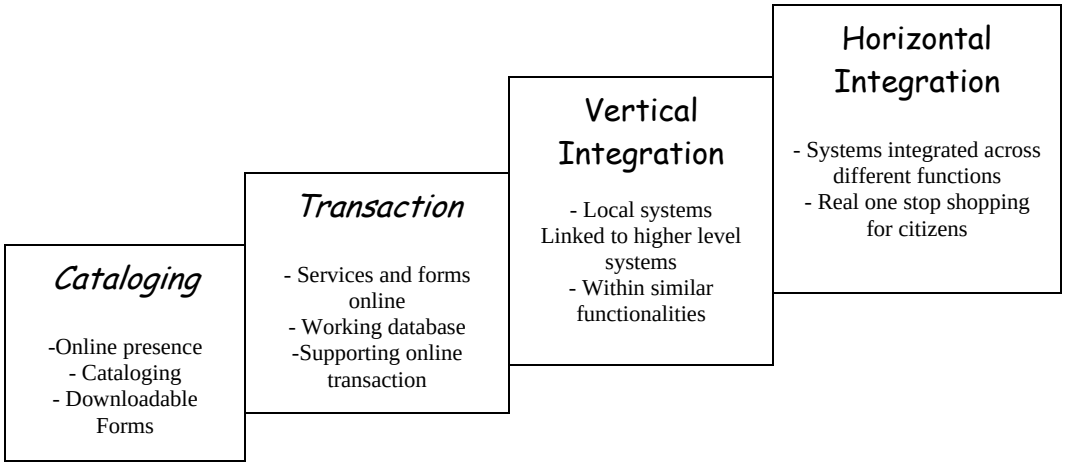


Figure: 2. 3 Stages of E-government
Adopted: Layne, 2001

2.1.6 E-government and developing countries

Digital connectivity, improvement in communication and information technologies is transforming way of doing business and organizations participation. To achieve competitive advantage public and private sector have to reinvent themselves through continuous improvement. (Ndou, 2004)

The initiatives to use ICT tools, applications, Internet to support governance, highlight relationships and build new partnership within civil society as know as E-government. Although ICT is offering extensive possibility for the development of E-government but still developing countries are inactive to explore the potential of E-government. Different kind of obstacles has been occurring in theses countries. At the same time, some developing counties have taken the step towards E-government for e.g. Brazil, India, Chile, etc. (Ibid)

Basu (2004) explained that developing countries can overcome the barriers with the help of new and innovative technology. As situation stands today, developed countries play a major part in promoting technology adoption in developing countries.

2.1.7 ICT and developing countries

It is now widely recognized the need of ICT to enhance opportunities for economic development and plays a great role in competitiveness enhancement and productive improvement in developing countries. ICT has the power to identify and rectify some of key barriers and challenges for entering the global economy. However ICT is also a high risk for developing counties in term of deepen the digital divide and to future marginalize with networking revolution. Countries which fail to use ICT tools for development will

face some disadvantages and the gap between economics status and competitiveness. To overcome this issue many developing countries have started to use ICT and encouraging e-strategies. Consequently E-government initiatives have been successful in many developing countries. However, many other projects have failed. Studies show the success and failure rates of E-government in developing and Middle East countries. One third of projects are total fail (e.g. the failure of decision support system in East Africa); further half partially fail (e.g. the failure of management information system in Eastern Europe) and approximately one-seventh is successes. (ibid)

Basu (2004) has notified that, no country can ignore the benefits of ICT either it developed or developing, small or large. ICT is a major source of modernization. Developing countries can increase their competitiveness by investment in communication technology. Mainly developing countries realize the potential of ICT, not only as a tool for improving governance, but also a way to improve the standard of living of the people. The ICT policy aims to increase information infrastructure. IT industry creates human resource for IT, but the policy differs from country to country. (ibid)

According to Bhatnagar (2003), with three perspectives in which developing countries have viewed information and communication technologies. First one is related to promoting growth of ICT as it play a great role in state‘s economy and gives opportunity to enhance economics growth and employment for countries. The ICT sector is a way of earning foreign exchange and offer products and services. A second perspective is the development of ICT for delivering government services. Improving in service delivery is a major issue in developing countries. E-services can improve effectiveness and increase transparency. The third perspective is consisting of electronic media and communication within society. Governments have to take care of convergence of different technologies and private control over media. (Ibid)

2.1.8 Why developing countries adopt E-government

According to Bhatnagar (2003), Business man/ professional are primarily driven E-government and also driven by a growing demand for better service from citizens, who have experienced improved services from the private sector. (Ibid)

There has been a considerable revelation that E-government has made constructive changes in the delivery of services, information and internal administration of the public sector. Many developing countries feel to take some advantage of the new electronic channels, which are available for delivering government services, because these countries have significant ability in IT applications. (ibid)

In the last decade, a process of economic liberalization and economic growth under advice from different agencies, have gone through by different countries. Many large countries like India and China have completed their first phase of economic policy reform and now they are under compulsion of second phase of reform, as they increased their capability in E-government at 6 to 10% over the last decade. Since E-government

has shown positive impact on corruption, transparency and quality of services, consequently E-government has seen an effective tool for governance reform by developing countries. These achievements are source of pride. Some developing countries have showed, the best experimentation and innovation in E-government, as there is a competition talking place with developed countries for e.g. Brazil lunched an e-voting system and they are proud that it is better than United States. Hence E-government initiative has become an incentive for developing countries to run with the developed world. (ibid)

Many developing countries have introduced IT in rural areas, they are not as good as most developed countries, but few countries succeed to deliver service online. It can be seen that E-government has wide impact on government efficiency and effectiveness because there is an internal competition between government agencies that force to move forward in implementing E-government. (Ibid)

Various government departments in developing countries provide information on website. Generally these websites are not design in proper manner, not updated. Primarily this effort was made to draw the attention of foreign investment, but as Internet has reached in urban areas, many sites focus on delivering information and services to citizens and business. A considerable figure of developing countries from Asia and Latin America has implemented E-government oriented application. (ibid)

The table 2.3 shows where such applications have been developed and indicate some benefits derived from E-government.

Table: 2.3 Example of successful projects from different countries
Source: Bhatnagar (2003 p.5)

Application	Examples	Social and Economic Impact
1. Delivering Citizen services		
Payment of property taxes, Issue of Land titles	CARD in AP, Karnataka, Maharashtra, BHOOMI in Karnataka	Transparency, faster processing for citizens, reduced corruption, increased productivity for offices
Income tax on-line	Singapore, Brazil, Jordan, Chile, Mexico	Convenient, quicker refunds, Better compliance, cost savings
Issue of driving license, motor registration, passport, birth certificates, social security and collection of fines	Citizen Service Center (Mobile and in-shopping Malls) Bahia, Brazil, FAST in Hyderabad, Gujarat, Karnataka	Cut delays, several services under one roof, reduced corruption, reduction of intermediaries
On-line issue/payment of electricity, phones, and water bills, and fines	E-Seva in Hyderabad, FRIENDS in Kerala	Convenient locations, quicker processing time, customer does many tasks in one visit
2. Delivery of services to Business and Industry		
E-procurement	Mexico, Philippines, Bulgaria, Brazil and Chile	Reduce advertisement costs, lower costs due to better prices, transparency
New business registration	Jordan, Jamaica, China	Cut down time and number of visits, Convenience on filing tax returns/ quicker refunds
Tax collection (sales tax, VAT, and corporate Income tax)	Gujarat check post, Cameroon, Chile Singapore and Mauritius	Cut down time and number of visits, convenience on filing tax returns/quicker refunds, Increase in revenue collection for Government
Customs on-line	A total of 70 countries such as India, Jamaica Philippines, Tunisia and Mauritius	Quicker clearance, less corruption
Trade facilitation	Dubai, Yemen , Tunisia Mauritius and Singapore	Quick turnaround of ships in ports
Municipal services	OPEN Seoul Municipalities in India, and Latin American countries	Quick permissions and issue of licenses, access and permissions
3. Internal efficiency: E-mail and electronic work flow in Government		
Use of email and video conferencing	Many government offices	Usage is low, Faster communication, less travel
Document management and work flow for paperless operations	SmartGov in AP	Speed of file disposal, traceably of actions, greater accountability
4. Empowering Citizens through Access to Information		
Publishing budgets central and municipal level	Argentina, India and Turkey	Greater transparency
Publishing project-wise expenditure, executing agency	Panchayat web sites in Karnataka	Transparency and lower corruption
Services through rural kiosks Market information, Application Forms, complaints , ecommerce	1000 kiosks in a dozen pilots in India, pilots in Latin America and Africa	Save travel time, lessen corruption, Better negotiating power, increased accountability, and access to markets

2.1.9 Developed vs. Developing countries

The United Nations releases a report every year on the least developed countries (LDC) and evaluates them on the bases different categories. In 2006, 50 countries were including in LCD. Different criteria were used to review the list Of LDC

(a) A “low-income” based on the *gross national income (GNI) per capita*

(b) A” human assets” involving a composite index (the *Human Assets Index*) based on indicators of (1) food (2) health (3) school enrolment and (4) literacy.

(c) An “economic vulnerability” connecting a composite index (the *Economic Vulnerability Index*) based on (1) natural alarms (2) trade shocks (3) exposure to shocks (4) Economic smallness and (5) economic remoteness.
(www.unctad.org/en/docs/ldc2006-en.pdf)

According to Chen *et al.,* (2006) 80% of the world’s population that lives in developing countries can improve standard of living by E-government. UK, Canada, U.S and Australia are leaders of E-government up to now. In reality, the gap among developing and developed countries in IT infrastructure, usage and practices has been wider. In addition the lack of investment to build up expensive national information infrastructure on which E-government is based; even developing countries don’t have the sufficient knowledge and ability to develop E-government initiative.

The table 2.4 explains the difference between developed and developed counties in various aspects of government. Chen *et al.,* (2006)

Table: 2.4 Major differences between developed and developing countries
Source: Chen *et al.*, (2006, p. 27)

	Developed Countries	Developing Countries
History and Culture	• Government and economy developed early, immediately after independence	• Government usually not specifically defined; economy not increasing in productivity
	• Economy growing at a constant rate, productivity increasing, high standard of living • Relatively long history of democracy and more transparent government policy and rule	• Economy not growing or increasing productivity; low standard of living • Relatively short history of democracy and less transparent government policy and rule
Technical Staff	• Has a current staff, needs to increase technical abilities and hire younger professionals	• Does not have a staff, or has very limited in-house staff
	• Has outsourcing abilities and financial resources to outsource; current staff would be able to define requirements for development	• Does not have local outsourcing abilities and rarely has the financial ability to outsource; current staff may be unable to define specific requirements
Infrastructure	• Good current infrastructure	• Bad current infrastructure
	• High Internet access for employees and citizens	• Low Internet access for employees and citizens
Citizens	• High Internet access and computer literacy; still has digital divide and privacy issues • Relatively more experienced in democratic system and more actively participate in governmental policy-making process	• Low Internet access and citizens are reluctant to trust online services; few citizens know how to operate computers • Relatively less experienced in democratic system and less active participation in governmental policy-making process
Government Officers	• Decent computer literacy and dedication of resources; many do not place e-government at a high priority	• Low computer literacy and dedication of resources; many do not place e-government at a high priority due to lack of knowledge on the issue

2.2 Barriers of E-government

Jaeger (2003) mentioned even though IT cost going down and good IT infrastructure is available, but still there are barriers for E-government implementation. The good infrastructure consists of hardware and software that will ensure to secure electronic services to citizens, businesses and employees. He also agreed that computer security, privacy, and confidentiality of the personal data are the major barrier for implementing E-government. E. voting is very sensitive area of E-government and this requires extra security to ensure smooth voting process, secure and protect the voter personal information.

According to Belanger and Hiller (2006) there are some limitations to achieve E-government objectives and apply in every decision making and planning process. Rules, regulations and procedures, technical potentials and consumer feasibility, includes in limitations. Rules, regulations and procedures refer to the action taken according to the law. Regulations and polices are within the control of E .government. Technical potential deals with hardware, software and experts to implement the project. Inadequate funds or a lack of skilled personnel may delay E-government implementation; therefore it is important to have appropriate investments for better E-government implementation. Recent study of municipals E-government programs, found that municipals identify the lack of technical, personnel and financial capabilities as a major barriers to development of E-government. Consumer feasibility supports the ability and willingness of the users to use electronic project. Trust is another important element in determining whether consumer want to use or not, obtain goods or services through Web. Citizens' willingness and capability play a major role to implement good electronic government.(ibid)

Lam (2005) has classified the barriers in to four stages.

Strategy Barriers

1. Lack of common goals and objectives. Lacking of collective thoughts and aims create confusion among governmental agencies and also become a part of conflict in responsibilities. It is necessary to have common thoughts between government agencies for E-government.

2. Lack of ownership and authority. This issue regarding ownership and governance. Program management requires solving this matter. Formal project responsibility or the strength of accountability is the major reason for a lack of ownership and authority.

3. Deficiency of implementation guidance. Whereas central government set up a vision of E-government, now agencies and other management require direction on how to transform that vision into reality. Without guidance it is difficult to establish good E government.

4. Financial Issues. In E-government mainly issues are Lack of funding. Government funds are not set up according to E-government projects. Due to the lack of financial support E-government project can't be successful.

Technology Barriers

1. Lack of architecture integration and Infrastructure: Disparities in architecture are a major issue for failure in function integration. Different technology policy, utilize proper technologies, lack of application interface and difference in framework create a barriers to architecture integration. (Lam, 2005). Ndou (2004) explained that main challenge for E-government initiative is ICT infrastructure. Architecture, guiding set of principles models and standards is needed. Many developing countries are facing this problem, and they don't have appropriate ICT infrastructure for E-government development. However an ICT infrastructure does not consist of telecommunication and equipment. It requires E-readiness and ICT literacy. Having education, basic knowledge about IT is necessary to accept and use of E-government services. (Ibid) According to Chen *et al.*, (2006) infrastructure development is necessary before government can consider any project related to E-government. A lack of back-end infrastructure, governments and their employees will face the problem and unable to perform transactional activity and further stages of E-government will be delayed.

2. Deficiency of data standards: A primary function in E-government is to transfer data in to appropriate manner. A lack of data standards is a major technical barrier. Standardization in data formats and the adoption of a common data model is required to eliminate this issue. (Lam, 2005).

3. Different security models: Lam (2005) descried that, one of success factor in E-government adoption is faith and confidence between users and government. However security model is identify as a major barrier in technical combination of E-government system. According to Seifert 2003, one of the most significant barriers for implementing E-government is computer security. For E-government, security modules are critical not only for the delivery of services but also to build citizen confidence and trust. (ibid)

4. Lack of resources: In most cases, government doesn't have all the resources to complete E-government projects. Therefore most of E-government initiative fails to provide healthy outcomes. (Lam, 2005).

Policy Barriers

1. Apprehension over citizen privacy. (Lam, 2005; Seifert *et al.*, 2001; Seifert, 2003 and Basu, 2004) agree that privacy is a big issue for citizens and it is also a threat in E-government. Therefore sharing of data between government agencies should

be done in controlled and proper way to protect sensitive information regarding citizens. Deficiency of transparency in privacy policies finds as a major barrier and establishment of clear and smooth policy requires in this regard. Privacy is a big challenge to the implementation and acceptance of E-government programs. Use of cookies, distribution of information between agencies and the disclosure or exploitation of confidential information is major issues in privacy. It is a basic right of any independent society. It is not just a parameter but it is documented in all major worldwide treaties. Governments collect large amount of data of citizens through different transaction on daily basis and it is responsible for personal information they hold. Protecting the privacy of citizens' personal information is a vitally important issue.

Ndou (2004) notified that E-government initiative requires a new rules, policies laws and legislative changes to manage electronic transactions, data protection, and computer crime and copy right issues. Many developing countries have not yet established E-business and E-government laws. Hence governments all over world need to build laws to secure transaction between organization and individuals. (ibid)

2. Data possession. Many government organizations consider themselves as an owner of particular records and they are very concern about sharing that information or records with others. Rights or ownership to data must be clear in order to achieve E-government goals. (Lam, 2005).

3. E-government policy execution. Despite from national E-government policy, many governments are trying to make their own definite policies for E-government. Lack of comprehensive course of action and inappropriate step of development may delay the process of E-government program. (Lam, 2005).

Organization Barriers

1. Lack of organization motivation. Many agencies are not yet ready for E-government challenge. They are not well prepared for initiative of E-government because many agencies are talking it as a distress and they are not accepting this change, even though. Many organizations are in a learning process about E-government and how it can be applied in their own organizations (Lam 2005).

2. Slow lick of government transformation. One of barrier in E-government implementation is the slow speed of government reform. Some of agencies have found it difficult to run with the speed of reform. It is necessary to change state of mind rather then governments focus to move towards more technology oriented environment. (Lam 2005).

3. Lack of internal management and technical ability. Lack of proper training within organization also consider as a barrier for E-government implementation. Several

agencies don't have trained and skilled people to execute E-government project and also lack of IT training program. (Lam, 2005). Ndou (2004) described the lack of ICT skills in public sector major challenge of an E-government program. This problem arises in developing countries, where unskilled staff and insufficient resources has been a problem for years.

4. Change Management: Ndou (2004) said that new work practices, new ways of processing and performing tasks are introduced. E-government not only save costs and improve service quality, it is also reinvents the processes and functions. Change management refers to the change management approach and resistance to change. Change management approach includes the procedures established within organizations. Culture is a key issue of organizational change and a big step towards a higher capacity to change. Employee's resistance in change is big barrier to successful E-government. They believe that ICT would replace and make them jobless. Furthermore, it is very hard to turnoff traditional way of working and learns new techniques. To overcome this barriers government can offer some incentives for employees to learn and change and embrace employees' involvement during all phase of change process.(ibid)

2.3 Opportunities of E-government

According to Ndou (2004), as governments approaching towards transform their governance process, considerable opportunities will take place during their implementation.

Ndou (2004) has identified following main opportunities of E government.

1. ***Organizational cost reduction and efficiency increases***. Placing services online reduces the processing costs of numerous activities as compared to manual work. In other word electronic services of delivery saving money and reduce the time. Alternatively E-government is increasing efficiency of work by elimination of mistake, reducing required time of transaction, faster and more informed decision making. (ibid) According to Seifert *et al.*, (2001) in E-government projects efficiency can appear with many shape, to reduce cost and improve reliability by automating regular tasks. An associated efficiency goal of E-government initiatives is to reformation of procedures and reducing the amount of time.

2. ***Excellence of service delivery to industries and customers***. In conventional system of service delivery, procedures are lengthy; loose of time, and no clear policy. Any industry that acquire an authorization or any other purpose has to fill up different forms, visit various offices, and spend time for activity. If any citizens want to obtain any official certificate, he or she must go to particular office and spend couple of hours for this little work. The penalty is high and citizen and business get confused and frustrate. And now through E-government programs, citizen can get online application form, can save time, speedy and

reliable communication, 24/7 services available and present quality of services are much better then pervious. Ndou (2004). Seifert *et al.*, wrote in 2001 that E-government has the potential to improve the quality, range and accessibility of services.

3. ***Simplicity and liability.*** E-government provide and also help to enhance transparency in Government functioning. Citizens can directly contribute in government decision making process, through online comments, thoughts and proposals. Initially, the Government's websites were not hosted in an organized manner and the risk of threats not perceived as great as it has now become. Now analyzing the recent facts, websites are designed in a national context within the constraints of available skills, infrastructure and investment. Website should be more open. So citizens and stakeholders can see clear picture of government policies, other political information. If sufficient information will be available on the site then citizens and businesses will not left behind. E-government is helping to increase the liability on the net, making government more accountable and more transparent. Ndou (2004)

4. ***Enhancement of competence***. Today the use of IT is increasing government competency by making its internal operations, infrastructure, connection and information flow more simple and convenient. Currently intranet helps to share general client's records, proficiency, and also gives power for solving problem with different governmental bodies. These facilities ensure quicker information flow, faster and cheaper goods and service delivery, improved result oriented process. Different expert system may help to build an instant process and assures benefits for business and government itself by plummeting costs. Ndou (2004)

5. ***Build network environment and relationship***. This is IT demand to create network environment and build relationship. Information technology also gives opportunities to create this environment. E-government programs need to build a relationship with customers, businesses, staff members, and other agencies. Additionally the process of E-government need thoughts and ideas to place collectively talent, technologies, tools, knowledge, information to reduce the distance between governmental bodies and enhance relationships. It is hard to find complete tools in one governmental place. There is a need for proper education, knowledge and affiliation between government, agencies, sectors, and society because incorporated services at one place can't be worked with out support, teamwork and diversified network of relationships with different departments and agencies. In a public sector successful use, distribution of IT and realization of electronic transaction engage dynamic learning process and generate network connection among private companies. On the other part of E-government initiatives facilitate citizens and business by giving them opportunity to participate in different forums, contribute their ideas and help them in decision making process. Ndou (2004)

(Seifert *et al.,* 2001) stated, that E-government increased citizen's participation in governmental issues and improves G2C interaction.

6. ***Stimulate the quality of decision making***. In E-government constant interface, communication, discussion, community formation between government and citizens further contribute to the decision making process. With dynamic ideas, knowledge and information, citizens can enthusiastically participate in political and government discussion and it build trust in government and enhance the feature of relationship and improve decision making process. For better E-government implementation, government should understand citizen's needs and listen to their views. The proper utilization of data, sharing information in a secure manner provides the opportunity to formulate quick decision, consequently make society better. Ndou (2004)

7. ***Endorse IT in other community sectors***. At the moment, communication, interaction, participation in different governmental forums creating awareness about IT in society. Due to this, E-government facilitates coordination among stakeholders and building capability. Indeed promotion of IT in other sectors is one of the main advantages of E-government. Awareness about IT tools and application is essential for coordination and to run business transaction electronically between government, stakeholders and citizens. Businesses need to use IT if they do electronic transaction with government .As new technology require development in different fields , new training courses and modules are introducing in universities and schools and this will help in E-government implementation. Ndou (2004)

8. ***Efficiency:*** Technology based project, most of the time improved efficiency. In E-government, efficiency can take many forms. Some projects reduce errors, automate the tasks and improve consistency. Similarly some of them help to reduce costs and streamline operating procedures.(Seifert, 2003)

9. ***Improved Services:*** Another opportunity come from E-government is to improve the quality of services. The development of E-government also creates the opportunity for new services with the possibility of combining existing services. (Seifert, 2003)

2.3.1 Building successful E-government application

Bhatnagar (2002) has described following methods which can be used to implement successful E-government.

Re-engineering process: existing method and procedure need to be recorded, as many different branches of the same department do not use the same procedures. An existing procedure should be documented; simply in a manner that task can be done in a short time. Simplification of process, workflow is known as reengineering. The end result of reengineering will be to transform the processor in few step and few people to complete

the task. All this procedure face the problem of resistance from the employees, Government can over come this barrier through training and education. E-governments project also offer some incentives to their employees, as they lose power and authority over citizens when e-services introduced. Successful implementation of projects requires transparent decision making process and clear focus on the purpose in which application built and it all can done when reengineering can work towards an ultimate goal. (ibid) Fang (2002) said that it is not adequate to change the processes and procedures electronically but it also require to re-evaluate the over mission of the authority and the re-design structure that create a government and citizens interface. Re-engineering processes simplifies and streamline the entire process of government. According to Lee (2005) re-engineering process is necessary to align an agency's internal process with other agencies and government and also help to facilities the government operation. Streamline the business process for E-government initiatives make more visible plans for end users. Involving users in BPR reduce the risk and increase efficiency of E-government system.

Strong project management skills: Appropriate skills are needed within the department. Project manger should identify goals and benefits in real terms because sometime task can not be managed within the resource available to a government department. Therefore project manager should have strong skills to handle the situation and able to adopt established standards and protocols. Bhatnagar (2002)

Training: For successful implementation of E-government training play an important role. Successful projects spend about 10% of the budget on training and this can not be minimized. Training is required for project leader who lead the project, deal and consultant with different organizations. Employees have to be trained on specific application and on using information. Bhatnagar (2002)

Departmental ownership: No agency can drive the change which is needed in implementing E-government without departmental ownership. However, if implantation of E-government base on entirely to a department, then resource gets wasted and data sharing may disturb. Every department may not have the aptitude to work alone, use correct methods and latest techniques. Central government should provide necessary guidance to use correct methodology. (ibid)

Fang (2002) has explained some features which are necessary to implement successful E-government.

Comprehensive: To the greatest extent possible, citizens should be able to do maximum transaction on one point centre. It is possible when governments provide non stop centers and allow citizens to use e-government portal for multiple purpose. (ibid)

Integrated: All e-government application should be integrated with each other. If all the function will be incorporated then citizens don't need to provide same information again and again and it also can save time and money. (ibid)

Transparent: E-government sites should be simplified so that finder can easily find and understand required information. (ibid)

Secure and private: E-government systems should be secure and be able to protect private information recorded by citizens through different transaction on government sites. (ibid)

(Lam, 2005) mentioned that, E-government policies are evolving and in a stage of change. Central government should define policies, interpreted by government agencies in relation to specific e-government project. Ndou (2004) explained that in many developing countries E-government laws are not yet available. Establishing security and legal transformations are requires to ensure the privacy, security and legal acknowledgment of electronic signatures. For this reason government all over the world need to design secure transactions between agencies and individuals. (ibid)

Face the facts: Private sector operate their functions different from government sector , and these difference make them successful , therefore it is important to know why governments fail and what challenges project manager face during implementation. Similarly, the time allowed for any project must be taken into the consideration. Impractical deadline set by the authorities need to be addressed. Rapid changes in policy, higher standards of accountability and unrealistic deadlines are unavoidable governance facts in many countries. (OECD, 2001)

Avoid up-and-coming technologies: New technologies are gripping attention, as they offer better solution and screening possibilities for business change. Experience shows that sometime emerging and unknown technologies are become the reason to failure. Verified or even better standard software can reduced the risk of failure. (OECD, 2001)

Identify and manage risks: E-government projects can be successful if risk identify and mange. Some countries are managing the risk, but others still have to learn something. Management can take help from outside consultants to identify risks, however, experts' advice only work when management deals quickly and carefully with the raised issues. (OCED, 2001)

Avoid large projects: Most governments' experiences barriers when management implants large project. Sufficient funds are not available, deadlines are exceeded and sometime quality of the new system is far below, these all barriers make project fail. The inability of government to mange the large project, undermine efforts to implement E-government. The radical approach gradually adopted, to avoid large project wherever possible. Government itself is very big business. Millions of citizens are served, therefore it is necessary to make small project, but large project can't be avoided, they can be divided into small modules according to circumstances, technology and requirements. (OECD, 2001)

Human Resources and Learning: (OECD, 2001) mentioned a Lack of IT skill makes in-house development impossible. In order to reduce this problem many countries have

started training programs. Another reason for the lack of IT skills is unqualified staffs in this area. Ndou 2004 described, the availability of appropriate skills is necessary for successful E-government implementation. It requires human, commercial, technological resources. Technical skills for installation and maintenance. There is also a need for skill people who can manage online processes and functions. Government is focusing on staff training, seminars and workshops to create basic skills, for E-government programs.

Strategy formulation: There is a need for common vision of e-government goals and directions. National agenda or strategic framework is required for central government. In the meanwhile government agencies should develop their own departmental e-government goals. There is also a need to collaborate with different agencies. Common goal is necessary for any successful project. (Lam, 2005) Discussed in Lowery local government should develop E-government strategy. This strategy will help to make process, procedures to support E-government and also serve the digital society effectively and efficiently. Ndou 2004 stated every E-government project need to establish an appropriate strategy. Even this is not an easy task, requiring a focus on many areas, processes and objectives. Government should have a clear strategy to overcome the barriers to transform.

Technology: For the successful implementation of E-government, common definition of technology standards should be followed by all government agencies. Technology standardization not only covers platform and security issues but also provide regularity of data exchange when data is transferred between government agencies. Government must establish technology standards that will facilitate interoperability among government agencies. With the help of some form of controlled standardization, individual E-government may produce their own set of standards, which help them to take other initiatives. (Lam, 2005)

Organizational support: Central government should provide support and direction to government agencies on how to implement E-government. Without proper direction, government agencies may fail to adopt best practices used in other agencies. Agencies should take care of particular set of e-government services and try to build single contact services to the users. (Lam, 2005)

Offer one stop E-government solution: Offer a one-stop E-government solution can be a one way to build trust on citizens. Local government websites are providing one-stop shopping but still few are holding, distributing information according to their hierarchical structure. But citizens are not interested to know about the hierarchy of the government, they want one-stop E-government services, where information is organized according to their needs. One-stop services increase the flexibility and help the citizens as they don't need to move around and spent their time for searching. One-stop E-government services reduce error rates, increase ability to track applications and avoid overlapping. (Lee, 2005). Silcock (2001) mentioned, citizens want one-stop shopping, in -an- instant options, convenience and empowerment from their government. It would not only make life easier but also change the way that people view government itself.

ICT infrastructure: The development of basic infrastructure is crucial for implementing E-government in order to achieve the advantages of new technologies. Governments should consider different methods of access, such as remote access through satellite, cellular phone, etc., to provide services all members of society. However, Good ICT infrastructure not only depends on telecommunications and computer equipment. E-readiness and ICT literacy are equally important for people to be able to use and get benefits from E-government applications. (Ndou, 2004)

Leadership Role: leadership is important for project management. Unless a single official is responsible for the success of a project, the project will most likely fail. Therefore clear responsibility and accountability are required for good project management (OCED, 2001). Silcock (2001) mentioned Governments need loyal leadership, full awareness about E-business principles and clear strategy and vision for overcoming the barriers to change the fears of individuals, the departmental challenges and the aggression of unions and many more. Leadership is one of the main issues of every new project or initiative. E. government is a complex process, high costs, risk and challenges usually resistant to the initiation of change. (ibid) Leadership is necessary prior to start any project implementation. Before the project began, leadership is important to explain concepts, models, during project leadership play great role to manage entire process and support. Top leadership involvement offer new ways of doing government. (Ndou, 2004)

Chapter 3: Frame of Reference

When the literature has been reviewed, about area of study, the theory is conceptualized in order to explain the research questions. The main objective of frame of reference is to provide a conceptualization that will allow answering the research questions of this thesis. This chapter will provide the conceptual frame of reference based on literature review. The issues that are going to be studied will be explained here.

3.1 Conceptualization

The purpose of a conceptualisation is to explain either graphically or in narrative form, the main things that are going to be studied (Miles and Huberman, 1994). This helps the researcher to define who and what will or will not be studied and this may precede the formulation of research questions .(ibid) In order to collect data and answer the research questions, a conceptualisation of the literature review will be presented here. Theories that are connected to research questions will be listed.

The following authors and theories have been selected due to that they all brought up important issues that are relevant for the data collection.

3.1.1 RQ1: How can E-government be described?

The following selected theories from chapter 2.1 are considered important to be able to answer this question.

- E-government (the form and the use of ICT) is a way to utilize technology, to enhance access and services (Silcock, 2001).
- E-government means government's effort to improve interaction, communication and delivery of government information, services to citizens, industry, employees and governmental bodies via computer and web-enabled presence (Ni and Ho, 2004).
- E-governance help to support stimulate and mange affairs of a country at all levels (Backus, 2001).
- E-Government is defined as the usage of Information and Communication Technologies (ICT) to support processes within the government as well as for the delivery of services to citizens, organizations and businesses (http://www.pakistan.gov.pk).
- E-governance allows citizen to participate in governmental activities, such as e-voting, online discussion forum (Fang, 2002).
- E-government not only provides better services, but also builds long term relationship with citizens and other governmental bodies. Generally E-government executes business operations through Internet based technologies. (Teicher et al., 2002).

- G2C allows citizen to access electronic government services anytime, directly and conveniently through use of various channels such as PC, WebTV, mobile phone or wireless devices (Ndou, 2004).
- E-government empowers citizens to perform transaction online anytime, by saving time of paperwork (Layne, 2001).
- E-government is increasing efficiency of work by elimination of mistake, reducing required time of transaction, faster and more informed decision making (Ndou, 2004).

3.1.2 RQ2: How can barriers of E-government be described?

The following selected theories from chapter 2.2 are considered important to be able to answer this question.

- One of barriers in E-government implementation is the slow speed of government reform (Lam 2005)
- Inadequate funds or a lack of skilled personnel may delay E-government implementation (Belanger and Hiller, 2006).
- Lack of ownership and authority are considered as barriers to implement of E-government (Lam, 2005).
- Computer security, privacy, and confidentiality of the personal data are the major barrier for implementing E-government (Jaeger, 2003)
- Lack of resources has been considered as a major barrier to implement of E-government (Ndou, 2004).
- Employee's resistance in change is big barrier to successful E-government. They believe that ICT would replace and make them jobless (Ndou, 2004).
- Despite from national E-government policy, many governments are trying to make their own definite policies for E-government. Lack of comprehensive course of action and inappropriate step of development may delay the process of E-government program (Lam, 2005).
- Lack of technical, personnel and financial capabilities are considered as major barriers to development of E-government (Belanger and Hiller, 2006).
- Financial Issues are considered as a major barrier to implement of E-government (Lam, 2005).
- Lack of common goals and objectives are considered as barriers to implement of E-government (Lam, 2005).

3.1.3 RQ3: How can successful implementation of E-government be described?

The following selected theories from chapter 2.3 are considered important to be able to answer this question.

- The development of basic infrastructure is crucial for implementing E-government in order to achieve the advantages of new technologies (Ndou, 2004).
- There is a need for common vision of e-government goals and directions. National agenda or strategic framework is required for central government. (Lam, 2005.
- Every E. government project need to establish an appropriate strategy. (Ndou, 2004).
- E-government sites should be simplified so that finder can easily find and understand required information (Fang, 2002).
- Establishing security and legal transformations are required to ensuring the privacy, security and legal acknowledgment of electronic signatures. For this reason government all over the world need to design secure transactions between agencies and individuals (Ndou, 2004).
- Simplification of process, workflow is known as reengineering and the end result of reengineering will be to transform the processor in few step and few people to complete the task (Bhatnagar, 2002)
- To the greatest extent possible, citizens should be able to do maximum transaction on one point centre. It is possible when governments provide non stop centers and allow citizens to use e-government portal for multiple purpose and it is necessary to implement successful E-government (Fang (2002).
- For successful implementation of E-government training plays an important role (Bhatnagar, 2002).
- Lack of IT skills makes in-house development impossible. The availability of appropriate skills is necessary for successful E-government implementation (OECD, 2001).
- Private sector operate their functions different from government sector , and these difference make them successful. (OECD, 2001)
- Establishing security and legal transformations are required to ensuring the privacy, security and legal acknowledgment of electronic signatures. For this reason government all over the world need to design secure transactions between agencies and individuals (Ndou, 2004)
- Leadership is one of the main issues of every new project or initiative. Project leadership play great role to manage entire process and support. Top leadership involvement offer new ways of doing government (Silcock, 2001).

The reason for selecting the theories to cover several aspects of research questions and get help to provide constructive frame of reference. The methodology chapter will help to provide comprehensive logic behind selection of methods, cases and tools used in context of the above chosen theories.

Chapter 4: Methodology

In this chapter, we will discuss the research methodology and will propose the suitable types that match our thesis best. The suitable methodology in this study gives us the guidelines for information gathering and processing.

4.1 Research Purpose

Many research activities help to categories the types of research (Zikmund, 2000). And According to Yin (1994) the purpose of research study can be distinguished in three categories: exploratory, descriptive, or explanatory.

Exploratory Research

This research can be conducted during the initial stage of research, it helps the researcher to clarify and understand the problem (Zikmund, 2000). Sekaran (2000) stated that an exploratory research is carrying out when no information is available or accessible and not known much about the situations. An exploratory study should be designed by describing a purpose and stating the criteria to evaluate the exploration successful here, research is designed to permit a researcher to just look around, with respect to some fact, with the aim being to enlarge symptomatic ideas. The use is to collect information as possible regarding a precise problem. Exploratory research is frequently used when a problem is not recognized, or the available information is not complete. The procedure that is appropriate for information gathering when implementing an exploratory research is interviews. (Yin, 1994)

Descriptive Research

According to Zikmund (2000) good researchers strive for descriptive precision. Descriptive research help to find out the answer of who, what, when, where, and how and also to determine the difference, in need, features of subgroups and characteristics. (ibid) Sekaran (2000) states that descriptive research is carrying out when information is clearly available, accessible and known much about the situational factors. Furthermore, descriptive research helps to understand the characteristics of individuals, organizations and allow thinking systematically about aspects. (ibid)

Explanatory Research

Explanatory Research is conducted to identify causal relationships, among variables. In this research, relationships between variable to be explained.(Zikmund, 2000) According to Yin (1994) an explanatory research approach could also be used when the study aims to explain certain procedures from different perspectives or situations with given set of events.

The research purpose and research questions show that this study is mainly descriptive. Somewhat, research purpose is partially explanatory, since it has been trying to review and justify the findings in the study by answering research questions and drawing conclusions. However, the study is descriptive therefore objective is to describe the area of research and strive to explain the collected data in order to find out the differences and similarities against theories and frame of reference.

4.2 Research Approach

The research approach can be either qualitative or quantitative. Both approaches have their strength and weakness and best research method to use for a study depends on research purpose and the accompanying research question. Qualitative is the search for information that is supposed to examine, understand, and considering the phenomena by the means of an inside perspective. Qualitative methods are often related to case studies, where the aim is to receive thorough information and thereby obtain a deeper understanding of the research problem. (Yin, 1994) According to Amaratunga *et al.*, (2002) it is difficult to make accountable speech on qualitative research in business economics. Qualitative research carried out through strong and or prolonged contact with a situation. These situations can be seen in everyday life of individual, groups, societies and organization. He further argued that qualitative approach has three claims of power to collect data and they have been used as the best strategy for discovery, exploring a new area, developing hypotheses. Further qualitative data are useful when researcher needs to supplement, validate, explain or re-interpret. (ibid) The qualitative approach will be used in this study to gain a better understanding of our research area.

4.3 Research Strategy

According to (Yin, 1994) there are five major research strategies in the social science: experiments, surveys, archival analysis, histories, and case studies. Each strategy has its own advantages and disadvantages on three conditions: (a) the type of research question posed, (b) the extent of control an investigator has over actual behavioural events, and (c) the degree of focus on contemporary, as opposed to historical, events. (ibid)

Yin (1994) stated case studies strategy when “how” or “why” questions are being posed, when researcher has little control over events, and when the focus is on current happening within some real life perspective. In case study the aim of research is to search for conformity between the result and the theory. This means that the theory helps to identify other similar events to the result. A researcher can conduct research on a single case or to conduct multiple case studies. (ibid) Case studies involve in-depth, contextual analyses of similar situations in other organizations, where the nature of the problem and the problem definition happen to be the same as the one experienced in the current situation. (Sekaran, 2000)

The purpose of this study is to find information to answer the research questions. We want to collect and analyze new data, compare it to existing theories and get the opportunity to make comparisons between cases to detect possible similarities or differences. Therefore, we have chosen case studies as our research strategy. This choice is also determined by our research approach which is qualitative.

4.4 Data Collection Method

There are many techniques and methods of data collection. For case studies data collection can be relied on six important sources: Documentation, archival records, interviews, direct observation, participant-observation, and physical relic. (Yin, 1994)

Two types of data can be collected, primary and secondary data. Primary data is recognized as data is assembled and collected particularly for the research at hand with interviews, questionnaires, survey or observations. While secondary data can be collected from various documents such as, books, periodical, articles, on the Internet. Secondary data can be assembled faster then primary data. (Zikmund, 2000)

In order to answer the research question and reach the research purpose we would like to use primary source as data collection method. We will collect primary data through questionnaire because we believe that this method will provide relevant literature which would fit to our area of study.

According to Saunders, 2003 questionnaire can be used for descriptive and explanatory research. Descriptive research helps to identify and describe the variability in different phenomena through attitude, opinion and questionnaire of organisational practices. He further explains that there are two types of questionnaires, self-administered and interviewer administered. Self-administered questionnaires cab be sent and returned by using the email or Internet. Interviewer administered questionnaires are recorded by the interviewer. (ibid)

For this research we are using self -administered questionnaires and we will send questionnaire through electronic mail. According to (Zikmund, 2000) E-mail is a new way to communicate. The benefits of Email-questionnaire of are cheaper, faster, and flexible. Email-questionnaires are successful in two ways: they create interest because Email questionnaire are like story and they reach to respondents when they open their email and ready for interact.

4.5 Sample Selection

By using a small number of units of a given populations as a basis to make conclusions about the whole population is called sampling (Zikmund, 2000). According to Graziano and Raulin (1997) it is not possible to collect and gain data from all the available sources to solve the research problems and to find the solutions. Therefore it is recommended that

from the available population, smaller units should be taken to gather data. These smaller units are referred as samples. They represents the under questioned features of that population from which they are selected. (ibid)

Sampling techniques give us methods that help to reduce the amount of data needed to collect by considering only data from a sub-group rather than all possible cases or elements (Saunders & Thornhill, 2000). There are a number of ways to choose a sample for case studies (Yin, 1994). Judgmental sampling facilitates to use judgment to select cases that will enable to answer research questions and meeting objectives (Saunders, 2000). To work with small samples, as in case study, where cases are selected being informative, judgmental sampling is often used. (ibid)

The sample selection criteria will be based on two case studies for this thesis. We have chosen two specifics countries as case studies support by research question. They are India (Ministry of Mines) and Pakistan (Ministry of Telecommunications and Information Technology). As these are developing countries and trying to convert their government to E-government., there are many obstacles and opportunities for implementation of E-government. We could find out the difference and similarities existing in both of them and can make the relationship based on our thesis point of view.

4.6 Analysis of Data

According to Yin (1994) data analysis involves examining; categorizing and tabulating the collected data. He adds that before analyzing the data, a researcher using case studies can choose from two analytical strategies:

- *Relying on theoretical propositions* is the common strategy of the researcher comparing his finding with previous studies.
- *Developing a case description* can be used as a strategy but it is favourable only when little previous research has been done.

Relying on theoretical propositions will be used for this study since lot of research has been done in this area. Miles and Huberman (1994) state that data analysis consists of three concurrent flows of activities: reducing the data, display, and conclusion drawing. The data reduction stage of the analysis helps the researcher to sort and compress the data in order to verify conclusions. The data display is the way to arrange the data to make easier conclusion. In the conclusion drawing stage the researcher notes patterns, explanations and propositions. (ibid)

Above steps would be followed to analyze the data for this study. Use of within case analysis to compare the data with the frame of reference is preferred in this study. And also cross case analysis to compare the data with one case to the other cases will be used. Conclusions from these analyses will be drawn based on the similarities and differences against the frame of references. As the data analysis method is explained, the next section deals with the quality standards of this study.

4.7 Quality Standards

There are two important concepts while discussing the quality of research work, reliability and validity. These are explained below:

Reliability

According to Sekaran (2000) reliability of a research work indicates the extent to which the research work is without bias (error free) and hence offers consistent measurement across time and across the various items in the instrument. He elaborates that the ability of a measure to keep stability over time in different testing conditions indicates the reliability. (ibid) The task of reliability is to minimize the errors and biases in the study (Yin, 1994).The term reliability has got two aspects, stability and consistency. Two tests of stability are test-retest reliability and parallel-form reliability. Parallel-form reliability means two questionnaire having similar items and same response format with only the wordings and the ordering of questions changed. (Sekaran, 2000)

Yin (2003) has suggested that the use of a case study protocol and develop a case study databases are techniques, which increase, research reliability. To increase the reliability of this research we have designed a questionnaire, with the help of frame of reference which reflects our research questions. There is a possibility that over the years the objectives, procedures, techniques and processes might be changed or improved which may affect on our results of the study and turn new way.

Validity

Validity is the ability of a chosen instrument to measure what it is intended to measure. For example, when a set of questions is asked in hope to explore an idea or concept, there is no assurance that the concept that needs to be measured is actually considered and not something else. This surety of concept brings greater validity. There are three main types of validity tests, namely content validity test, criterion-related validity test, and construct validity test. (Sekaran, 2000) According to Yin (1994) there are three tactics to increase the construct validity. These are, using multiple source of evidence, establishing chain of evidence and having key respondents to review the draft of the case study report. (ibid)
To ensure the validity of the study, data was collected from the reliable sources, from high officials of Pakistan and India and two case studies will test with relevant theories, but it is difficult to draw any generalization based on the findings on our study.

Chapter 5: Data Presentation

This chapter presents the data collected from the questioners on two selected case studies. The cases are Pakistan and India. All the countries are developing nations and almost same in characteristics. The data presentation follows the frame of reference and the questioner.

5.1 Case 1: Pakistan

Ministry of Information Technology, Pakistan is the national important ministry that facilitates the government of Pakistan for planning, coordinating and directing efforts to initiate and launch information technology and telecommunications programs and projects for country's economic development.

According to the project director, in October 2002 the Electronic Government Directorate (EGD) was established in pursuance to a decision of the federal cabinet. Converting the former Information Technology Commission, the Government formed the EGD as a cell within the Ministry of Information Technology. The terms of reference of EGD as per Ministry of IT's are, implementation of different projects related to the Electronic Government (E-Govt) program, provide technical advice & guidelines for implementation of E-government projects at the Federal, Provincial and District levels, plan and prepare Electronic government projects, provide standards for software and infrastructure in the field of Electronic Government; and to undertake any other assignment matter that the government may direct.

Moreover many E-government projects are preparing and implementing e-Government funded by the Ministry of Information Technology, but federal and provincial government ministries and departments take help in the field of information technology from Electronic government directorate (EGD.

According to the UN Global E-Government Readiness Survey 2005, Pakistan is on No.11 between south and central Asia region.

5.1.1 RQ1: How can E-government be described?

The Project Director, Ministry of Telecommunication & Information Technology, Pakistan agreed that well structured ICT infrastructure support e-government to communicate with its' citizens. He also strongly mentioned that ICT increases the efficiency of e-government. He agreed that ICT enhances the effectiveness of e-government.

The project director has mentioned some of the role of ICT infrastructure for successful e-government such as, to get benefits from new technology, to provide services to all members/citizens (strongly mentioned), to increase interaction between citizens/ govt. (strongly mentioned) and to make the process easier for citizens/govt. He further

mentioned that ICT is important in developing countries because it helps to increase service efficiency and it can increase transparency. He has no comments on the issue that ICT reduces digital differences. He disagree that ICT helps to reduce corruptions in developing country like Pakistan.

The Project director agreed that e-government play positive role in internal operations in govt services. He also agreed that e-government involves less paper work with more efficiency. In his views e-government facilities faster communication between inter governmental department. He disagreed that e-government can improve the standard of leaving of the people.

The project director agreed with some functions of e-government which are service efficiency with less cost, and citizens' participation in governmental decision making process. He has no comments on receiving payments as a function of e-government.

The project director mentioned some opportunities of e-government which are getting services in efficient way, to provide one channel services, to decline cost and competence again to improve quality of services (strongly mentioned), to increase the transparency of decision making process, to build citizens trust on govt, to increase association between govt departments/agencies, and promote the use of ICT. He has no comments on increasing economy of scale as the main opportunity of e-government.

5.1.2 RQ.2 How can barriers of E-government be described?

The project director agreed with this view that lack of wills of citizens and govt is a barrier of E-government and he strongly agreed that lack of skilled personnel is a barrier of e-government. He strongly agreed with the authoritarian issues as a barrier of e-government.

The project director agreed that inadequate infrastructure, privacy /security issues, political leaders' unwillingness in implementation, employee unfriendly attitude towards digital services are the barriers of e-government. According to him economic matters and technophobic end users are not the barriers of e-government.

The project director mentioned some causes to fail e-government projects which could be considered as the barrier of e-government implementation, these are lack of resources, political issues, employees resistance, conflict between govt. agencies. He has no comments on funding issues as a cause to fail e. government projects.

The project director disagree with the view that the lack of common goals/objectives are the reason to fail e-government projects

5.1.3 RQ3: How can successful implementation of E-government be described?

The project director agreed that communicational developments in government ICT sector help to implement e-government. He also agreed that infrastructural developments in government ICT sector facilitate to implement e-government.

The project director strongly mentioned that individual e-government projects can be successful through proper planning. Transparency is another issue to make project successful. He disagreed that protection and confidentially of data is vital for successful e-government projects. He also agreed that more accuracy and reengineering the administrative process and procedures make individual projects successful.

The project director disagreed that citizen involvement play great role in e-government project successful. But he strongly agreed that trained/skilled people play great role in e-government project successful. He agreed that partnership with private sectors is important for successful implementation. He disagreed with the views on the issues of strict security rules, policy and privacy laws but agreed that effective leadership support and commitment with senior officials affect e-government project positively.

5.2 Case 2: India

Ministry of Mines, India is responsible for survey and exploration of all minerals, other than natural gases, petroleum and atomic minerals.

Government of India has approved IT Act in June 2000 to provide legal recognition for transactions carried out by means of electronic data interchange and other electronic communication, commonly referred to as Electronic Commerce, and to facilitate government agencies by electronic filing of documents.

To promote the E-government in India, Government of India has set up a center for e-Governance (CEG) with the help of Ministry of Communications & Information Technology, Department of Information Technology and it was inaugurated on 15th August 2000.

The activities of the center are, to make the best practices policy in the area of e-Governance, to create awareness among decision makers in the central and state governments, to demonstrate the feasibility of concepts in e-Governance to the decision makers through workshops, demonstrations video/teleconferencing etc. and to help the Central and State Governments in defining and implementing the process and policy changes.

According to the UN Global E-Government Readiness Survey (2005), India is on No.4 between south and central Asia region.

5.2.1 RQ1: How can E-government be described?

The director, Ministry of Mines, India strongly agreed that well structured ICT infrastructure support e-government to communicate with its' citizens. He also mentioned that ICT increases the efficiency of e-government. Another remarkable comment from him about ICT is that it enhances the effectiveness of e-government.

The director has mentioned some of the role of ICT infrastructure for successful e-government such as, to get benefits from new technology, to provide services to all members/citizens, to increase interaction between citizens/ govt and to make the process easier for citizens/govt. He further mentioned that ICT is important in developing countries because it reduces digital differences, it gives help to increase service efficiency, it helps to reduce corruptions, it can increase transparency.

The director strongly agreed that e-government play positive role in internal operations in govt services. He also strongly agreed that e-government involves less paper work with more efficiency. In his views e-government facilities faster communication between inter governmental department. He also mentioned that e-government can improve the standard of leaving of the people.

The director agreed with some remarkable functions of e-government which are receiving payments, service efficiency with less cost, and citizens' participation in governmental decision making process.

The director mentioned some opportunities of e-government which are getting services in efficient way, increasing economy of scale, to provide one channel services, to decline cost and competence gain, to improve quality of services, to increase the transparency of decision making process, to build citizens trust on govt, to increase association between govt departments/agencies, and to promote the use of ICT.

5.2.2 RQ.2 How can barriers of E-government be described?

The director disagreed with this view that lack of wills of citizens and govt is a barrier of E-government but he agreed lack of skilled personnel is a barrier of e-government. He has no comments with authoritarian issues as a barrier of e-government. He agreed that economic matters, inadequate infrastructure, privacy /security issues are the barriers of e-government.

The director disagreed with the view that political leaders' unwillingness in implementation is barrier of e-government. He also disagreed that employee unfriendly attitude towards digital services is a barrier. According to him technophobic end users are not barriers for implementation of e-government.

The director mentioned some causes to fail e-government projects which could be considered as the barrier of e-government implementation, these are funding issues, lack

of resources. He has no comments on political issues as a cause to fail e. government projects.

The director mentioned that employees' resistance, conflict between govt agencies and lack of common goals/objectives are not the reason to fail e-government projects.

5.2.3 RQ3: How can successful implementation of E-government be described?

The director mentioned that communicational developments in government ICT sector help to implement e-government. He also strongly agreed that infrastructural developments in government ICT sector facilitate to implement e-government.

According to the director individual e-government projects can be successful through proper planning. Transparency is another remarkable issue to make project successful. He strongly agreed that protection and confidentially of data is vital for successful e-government projects. He also strongly agreed that more accuracy and reengineering the administrative process and procedures make individual projects successful.

The director strongly mentioned that citizen involvement and trained/skilled people play great role in e-government project successful. According to him partnership with private sectors is very important for successful implementation. He delivered his strong views on the issues of strict security rules, policy and privacy laws. He expressed that effective leadership support and commitment with senior officials affect e-government project positively.

Chapter 6: Analysis

In this chapter, as mentioned in the methodology, within case and the cross case analysis will be presented. At first, within case analysis of two cases will be presented, in which each of the two cases will be compared with theories. Secondly, a cross case analysis will be executed to compare and analyze the two cases together to find the similarities and differences.

6.1 Within Case Analysis: Pakistan

In this first section, the empirical data collected from Pakistan and presented in chapter five will be analyzed and compared with the previous researches in chapter two. The analysis will be presented in the order of the research questions.

6.1.1 **RQ1: How can E-government be described?**

According to the Project Director well structured ICT infrastructure support e-government to communicate with its' citizens. He also strongly mentioned that ICT increases the efficiency of e-government. He agreed that ICT enhances the effectiveness of e-government. All these statements are supported by Silcock (2001) who has mentioned that e-government (the form and the use of ICT) is a way to utilize technology, to enhance access and services.

The project director has mentioned some of the role of ICT infrastructure for successful e-government such as, to get benefits from new technology, to provide services to all members/citizens (strongly mentioned), to increase interaction between citizens/ govt. (strongly mentioned) and to make the process easier for citizens/govt. These statements are supported by Ni and Ho (2004) who mentioned that E-government means government's effort to improve interaction, communication and delivery of government information, services to citizens, industry, employees and governmental bodies via computer and web-enabled presence

According to the project director ICT is important in developing countries because it helps to increase service efficiency and it can increase transparency. Here Backus (2001) delivered the same view which is E-governance help to support, stimulate and mange affairs of a country at all levels.

He has no comments on the issue that ICT reduces digital differences. He disagree that ICT helps to reduce corruptions in developing country like Pakistan. No theories have been found relating to these issues.

The Project director agreed that e-government play positive role in internal operations in govt. services. He also agreed that e-government involves less paper work with more efficiency. In his views e-government facilities faster communication between inter governmental department. These statement matches with the similar views delivered by

(http://www.pakistan.gov.pk). In this site E-Government is defined as the usage of Information and Communication Technologies (ICT) to support processes within the government as well as for the delivery of services to citizens, organizations and businesses. This statement also supported by Layne, 2001 who mentioned E-government empowers citizens to perform transaction online anytime, by saving time of paperwork.

He disagreed that e-government can improve the standard of leaving of the people, but Basu, said in 2004 that mainly developing countries realize the potential of ICT, not only as a tool for improving governance, but also a way to improve the standard of living of the people.

The project director agreed with some functions of e-government which are service efficiency with less cost, and citizens' participation in governmental decision making process. Fang (2002) mentioned E-governance allows citizen to participate in governmental activities, such as e-voting, online discussion forum. The similar comments were delivered by Teicher et al., (2002) who mentioned that E-government not only provides better services, but also builds long term relationship with citizens and other governmental bodies.

He has no comments on receiving payments as a function of e-government. Perhaps Layne (2001) mentioned that E-government empowers citizens to perform transaction online anytime, by saving time of paperwork.

The project director mentioned some opportunities of e-government which are getting services in efficient way, to provide one channel services, to decline cost and competence gain, to improve quality of services (strongly mentioned), to increase the transparency of decision making process, to build citizens trust on govt. to increase association between govt departments/agencies, and promote the use of ICT. These statement matches with Ndou (2004) who mentioned G2C allows citizen to access electronic government services anytime, directly and conveniently through use of various channels such as PC, WebTV, mobile phone or wireless devices. The project director's statement also matches with the views of Teicher et al., (2002) who discussed E-government not only provides better services, but also builds long term relationship with citizens and other governmental bodies.

He has no comments on increasing economy of scale as the main opportunity of e-government. Ndou (2004) has mentioned that E-government is increasing efficiency of work by elimination of mistake, reducing required time of transaction, faster and more informed decision-making.

Table 6.1: Summary of the Comparison of Empirical Data and Theory about Definition of E-government

Variables	Empirical Data of Pakistan	Theory
Utilization of Technology	Well structured ICT infrastructure support e-government to communicate with its' citizens, increases the efficiency of e-government, enhances the effectiveness of e-government.	E-government (the form and the use of ICT) is a way to utilize technology, to enhance access and services (Silcock, 2001).
Role of ICT infrastructure	The role of ICT infrastructure for successful e-government are to get benefits from new technology, to provide services to all members/citizens, to increase interaction between citizens/ govt., and to make the process easier for citizens/govt.	E-government means government's effort to improve interaction, communication and delivery of government information, services to citizens, industry, employees and governmental bodies via computer and web-enabled presence (Ni and Ho, 2004).
Importance of ICT in developing Countries	ICT is important in developing countries because it helps to increase service efficiency and it can increase transparency	E-governance help to support, stimulate and mange affairs of a country at all levels (Backus, 2001).
Internal operations in govt. services	E-government play positive role in internal operations in govt. services, e-government involves less paper work with more efficiency, e-government facilities faster communication between inter governmental department	E-Government is defined as the usage of Information and Communication Technologies (ICT) to support processes within the government as well as for the delivery of services to citizens, organizations and businesses (http://www.pakistan.gov.pk) E-government empowers citizens to perform transaction online anytime, by saving time of paperwork. (Layne, 2001)
Citizens' participation in governmental activities	One of some functions of e-government is the citizens' participation in governmental decision making process.	E-governance allows citizen to participate in governmental activities, such as e-voting, online discussion forum (Fang, 2002). E-government not only provides better services, but also builds long term relationship with citizens and other governmental bodies. Generally E-government executes business operations through Internet based technologies (Teicher et al., 2002).
Opportunities of e-government	Some opportunities of e-government are getting services in efficient way, to provide one channel services, to decline cost and competence gain, to improve quality of services, to increase the transparency of decision making process, to build citizens trust on govt., to increase association between govt departments/agencies, and promote the use of ICT	G2C allows citizen to access electronic government services anytime, directly and conveniently through use of various channels such as PC, WebTV, mobile phone or wireless devices (Ndou, 2004). E-government not only provides better services, but also builds long term relationship with citizens and other governmental bodies (Teicher et al., 2002).

Digital differences	No comments	Theory not found
Reduce corruptions	Disagree	Theory not found
Standard of leaving	Disagree	Developing countries realize the potential of ICT, not only as a tool for improving governance, but also a way to improve the standard of living of the people. (Basu,2004)
Receiving payments	No comments	E-government empowers citizens to perform transaction online anytime, by saving time of paperwork (Layne, 2001)
Economy of scale	No comments	E-government is increasing efficiency of work by elimination of mistake, reducing required time of transaction, faster and more informed decision making (Ndou, 2004).

6.1.2 RQ.2 How can barriers of E-government be described?

The project director agreed with this view that lack of wills of citizens and govt is a barrier of E-government. This statement matches with what Lam (2005) mentioned. According to Lam (2005) one of barriers in E-government implementation is the slow speed of government reform. The project director strongly agreed that lack of skilled personnel is a barrier of e-government, this statement perfectly matches with Belanger and Hiller (2006) who discussed that lack of skilled personnel may delay E-government implementation.

He strongly agreed with the authoritarian issues as a barrier of e-government. Lam (2005) mentioned the similar view which is lack of ownership and authority are considered as barriers to implement of E-government.

The project director agreed that inadequate infrastructure, privacy /security issues, political leaders' unwillingness in implementation, employee unfriendly attitude towards digital services are the barriers of e-government. These statement matches with Jaeger (2003), he mentioned that computer security, privacy, and confidentiality of the personal data are the major barrier for implementing E-government.

According to project director economic matters and technophobic end users are not the barriers of e-government.

The project director mentioned some causes to fail e-government projects which could be considered as the barrier of e-government implementation, such as lack of resources. Ndou (2004) has stated that lack of resources has been considered as a major barrier to implement of E-government.

According to project director political issues are the barriers of e-government implementation. Lam (2005) pointed out one of barriers in E-government implementation is the slow speed of government reform.

Project director cited employees' resistance is the barriers of e-government implementation which is supported by Ndou (2004) who stated employee's resistance in change is big barrier to successful E-government. They believe that ICT would replace and make them jobless.

According to project director, conflict between govt. agencies is the barriers of e-government implementation. Similar statement is found by Lam (2005) who mentioned that lack of comprehensive course of action and inappropriate step of development may delay the process of E-government program.

He has no comments on funding issues as a cause to fail e. government projects but, Lam, 2005 theory said that financial issues are considered major barriers to implement E-government and also Belanger and Hiller, 2006 who described that financial capabilities are considered as major barriers to development of E-government.

The project director disagree with the view that the lack of common goals/objectives are the reason to fail e-government projects, but Lam, 2005 said that Lack of common goals and objectives are considered as barriers to implement of E-government.

Table 6.2: Summary of the Comparison of Empirical Data and Theory about Barriers of E-government

Variables	Empirical Data of Pakistan	Theory
Slow lick of government transformation	Lack of wills of citizens and govt is a barrier of E-government.	One of barriers in E-government implementation is the slow speed of government reform (Lam 2005)
Lack of skilled personnel	Lack of skilled personnel is a barrier of e-government	Lack of skilled personnel may delay E-government implementation (Belanger and Hiller, 2006)
Authoritarian issues	The authoritarian issues are barriers of e-government	Lack of ownership and authority are considered as barriers to implement of E-government (Lam, 2005)
Privacy /security issues	Privacy/security issues, political leaders' unwillingness in implementation, employee unfriendly attitude towards digital services are the barriers of e-government	Computer security, privacy, and confidentiality of the personal data are the major barrier for implementing E-government (Jaeger, 2003)
Lack of resources	Lack of resources is the barrier of e-government implementation	Lack of resources has been considered as a major barrier to implement of E-government (Ndou, 2004).
Political issues	Political issues are the barriers of e-government implementation.	One of barriers in E-government implementation is the slow speed of government reform (Lam, 2005)
Employees' resistance	Employees' resistance is the barriers of e-government implementation	Employee's resistance in change is big barrier to successful E-government (Ndou, 2004).
Conflict between govt. agencies	Conflict between govt. agencies is the barriers of e-government implementation.	Lack of comprehensive course of action and inappropriate step of development may delay the process of

		E-government program (Lam, 2005).
Funding issues	No comments	Financial capabilities are considered as major barriers to development of E-government (Belanger and Hiller, 2006). Financial Issues are considered as a major barrier to implement of E-government (Lam, 2005).
Lack of common goals/objectives	Disagree	Lack of common goals and objectives are considered as barriers to implement of E-government (Lam, 2005).

6.1.3 RQ3: How can successful implementation of E-government be described?

The project director agreed that communicational developments in government ICT sector help to implement e-government. He also agreed that infrastructural developments in government ICT sector facilitate to implement e-government. All these theories match with Ndou (2004) who mentioned that the development of basic infrastructure is crucial for implementing E-government in order to achieve the advantages of new technologies.

The project director strongly mentioned that individual e-government projects can be successful through proper planning. Lam (2005) delivered the similar statement and that is there is a need for common vision of e-government goals and directions. The similar statement was found by Ndou (2004) who mentioned that national agenda or strategic framework is required for central government. Every E. government project need to establish an appropriate strategy.

According to project director transparency is another issue to make project successful. Similarly Fang (2002) mentioned E-government sites should be simplified so that finder can easily find and understand required information.

He disagreed that protection and confidentially of data is vital for successful e-government projects. But Ndou, (2004) mentioned establishing security and legal transformations are required to ensuring the privacy, security and legal acknowledgment of electronic signatures. For this reason government all over the world need to design secure transactions between agencies and individuals.

The project director also agreed that more accuracy and reengineering the administrative process and procedures make individual projects successful. This statement is supported by Bhatnagar (2002) who cited that simplification of process, workflow is known as reengineering and the end result of reengineering will be to transform the processor in few step and few people to complete the task

The project director disagreed that citizen involvement play great role in e-government project successful. But Fang (2002) argued that to the greatest extent possible, citizens

should be able to do maximum transaction on one point centre. It is possible when governments provide non stop centers and allow citizens to use e-government portal for multiple purpose and it is necessary to implement successful E-government.
According to project director trained/skilled people play great role in e-government project successful. For supporting this statement two theories have been found, one is by Bhatnagar (2002) who mentioned that for successful implementation of E-government training play an important role. Another one is by OCED (2001) who cited that lack of IT skills makes in-house development impossible. The availability of appropriate skills is necessary for successful E-government implementation.

He agreed that partnership with private sectors is important for successful implementation. This is supported by OCED (2001) who argued that private sector operates their functions different from government sector, and these differences make them successful.

He disagreed with the views on the issues of strict security rules, policy and privacy laws. But Ndou (2004) argued that establishing security and legal transformations are required to ensuring the privacy, security and legal acknowledgment of electronic signatures. For this reason government all over the world need to design secure transactions between agencies and individuals.

The project director agreed that effective leadership, support and commitment with senior officials affect E-government project positively. This theory supported by Silcock (2001) who explained that leadership is one of the main issues of every new project or initiative. Project leadership play great role to manage entire process and support. Top leadership involvement offer new ways of doing government

Table 6.3: Summary of the Comparison of Empirical Data and Theory about the successful implementation of E-government

Variables	Empirical Data of Pakistan	Theory
Infrastructural developments	Infrastructural developments in government ICT sector facilitate to implement e-government	The development of basic infrastructure is crucial for implementing E-government in order to achieve the advantages of new technologies (Ndou, 2004).
Proper planning	Individual e-government projects can be successful through proper planning.	There is a need for common vision of e-government goals and directions. National agenda or strategic framework is required for central government. (Lam, 2005. Every E. government project need to establish an appropriate strategy. (Ndou, 2004).
Transparency	Transparency is another issue to make project successful.	E-government sites should be simplified so that finder can easily find and understand required information (Fang, 2002).
Protection and confidentially	Disagree	Establishing security and legal

		transformations are required to ensuring the privacy, security and legal acknowledgment of electronic signatures. For this reason government all over the world need to design secure transactions between agencies and individuals (Ndou, 2004).
Reengineering the administrative process	Reengineering the administrative process and procedures make individual projects successful.	Simplification of process, workflow is known as reengineering and the end result of reengineering will be to transform the processor in few step and few people to complete the task (Bhatnagar, 2002)
Citizen involvement	Disagree	To the greatest extent possible, citizens should be able to do maximum transaction on one point centre. It is possible when governments provide non stop centers and allow citizens to use e-government portal for multiple purpose and it is necessary to implement successful E-government (Fang (2002).
Trained/skilled people	Trained/skilled people play great role in e-government project successful.	For successful implementation of E-government training play an important role (Bhatnagar, 2002). Lack of IT skills makes in-house development impossible. The availability of appropriate skills is necessary for successful E-government implementation (OCED, 2001).
Partnership with private sectors	Partnership with private sectors is important for successful implementation.	Private sector operate their functions different from government sector , and these difference make them successful. (OCED, 2001)
Security rules, policy and privacy laws	Disagree	Establishing security and legal transformations are required to ensuring the privacy, security and legal acknowledgment of electronic signatures. For this reason government all over the world need to design secure transactions between agencies and individuals (Ndou, 2004)
Effective leadership,	Effective leadership, support and commitment with senior officials affect e-government project positively.	Leadership is one of the main issues of every new project or initiative. Project leadership play great role to manage entire process and support. Top leadership involvement offer new ways of doing government (Silcock, 2001).

6.2 Within Case Analysis: India

In the following section, the empirical data collected from India and presented in chapter five will be analyzed and compared with the previous researches in chapter two. The analysis will be presented in the order of the research questions.

6.2.1 RQ1: How can E-government be described?

The director, Ministry of Mines, India strongly agreed that well structured ICT infrastructure support e-government to communicate with its' citizens. He also mentioned that ICT increases the efficiency of e-government. Another remarkable comment from him about ICT is that it enhances the effectiveness of e-government. The above mentioned statements are similar what Silcock (2001) cited which is e-government (the form and the use of ICT) is a way to utilize technology, to enhance access and services.

The director has mentioned some of the role of ICT infrastructure for successful e-government such as, to get benefits from new technology, to provide services to all members/citizens, to increase interaction between citizens/ govt and to make the process easier for citizens/govt. These statements are similar with Ni and Ho (2004) who mentioned that E-government means government's effort to improve interaction, communication and delivery of government information, services to citizens, industry, employees and governmental bodies via computer and web-enabled presence

He mentioned that ICT is important in developing countries because it helps to increase service efficiency, it can increase transparency. These are supported by Backus (2001) who expressed the same view, which is E-governance help to support, stimulate and mange affairs of a country at all levels.

He further mentioned that ICT is important in developing countries because it reduces digital differences and it helps to reduce corruptions. No theories have been found relating to these issues.

The director strongly agreed that e-government play positive role in internal operations in govt services. He also strongly agreed that e-government involves less paper work with more efficiency. In his views e-government facilities faster communication between inter governmental department. These statement matches with the similar views delivered by (http://www.pakistan.gov.pk). In this site E-Government is defined as the usage of Information and Communication Technologies (ICT) to support processes within the government as well as for the delivery of services to citizens, organizations and businesses. This statement also supported by Layne, 2001 who mentioned E-government empowers citizens to perform transaction online anytime, by saving time of paperwork.

He also mentioned that e-government can improve the standard of leaving of the people. The same comments delivered by Basu, (2004) he described that mainly developing countries realize the potential of ICT, not only as a tool for improving governance, but also a way to improve the standard of living of the people.

The director agreed with some remarkable functions of e-government, which are service efficiency with less cost, and citizens' participation in governmental decision-making process. Fang (2002) mentioned E-governance allows citizen to participate in governmental activities, such as e-voting, online discussion forum. The similar comments were delivered by Teicher et al., (2002) who mentioned that E-government not only provides better services, but also builds long term relationship with citizens and other governmental bodies. Generally E-government executes business operations through Internet based technologies.

The director agreed that receiving payments is a function of e-government. Layne (2001) mentioned that E-government empowers citizens to perform transaction online anytime, by saving time of paperwork.

The director mentioned some opportunities of e-government which are getting services in efficient way, to provide one channel services, to decline cost and competence gain, to improve quality of services, to increase the transparency of decision making process, to build citizens trust on govt, to increase association between govt departments/agencies, and to promote the use of ICT. These statement matches with Ndou (2004) who mentioned G2C allows citizen to access electronic government services anytime, directly and conveniently through use of various channels such as PC, WebTV, mobile phone or wireless devices. The director's statement also matches with the views of Teicher et al., (2002) who discussed E-government not only provides better services, but also builds long term relationship with citizens and other governmental bodies.

The director mentioned that increasing economy of scale is opportunity of e-government. Ndou (2004) has mentioned that E-government is increasing efficiency of work by elimination of mistake, reducing required time of transaction, faster and more informed decision-making.

Table 6.4: Summary of the Comparison of Empirical Data and Theory about Definition of E-government

Variables	Empirical Data of India	Theory
Utilization of Technology	Well structured ICT infrastructure support e-government to communicate with its' citizens, increases the efficiency of e-government, enhances the effectiveness of e-government.	E-government (the form and the use of ICT) is a way to utilize technology, to enhance access and services (Silcock, 2001).
Role of ICT infrastructure	The role of ICT infrastructure for successful e-government are to get benefits from new technology, to provide services to all members/citizens, to increase interaction between citizens/ govt., and to make the process easier for citizens/govt.	E-government means government's effort to improve interaction, communication and delivery of government information, services to citizens, industry, employees and governmental bodies via computer and web-enabled presence (Ni and Ho, 2004).

Importance of ICT in developing Countries	ICT is important in developing countries because it helps to increase service efficiency and it can increase transparency	E-governance help to support, stimulate and mange affairs of a country at all levels (Backus, 2001).
Internal operations in govt. services	E-government play positive role in internal operations in govt. services, e-government involves less paper work with more efficiency, e-government facilities faster communication between inter governmental department	E-Government is defined as the usage of Information and Communication Technologies (ICT) to support processes within the government as well as for the delivery of services to citizens, organizations and businesses (http://www.pakistan.gov.pk) E-government empowers citizens to perform transaction online anytime, by saving time of paperwork. (Layne, 2001)
Citizens' participation in governmental activities	One of some functions of e-government is the citizens' participation in governmental decision making process.	E-governance allows citizen to participate in governmental activities, such as e-voting, online discussion forum (Fang, 2002). E-government not only provides better services, but also builds long term relationship with citizens and other governmental bodies. Generally E-government executes business operations through Internet based technologies (Teicher et al., 2002).
Opportunities of e-government	Some opportunities of e-government are getting services in efficient way, to provide one channel services, to decline cost and competence gain, to improve quality of services, to increase the transparency of decision making process, to build citizens trust on govt., to increase association between govt departments/agencies, and promote the use of ICT	G2C allows citizen to access electronic government services anytime, directly and conveniently through use of various channels such as PC, WebTV, mobile phone or wireless devices (Ndou, 2004). E-government not only provides better services, but also builds long term relationship with citizens and other governmental bodies (Teicher et al., 2002).
Digital differences	Agreed	Theory not found
Reduce corruptions	Agreed	Theory not found
Standard of leaving	Agreed	Developing countries realize the potential of ICT, not only as a tool for improving governance, but also a way to improve the standard of living of the people (Basu, 2004).
Receiving payments	Agreed	E-government empowers citizens to perform transaction online anytime, by saving time of paperwork (Layne, 2001)
Economy of scale	Agreed	E-government is increasing efficiency of work by elimination of mistake, reducing required time of transaction, faster and more informed decision making (Ndou, 2004).

6.2.2 RQ.2 How can barriers of E-government be described?

The director disagreed with this view that lack of wills of citizens and govt is a barrier of E-government. This statement does not match with what Lam (2005) mentioned. According to Lam (2005) one of barriers in E-government implementation is the slow speed of government reform.
But he agreed lack of skilled personnel is a barrier of e-government, this statement perfectly matches with Belanger and Hiller (2006) who discussed that lack of skilled personnel may delay E-government implementation.

He has no comments with authoritarian issues as a barrier of e-government. Perhaps Lam (2005) mentioned that lack of ownership and authority are considered as barriers to implement of E-government.

He agreed that economic matters, inadequate infrastructure, privacy /security issues are the barriers of e-government. These statement matches with Jaeger (2003), they mentioned that computer security, privacy, and confidentiality of the personal data are the major barrier for implementing E-government.

The director disagreed with the view that political leaders' unwillingness in implementation is barrier of e-government. Lam (2005) pointed out one of barriers in E-government implementation is the slow speed of government reform.

He also disagreed that employee unfriendly attitude towards digital services is a barrier. Theory not found.

According to him technophobic end users are not barriers for implementation of e-government. Theory not found.

The director mentioned some causes to fail e-government projects which could be considered as the barrier of e-government implementation, such as, lack of resources. Ndou (2004) has mentioned that lack of resources has been considered as a major barrier to implement of E-government.

He has no comments on political issues as a cause to fail e. government projects. Lam (2005) pointed out one of barriers in E-government implementation is the slow speed of government reform.

The director mentioned that employees' resistance is not the reason to fail e-government projects, which is not supported by Ndou (2004) who stated employee's resistance in change is big barrier to successful E-government. They believe that ICT would replace and make them jobless.

He further mentioned that conflict between govt agencies is not the reason to fail e-government projects. Dissimilar statement is found by Lam (2005) who mentioned that

lack of comprehensive course of action and inappropriate step of development may delay the process of E-government program.

He agreed that funding issue is a reason to fail e-government project. This statement is supported by the following theories. Financial capabilities are considered as major barriers to development of E-government (Belanger and Hiller, 2006). Financial Issues are considered as a major barrier to implement of E-government (Lam, 2005).
The director disagrees with the view that the lack of common goals/objectives is the reason to fail e-government projects. But according to Lam, 2005, lack of common goals and objectives are considered as barriers to implement of E-government.

Table 6.5: Summary of the Comparison of Empirical Data and Theory about Barriers of E-government

Variables	Empirical Data of India	Theory
Slow lick of government transformation	Disagree	One of barriers in E-government implementation is the slow speed of government reform (Lam 2005)
Lack of skilled personnel	Lack of skilled personnel is a barrier of e-government	Lack of skilled personnel may delay E-government implementation (Belanger and Hiller, 2006)
Authoritarian issues	No comments	Lack of ownership and authority are considered as barriers to implement of E-government (Lam, 2005)
Privacy /security issues	Privacy/security issues, are the barriers of e-government	Computer security, privacy, and confidentiality of the personal data are the major barrier for implementing E-government (Jaeger , 2001)
Lack of resources	Lack of resources is the barrier of e-government implementation	Lack of resources has been considered as a major barrier to implement of E-government (Ndou, 2004).
Political issues	No comments	One of barriers in E-government implementation is the slow speed of government reform (Lam, 2005)
Employees' resistance	Disagreed	Employee's resistance in change is big barrier to successful E-government (Ndou, 2004).
Conflict between govt. agencies	Disagreed.	Lack of comprehensive course of action and inappropriate step of development may delay the process of E-government program (Lam, 2005).
Funding issues	Agreed	Financial capabilities are considered as major barriers to development of E-government (Belanger and Hiller, 2006). Financial Issues are considered as a major barrier to implement of E-government (Lam, 2005).
Lack of common goals/objectives	Disagree	Lack of common goals and objectives are considered as barriers to implement of E-government (Lam, 2005).

6.2.3 RQ3: How can successful implementation of E-government be described?

The director mentioned that communicational developments in government ICT sector help to implement e-government. He also strongly agreed that infrastructural developments in government ICT sector facilitate to implement e-government. All these statements are supported by Ndou (2004) who mentioned that the development of basic infrastructure is crucial for implementing E-government in order to achieve the advantages of new technologies.

According to the director individual e-government projects can be successful through proper planning. Lam (2005) delivered the similar statement and that is there is a need for common vision of e-government goals and directions. The similar statement was found by Ndou (2004) who mentioned that national agenda or strategic framework is required for central government. Every E-government project need to establish an appropriate strategy.

Transparency is another remarkable issue to make project successful, the director mentioned. Similarly Fang (2002) mentioned E-government sites should be simplified so that finder can easily find and understand required information.

He strongly agreed that protection and confidentially of data is vital for successful e-government projects. It is supported by Ndou, (2004) mentioned establishing security and legal transformations are required to ensuring the privacy, security and legal acknowledgment of electronic signatures. For this reason government all over the world need to design secure transactions between agencies and individuals.

He also strongly agreed that more accuracy and reengineering the administrative process and procedures make individual projects successful. This statement is supported by Bhatnagar (2002) who cited that simplification of process, workflow is known as reengineering and the end result of reengineering will be to transform the processor in few step and few people to complete the task

The director strongly mentioned that citizen involvement and trained/skilled people play great role in e-government project successful. Here, Fang (2002) argued that to the greatest extent possible, citizens should be able to do maximum transaction on one point centre. It is possible when governments provide non stop centers and allow citizens to use e-government portal for multiple purpose and it is necessary to implement successful E-government. For supporting this statement two more theories have been found, one is by Bhatnagar (2002) who mentioned that for successful implementation of E-government training play an important role. Another one is by OCED (2001) who cited that lack of IT skills makes in-house development impossible. The availability of appropriate skills is necessary for successful E-government implementation

According to him partnership with private sectors is very important for successful implementation. This is supported by OCED (2001) who argued that private sector

operates their functions different from government sector, and these differences make them successful.

He delivered his strong views on the issues of strict security rules, policy and privacy laws. Ndou (2004) argued that establishing security and legal transformations are required to ensuring the privacy, security and legal acknowledgment of electronic signatures. For this reason government all over the world need to design secure transactions between agencies and individuals.

He expressed that effective leadership support and commitment with senior officials affect e-government project positively. Similar statement by Silcock (2001), Leadership is one of the main issues of every new project or initiative. Project leadership play great role to manage entire process and support. Top leadership involvement offer new ways of doing government.

Table 6.6: Summary of the Comparison of Empirical Data and Theory about the successful Implementation of E-government.

Variables	Empirical Data of India	Theory
Infrastructural developments	Infrastructural developments in government ICT sector facilitate to implement e-government	The development of basic infrastructure is crucial for implementing E-government in order to achieve the advantages of new technologies (Ndou, 2004).
Proper planning	Individual e-government projects can be successful through proper planning.	There is a need for common vision of e-government goals and directions. National agenda or strategic framework is required for central government. (Lam, 2005. Every E. government project need to establish an appropriate strategy. (Ndou, 2004).
Transparency	Transparency is another issue to make project successful.	E-government sites should be simplified so that finder can easily find and understand required information (Fang, 2002).
Protection and confidentially	Agreed	Establishing security and legal transformations are required to ensuring the privacy, security and legal acknowledgment of electronic signatures. For this reason government all over the world need to design secure transactions between agencies and individuals (Ndou, 2004).
Citizen involvement	Agreed	To the greatest extent possible, citizens should be able to do maximum transaction on one point centre. It is possible when governments provide non stop centers and allow citizens to use e-

		government portal for multiple purpose and it is necessary to implement successful E-government (Fang (2002).
Trained/skilled people	Trained/skilled people play great role in e-government project successful.	For successful implementation of E-government training play an important role (Bhatnagar, 2002). Lack of IT skills makes in-house development impossible. The availability of appropriate skills is necessary for successful E-government implementation (OCED, 2001).
Partnership with private sectors	Partnership with private sectors is important for successful implementation.	Private sector operate their functions different from government sector , and these difference make them successful. (OCED, 2001)
Security rules, policy and privacy laws	Agreed	Establishing security and legal transformations are required to ensuring the privacy, security and legal acknowledgment of electronic signatures. For this reason government all over the world need to design secure transactions between agencies and individuals (Ndou, 2004)
Effective leadership,	Effective leadership, support and commitment with senior officials affect e-government project positively.	Leadership is one of the main issues of every new project or initiative. Project leadership play great role to manage entire process and support. Top leadership involvement offer new ways of doing government (Silcock, 2001).

6.3 Cross Case Analysis

The cross case will be done based on the within-case analysis and in the order of research questions. Both, similarities and differences, will be detected by comparing the two cases with one another plus theory. The similarities and differences that will be found from comparing two cases will be presented in tables and be discussed in details.

6.3.1 **RQ1: How can E-government be described?**

The similarities and differences found from two cases about the definition of e-government are summarized in the table 6.7.

Table 6.7: The Similarities and Differences of two cases about Definition of e-government

Variables	Pakistan	India	Theory
Utilization of Technology	Well structured ICT infrastructure support e-government to communicate with its' citizens, increases the efficiency of e-government, enhances the effectiveness of e-government.	Well structured ICT infrastructure support e-government to communicate with its' citizens, increases the efficiency of e-government, enhances the effectiveness of e-government.	E-government (the form and the use of ICT) is a way to utilize technology, to enhance access and services (Silcock, 2001).
Role of ICT infrastructure	The role of ICT infrastructure for successful e-government are to get benefits from new technology, to provide services to all members/citizens, to increase interaction between citizens/ govt., and to make the process easier for citizens/govt.	The role of ICT infrastructure for successful e-government are to get benefits from new technology, to provide services to all members/citizens, to increase interaction between citizens/ govt., and to make the process easier for citizens/govt.	E-government means government's effort to improve interaction, communication and delivery of government information, services to citizens, industry, employees and governmental bodies via computer and web-enabled presence (Ni and Ho, 2004).
Importance of ICT in developing Countries	ICT is important in developing countries because it helps to increase service efficiency and it can increase transparency	ICT is important in developing countries because it helps to increase service efficiency and it can increase transparency	E-governance help to support, stimulate and mange affairs of a country at all levels (Backus, 2001).
Internal operations in govt. services	E-government play positive role in internal operations in govt. services, e-government involves less paper work with more efficiency, e-government facilities faster communication between inter governmental department	E-government play positive role in internal operations in govt. services, e-government involves less paper work with more efficiency, e-government facilities faster communication between inter governmental department	E-Government is defined as the usage of Information and communication technologies (ICT) to support processes within the government as well as for the delivery of services to citizens, organizations and businesses (http://www.pakistan.gov.pk) E-government empowers citizens to perform transaction online anytime, by saving time of paperwork. (Layne, 2001)
Citizens' participation in governmental activities	One of some functions of e-government is the citizens' participation in governmental decision making process.	One of some functions of e-government is the citizens' participation in governmental decision making process.	E-governance allows citizen to participate in governmental activities, such as e-voting, online discussion forum (Fang, 2002). E-government not only provides better services, but also builds long term relationship with citizens and other governmental bodies. Generally E-government executes business operations through Internet based technologies (Teicher et al., 2002).

Opportunities of e-government	Some opportunities of e-government are getting services in efficient way, to provide one channel services, to decline cost and competence gain, to improve quality of services, to increase the transparency of decision making process, to build citizens trust on govt., to increase association between govt departments/agencies, and promote the use of ICT	Some opportunities of e-government are getting services in efficient way, to provide one channel services, to decline cost and competence gain, to improve quality of services, to increase the transparency of decision making process, to build citizens trust on govt., to increase association between govt departments/agencies, and promote the use of ICT	G2C allows citizen to access electronic government services anytime, directly and conveniently through use of various channels such as PC, WebTV, mobile phone or wireless devices (Ndou, 2004). E-government not only provides better services, but also builds long term relationship with citizens and other governmental bodies (Teicher et al., 2002).
Digital differences	No comments	Agreed	Theory not found
Reduce corruptions	Disagree	Agreed	Theory not found
Standard of leaving	Disagree	Agreed	Developing countries realize the potential of ICT, not only as a tool for improving governance, but also a way to improve the standard of living of the people. (Basu, 2004)
Receiving payments	No comments	Agreed	E-government empowers citizens to perform transaction online anytime, by saving time of paperwork (Layne, 2001)
Economy of scale	No comments	Agreed	E-government is increasing efficiency of work by elimination of mistake, reducing required time of transaction, faster and more informed decision making (Ndou, 2004).

Regarding the definition of e-government some similarities and dissimilarities were found from two cases, which are now discussed bellow.

Both directors mentioned that well structured ICT infrastructure support e-government to communicate with its' citizens. They also mentioned that ICT increases the efficiency of e-government and ICT enhances the effectiveness of e-government. All these statements are supported by Silcock (2001) who has mentioned that e-government is a way to utilize technology, to enhance access and services.

Two directors have mentioned some of the role of ICT infrastructure for successful e-government such as, to get benefits from new technology, to provide services to all members/citizens, to increase interaction between citizens/ govt and to make the process easier for citizens/govt. These statements are similar with Ni and Ho (2004) who mentioned that E-government means government's effort to improve interaction, communication and delivery of government information, services to citizens, industry, employees and governmental bodies via computer and web-enabled presence.

Both directors mentioned that ICT is important in developing countries because it gives help to increase service efficiency, it can increase transparency. These are supported by Backus (2001) who expressed the same view which is E-governance help to support, stimulate and mange affairs of a country at all levels.

The directors agreed that e-government play positive role in internal operations in govt services. They also strongly agreed that e-government involves less paper work with more efficiency. In their views e-government facilities faster communication between inter governmental department. These statements match with the similar views delivered by (http://www.pakistan.gov.pk). In this site E-Government is defined as the usage of Information and Communication Technologies (ICT) to support processes within the government as well as for the delivery of services to citizens, organizations and businesses. This statement also supported by Layne, 2001 who mentioned E-government empowers citizens to perform transaction online anytime, by saving time of paperwork.

The both directors agreed with some remarkable functions of e-government which are service efficiency with less cost, and citizens' participation in governmental decision making process. Fang (2002) mentioned E-governance allows citizen to participate in governmental activities, such as e-voting, online discussion forum. The similar comments were delivered by Teicher et al., (2002) who mentioned that E-government not only provides better services, but also builds long term relationship with citizens and other governmental bodies. Generally E-government executes business operations through Internet based technologies.

The both directors mentioned some opportunities of e-government which are getting services in efficient way, to provide one channel services, to decline cost and competence gain, to improve quality of services (strongly mentioned), to increase the transparency of decision making process, to build citizens trust on govt. to increase association between govt departments/agencies, and promote the use of ICT. These statement matches with Ndou (2004) who mentioned G2C allows citizen to access electronic government services anytime, directly and conveniently through use of various channels such as PC, WebTV, mobile phone or wireless devices. The project director's statement also matches with the views of Teicher et al., (2002) who discussed E-government not only provides better services, but also builds long term relationship with citizens and other governmental bodies.

The project director in Pakistan has no comments on the issue that ICT reduces digital differences. He disagree that ICT helps to reduce corruptions in developing country like Pakistan. Perhaps, the director in India agreed that ICT is important in developing countries because it reduces digital differences and it helps to reduce corruptions. Theories relevant on these issues have not been found.

The project director in Pakistan disagreed that e-government can improve the standard of leaving of the people. On the other hand, the director in India agreed that e-government

can improve the standard of leaving of the people. Basu, 2004 theory matches with this statement; he wrote that mainly developing countries realize the potential of ICT, not only as a tool for improving governance, but also a way to improve the standard of living of the people.

The project director has no comments on receiving payments as a function of e-government. Perhaps, director in India mentioned receiving payments is a function of e-government. This statement is supported by Layne (2001) who cited that E-government empowers citizens to perform transaction online anytime, by saving time of paperwork.

The project director in Pakistan has no comments on increasing economy of scale as the main opportunity of e-government. But director in India agreed on this issue. This empirical data is supported by Ndou (2004) who has mentioned that E-government is increasing efficiency of work by elimination of mistake, reducing required time of transaction, faster and more informed decision making.

6.3.2 **RQ.2 How can barriers of E-government be described?**

The similarities and differences found from two cases about the barriers of e-government are summarized in the table 6.8.

Table 6.8: The Similarities and Differences of two cases about the barriers of e-government

Variables	Pakistan	India	Theory
Slow lick of government transformation	Lack of wills of citizens and govt is a barrier of E-government.	Disagree	One of barriers in E-government implementation is the slow speed of government reform (Lam 2005)
Lack of skilled personnel	Lack of skilled personnel is a barrier of e-government	Lack of skilled personnel is a barrier of e-government	Lack of skilled personnel may delay E-government implementation (Belanger and Hiller, 2006)
Authoritarian issues	The authoritarian issues are barriers of e-government	No comments	Lack of ownership and authority are considered as barriers to implement of E-government (Lam, 2005)
Privacy /security issues	Privacy/security issues, political leaders' unwillingness in implementation, employee unfriendly attitude towards digital services are the barriers of e-government	Privacy/security issues, are the barriers of e-government	Computer security, privacy, and confidentiality of the personal data are the major barrier for implementing E-government (Jaeger, 2003)
Lack of resources	Lack of resources is the barrier of e-government implementation	Lack of resources is the barrier of e-government implementation	Lack of resources has been considered as a major barrier to implement of E-government (Ndou, 2004).

Political issues	Political issues are the barriers of e-government implementation.	No comments	One of barriers in E-government implementation is the slow speed of government reform (Lam, 2005)
Employees' resistance	Employees' resistance is the barriers of e-government implementation	Disagreed	Employee's resistance in change is big barrier to successful E-government (Ndou, 2004).
Funding issues	No comments	Agreed	Financial capabilities are considered as major barriers to development of E-government (Belanger and Hiller, 2006). Financial Issues are considered as a major barrier to implement of E-government (Lam, 2005).
Lack of common goals/objectives	Disagree	Disagree	Lack of common goals and objectives are considered as barriers to implement of E-government (Lam, 2005).

Regarding the barriers of e-government some similarities and dissimilarities were found from two cases which are now discussed bellow.

The project director agreed with this view that lack of wills of citizens and govt is a barrier of E-government. This statement matches with what Lam (2005) mentioned. According to Lam (2005) one of barriers in E-government implementation is the slow speed of government reform. But the director in India disagrees on this issue.

The both directors agreed that lack of skilled personnel is a barrier of e-government, this statement perfectly matches with Belanger and Hiller (2006) who discussed that lack of skilled personnel may delay E-government implementation.

The project director in Pakistan agreed with the authoritarian issues as a barrier of e-government. Lam (2005) mentioned the similar view which is lack of ownership and authority are considered as barriers to implement of E-government. On the other hand, director in India has no comments in this.

Both directors agreed that privacy /security issues are the barriers of e-government. These statement matches with Jaeger (2003) mentioned that computer security, privacy, and confidentiality of the personal data are the major barrier for implementing E-government.

Both directors agreed that lack of resources is the barrier of e-government implementation. This empirical is supported by Ndou (2004) who has mentioned that lack of resources has been considered as a major barrier to implement of E-government.

The project director cited that political issues are the barriers of e-government implementation. Lam (2005) pointed out one of barriers in E-government implementation is the slow speed of government reform. Perhaps, the director in India has no comments on this issue.

Project director cited employees' resistance is the barriers of e-government implementation which is supported by Ndou (2004) who stated employee's resistance in change is big barrier to successful E-government. They believe that ICT would replace and make them jobless. Perhaps, the director in India disagrees with this issue.

According to project director, conflict between govt. agencies is the barriers of e-government implementation. Similar statement is found by Lam (2005) who mentioned that lack of comprehensive course of action and inappropriate step of development may delay the process of E-government program. On the other hand the director in India disagrees with this issue.

The project director in India has no comments on funding issues as a cause to fail e. government projects. Perhaps, the director in India agreed that funding issue is a reason to fail e-government project. This statement is supported by the following theories. Financial capabilities are considered as major barriers to development of E-government (Belanger and Hiller, 2006). Financial Issues are considered as a major barrier to implement of E-government (Lam, 2005).

Both directors disagreed with the view that the lack of common goals/objectives is the reason to fail e-government projects. In relevant to this issue, Lam (2005).cited that lack of common goals and objectives are considered as barriers to implement of E-government.

6.3.3 **RQ3: How can successful implementation of E-government be described?**

The similarities and differences found from two cases about the successful implementation of e-government are summarized in the table 6.9.

Table 6.9: The Similarities and Differences of two cases about the successful implementation of e-government

Variables	Pakistan	India	Theory
Infrastructural developments	Infrastructural developments in government ICT sector facilitate to implement e-government	Infrastructural developments in government ICT sector facilitate to implement e-government	The development of basic infrastructure is crucial for implementing E-government in order to achieve the advantages of new technologies (Ndou, 2004).
Proper planning	Individual e-government projects can be successful through proper planning.	Individual e-government projects can be successful through proper planning.	There is a need for common vision of e-government goals and directions. National agenda

			or strategic framework is required for central government. (Lam, 2005. Every E. government project need to establish an appropriate strategy. (Ndou, 2004).
Transparency	Transparency is another issue to make project successful.	Transparency is another issue to make project successful.	E-government sites should be simplified so that finder can easily find and understand required information (Fang, 2002).
Protection and confidentially	Disagree	Agreed	Establishing security and legal transformations are required to ensuring the privacy, security and legal acknowledgment of electronic signatures. For this reason government all over the world need to design secure transactions between agencies and individuals (Ndou, 2004).
Reengineering the administrative process	Reengineering the administrative process and procedures make individual projects successful.	Reengineering the administrative process and procedures make individual projects successful.	Simplification of process, workflow is known as reengineering and the end result of reengineering will be to transform the processor in few step and few people to complete the task (Bhatnagar, 2002)
Citizen involvement	Disagree	Agreed	To the greatest extent possible, citizens should be able to do maximum transaction on one point centre. It is possible when governments provide non stop centers and allow citizens to use e-government portal for multiple purpose and it is necessary to implement successful E-government (Fang (2002).
Trained/skilled people	Trained/skilled people play great role in e-government project successful.	Trained/skilled people play great role in e-government project successful.	For successful implementation of E-government training play an important role (Bhatnagar, 2002). Lack of IT skills makes in-house development impossible. The availability of appropriate skills is necessary for successful E-government implementation (OCED, 2001).

Partnership with private sectors	Partnership with private sectors is important for successful implementation.	Partnership with private sectors is important for successful implementation.	Private sector operate their functions different from government sector , and these difference make them successful. (OCED, 2001)
Security rules, policy and privacy laws	Disagree	Agreed	Establishing security and legal transformations are required to ensuring the privacy, security and legal acknowledgment of electronic signatures. For this reason government all over the world need to design secure transactions between agencies and individuals (Ndou, 2004)
Effective leadership,	Effective leadership, support and commitment with senior officials affect e-government project positively.	Effective leadership, support and commitment with senior officials affect e-government project positively.	Leadership is one of the main issues of every new project or initiative. Project leadership play great role to manage entire process and support. Top leadership involvement offer new ways of doing government (Silcock, 2001).

Regarding the successful implementation of e-government some similarities and dissimilarities were found from two cases, which are now discussed bellow.

Both directors mentioned that infrastructural developments in government ICT sector facilitate to implement e-government. This empirical matches with Ndou (2004) who mentioned that the development of basic infrastructure is crucial for implementing E-government in order to achieve the advantages of new technologies.

Both directors mentioned that individual e-government projects can be successful through proper planning. Lam (2005) delivered the similar statement and that is there is a need for common vision of e-government goals and directions. The similar statement was found by Ndou (2004) who mentioned that national agenda or strategic framework is required for central government. Every E-government project needs to establish an appropriate strategy.

According to both directors transparency is another issue to make project successful. Similarly Fang (2002) mentioned E-government sites should be simplified so that finder can easily find and understand required information.

The project director disagree that protection and confidentially of data is vital for successful e-government projects. Dissimilar theory found by Ndou, (2004) mentioned establishing security and legal transformations are required to ensuring the privacy, security and legal acknowledgment of electronic signatures. For this reason government

all over the world need to design secure transactions between agencies and individuals. On the other hand director in India agreed that protection and confidentially of data is vital for successful e-government projects.

The both directors agreed that more accuracy and reengineering the administrative process and procedures make individual projects successful. This statement is supported by Bhatnagar (2002) who cited that simplification of process, workflow is known as reengineering and the end result of reengineering will be to transform the processor in few step and few people to complete the task.

The project director disagree that citizen involvement play great role in e-government project successful. But Fang (2002) argued that to the greatest extent possible, citizens should be able to do maximum transaction on one point centre. It is possible when governments provide non stop centers and allow citizens to use e-government portal for multiple purpose and it is necessary to implement successful E-government. On the other hand director in India agreed on this issue.

According to both directors trained/skilled people play great role in e-government project successful. For supporting this statement two theories have been found, one is by Bhatnagar (2002) who mentioned that for successful implementation of E-government training play an important role. Another one is by OCED (2001) who cited that lack of IT skills makes in-house development impossible. The availability of appropriate skills is necessary for successful E-government implementation.

Both directors agreed that partnership with private sectors is important for successful implementation. This is supported by OCED (2001) who argued that private sector operates their functions different from government sector, and these differences make them successful.

The project director in India disagreed with the views on the issues of strict security rules, policy and privacy laws. But Ndou (2004) argued that establishing security and legal transformations are required to ensuring the privacy, security and legal acknowledgment of electronic signatures. For this reason government all over the world need to design secure transactions between agencies and individuals. Perhaps, director in India agreed on this issue.

Both directors expressed that effective leadership support and commitment with senior officials affect e-government project positively. Similar statement by Silcock (2001), Leadership is one of the main issues of every new project or initiative. Project leadership play great role to manage entire process and support. Top leadership involvement offer new ways of doing government.

Chapter 7: Conclusion and Implications

In this final chapter three research questions will be answered and conclusions will be drawn. At the end implications for practitioners, theory and further research will be addressed.

7.1 Findings and Conclusions

In this part of the study research questions will be answered. In the previous chapter empirical data were analyzed both within the cases and between the cases. The similarities and differences found in the analysis will now be presented as findings and after this a specific conclusion will be drawn.

7.1.1 RQ1: How can E-government be described?

E-government has been described as the use of technology that support to communicate citizens of a government. ICT increases the efficiency and enhances the effectiveness of e-government.

E-government is to get benefit from new technology to provide services to all members, citizens. E-government increases interaction between citizens and governments. E-government is making service process for citizen and governments.

Use of ICT in developing countries is important because it reduces digital differences and it helps to reduce corruptions. E-government can be defined as the media of providing services which could help to improve the life style of people.

E-government can be a channel to receive payments from citizens. E-government is increasing efficiency of work by elimination of mistake, reducing required time of transaction, faster and more informed decision-making.

After discussion of first research question, more specific conclusions have been drawn as follows:

- E-government has been described as the use of technology
- E-government increases interaction between citizens and governments.
- Use of ICT in government might reduce digital differences and it could help to reduce corruptions.
- E-government can improve the standard of leaving of the people.
- E-government is increasing economy of scale

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7.1.2 RQ2: How can barriers of E-government be described?

There are many barriers of implanting e-government in different level. In the initial stage of implementation, lack of wills of citizens and govt is a barrier of E-government. Then in the second stage lack of skilled personnel is a barrier of e-government. Privacy /security issues of citizens and government itself are the barriers of e-government. For a developing country lack of resources is the barrier of implementing e-government.

In the developing nations political issues are the barriers. Most developing nations are almost same in societal and political characteristic that's why employees' resistance, conflict between govt. agencies, funding issues are the barriers of implementing e-government.

In the developing countries perspective lack of common goals/objectives is not the reason to fail e-government projects.

After discussion of second research question, more specific conclusions have been drawn as follows:

- Lack of wills of citizens and govt is a barrier of E-government
- Lack of skilled personnel is a barrier of e-government
- Privacy /security issues of citizens and government itself are the barriers of e-government
- Lack of resources is the barrier of implementing e-government
- Political issues are the barriers
- Employees' resistance, conflict between govt. agencies, funding issues is the barriers of implementing e-government.
- Lack of common goals/objectives is not the reason to fail e-government projects in developing countries.

7.1.3 RQ3: How can successful implementation of E-government be described?

It has been found that infrastructural developments in government ICT sector facilitate to implement e-government. Some other findings have been identified as important for the successful implementation. As for example, individual e-government projects can be successful through proper planning. Protecting and confidentiality of data is vital for successful e-government projects.

By reengineering the administrative process and procedures individual projects can be made successful. In the e-government activities citizens involvement play great role for e-government project successful. Another important aspect is trained/skilled people who play great role in e-government project successful.

Importantly, partnership with private sectors is important for successful implementation. Strict security rules, policy and privacy laws also important for successful e-government implementation. Lastly it is found that effective leadership support and commitment with senior officials affect e-government project positively.

After discussion of third research question, more specific conclusions have been drawn as follows:

- Infrastructural developments in government ICT sector facilitate to implement e-government
- Individual e-government projects can be successful through proper planning
- By reengineering the administrative process and procedures individual projects can be made successful.
- Citizens involvement play great role for e-government
- Trained/skilled people play great role in e-government project successful.
- Partnership with private sectors is important for successful implementation
- Strict security rules, policy and privacy laws also important for successful e-government implementation.

7.2 Implications

In the following section, implications for practitioners, theory and further research will be presented.

7.2.1 Implications for Developing Countries

Due to the rapidly changing and high competitive environment in the e-government, it is very important for developing countries to participate more actively in the formulation of national policies and strategies to promote the IT. Then steps need to be taken to monitor and enhance the service performance. By doing so, countries would be able to retain their citizens and clients loyal and happy. A country can be benefited in many ways by having effective e-government.

Developing countries can take the advantages of the ICT revolution. Countries should organize workshop, events to create the awareness of the benefits of ICT revolution and also conduct some training program for future management of technology and business change. Counties should find out the feasible solutions to ensure the effective contribution of the society in the information market.

Developing countries need to place an increasing emphasis on establishing and cultivating relationships with their departments to increase efficiency and effectiveness; this is mainly because of the high competitions that are present in the market today.

Since the e-government brings a dramatic change in the way of life, therefore the success of e-programs depends mostly on human skills and potentials. Hence education and training programs must be considered. Staff must be trained to handle new process and activities but not only staff training required, some basic training also important to society members, in general, to be able to use new services for accessing E-information.

Comprehensive approach is important for successful design and implementation of E-government initiatives. Management should try to create clear vision and strategy to overcome the barriers and challenges, which might complicate the process of E-government.

To further develop the evaluation of e-government, countries need to adapt their communication to its different customers in order to influence them appropriately. This can be carried out by segmentation of services. Countries should measure citizens' level of needs and satisfaction to classify how they would be served. Government should organize and provide training to its employees to make them more work worthy in digital world. Government subsidy in e-government project can be helpful to make it more popular between governmental employees and citizens.

7.2.2 Theoretical Considerations

The purpose of the thesis is to gain a better understanding of E-government in developing countries and to identify barriers and also discuss how to deal with those barriers for a successful implementation.

Based on the existing theories, this study tested several theories related to the definition of E-government, barriers and successfully implementation. More specifically, concerning all research questions the majority of the findings for this study supported the existing literature. The most significant finding was the importance of improvement of use of ICT to reduce digital differences, to reduce corruption and to improve the standard of living of the people. This study also highlighted the importance of understanding the limitations of developing countries to implement e-government. This study provides a foundation from which further studies may be conducted.

7.2.3 Suggestions for Further Research

After conducting this study several issues for further research has been found that could be of interest. One interesting aspect could be: Use of ICT to reduce digital differences in developing countries. Further research can be conducted on: How corruption can be reduced by using ICT or by implementing e-governments. Another interesting topic for further research is: The main challenges of e-government implementation in a developing country.

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APPENDICES:

Appendix A: Questionnaire Case 1 - Pakistan
Appendix B: Questionnaire Case 2 - India
Appendix C: Key Words

Appendix A: Questionnaire Case 1 - Pakistan

Thesis Topic: *E-Government in developing countries*
(Opportunities and implementation barriers)

Date:

Name:

Designation:

Email:

Name of Ministry:

Name of attached department/organization:

Short description about your department/ organization's history and background:

Please **SHADE** the box most close to your opinion.

1. Well structured ICT infrastructure support E-government to communicate with its citizens.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

2. ICT increase efficiency of E-government.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

3. ICT infrastructure enhances the effectiveness of E-government.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

4. Communicational developments in government ICT sector help to implement E-government.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

5. Infrastructural developments in government ICT sector facilitate to implement E-government

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

6. The role of ICT infrastructure for successful E-government is:

To get benefits from new technology

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

To provide services to all members/citizens

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

To increase interaction between citizens/govt.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Make the process easier for citizens /govt

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

7. ICT is important in developing countries because:

It reduce digital differences

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

It gives help to increase service efficiency

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

It helps to reduce corruptions

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

It can increase transparency

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

8. E-government play positive role in internal operations in government services.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

9. E-government involves less paper work with more efficiency.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

10. E-government facilitate faster communication between inter governmental department.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

11. E-government can improve the standard of living of the people.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

12. The functions of E-government are:

Receiving payments

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Service efficiency with less cost

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Citizens' participation in governmental decision making process

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

13. Implementation challenges/ barriers of E-government are:

Lack of wills of citizens and govt.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Lack of skilled personnel

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Authoritarian Issues

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Economic Matters

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Inadequate infrastructure

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Privacy/ security issues

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Political leaders' unwillingness in implementation

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Employees' unfriendly attitudes towards digital services

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Technophobic end users

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

14. Causes to fail E-government projects are:

Funding issues

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Lack of resources

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Political issues

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Employee's Resistance

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Conflict between govt. agencies

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Lack of common goals and objectives

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

15. Individual E- government projects can be successful through:

Proper planning

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Transparency

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Protection and confidentiality of data

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

More accuracy

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Re-engineering the administrative process and procedure

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Citizen's involvement

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Trained and skilled people

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Partnership with private sectors

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Strict security rules, policies and privacy laws

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Effective leadership support and commitment with senior officials

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

16. The main opportunities of E-government are:

Getting services in efficient way

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Increasing economy of scale

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

To provide one channel services

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

To decline cost and competence gain

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

To improve quality of services

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

To increase the transparency of decision making process

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

To build citizens trust on government

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

To create association between government departments/agencies.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

To promote the use of ICT

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

SHORT ANSWERS

Are their any major barriers for implementing E-government in your country?

If yes then;
What are the ways to overcome those barriers?

Are their any opportunities of E-government in your country?

As a manager what do you think about the future of E-government in your country's perspective?

In which way e-government could be a beneficial tool for your country s growth?

Appendix B: Questionnaire Case 2 - India

Thesis Topic: *E-Government in developing countries (Opportunities and implementation barriers)*

Date:

Name:

Designation:

Email:

Name of Ministry:

Name of attached department/organization:

Short description about your department/ organization's history and background:

Please **SHADE** the box most close to your opinion.

1. Well structured ICT infrastructure support E-government to communicate with its citizens.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

2. ICT increase efficiency of E-government.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

3. ICT infrastructure enhances the effectiveness of E-government.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

4. Communicational developments in government ICT sector help to implement E-government.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

5. Infrastructural developments in government ICT sector facilitate to implement E-government

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

6. The role of ICT infrastructure for successful E-government is:

To get benefits from new technology

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

To provide services to all members/citizens

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

To increase interaction between citizens/govt.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Make the process easier for citizens /govt

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

7. ICT is important in developing countries because:

It reduce digital differences

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

It gives help to increase service efficiency

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

It helps to reduce corruptions

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

It can increase transparency

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

8. E-government play positive role in internal operations in government services.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

9. E-government involves less paper work with more efficiency.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

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Service efficiency with less cost

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Citizens' participation in governmental decision making process

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

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Authoritarian Issues

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Economic Matters

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Inadequate infrastructure

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Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Partnership with private sectors

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

Strict security rules, policies and privacy laws

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To provide one channel services

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

To decline cost and competence gain

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To improve quality of services

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To increase the transparency of decision making process

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

To build citizens trust on government

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To create association between government departments/agencies.

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

To promote the use of ICT

Strongly agree ☐ Agree ☐ No comments ☐ Disagree ☐ Strongly disagree ☐

SHORT ANSWERS

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Are their any opportunities of E-government in your country?

As a manager what do you think about the future of E-government in your country's perspective?

In which way e-government could be a beneficial tool for your country s growth?

Appendix C: Key Words

ICT (Information and communication technology), E-government, developing countries technology, government, implementation, barriers, opportunities, communication, facilitate, citizens, Internet, services, online, procedures, efficient, effective, security, privacy, vision, strategy.