e-Government services
:A case study of DC Office Laxmipur, Bangladesh

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Submitted By
Md. Abdul Wahab Rashed
ID No- 13372024
MAGD, Batch 5

Approved As to Style and Contents
By
Dr. Md. Zohurul Islam Supervisor
Assistant Professor (former), BIGD, BRAC University
&
Deputy Director
Bangladesh Public Administration Training Centre (BPATC)
Savar, Dhaka. Bangladesh

MA in Governance and Development

BRAC Institute of Governance and Development

(BIGD), BRAC University, Bangladesh

Declaration

I do hereby declare that I am the sole author of this dissertation.

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Md. Abdul Wahab Rashed.
ID No- 13372024
MAGD, Batch 5

Dedicated To

My Parents

Acknowledgement

I am a student of Master's programme in Governance and Development at Brac Institute of governance and development BIGD under BRAC University.

After completing the courses finally I have done my Dissertation paper. It's really amazing for me to work scientifically in research. The work done is a joint effort me and my supervisor. I have selected the topic of e-Government services :A case study of DC Office Laxmipur, Bangladesh for thesis as it is my wish to play my role for the development of country. It was not a easy task but came into being with the blessings of ICT and nice cooperation from the respondent ,colleagues especially my supervisor Dr. Md. Zohurul Islam who always welcomed my ideas and provided relevant suggestions.

I pay gratitude and dedicate this effort to my parents as they have been supporting me in my studies along with their best wishes, and finally praise to Allah almighty for giving me the ability finish degree well in time.

Md.Abdul Wahab Rashed

Id#13372024

MAGD 5th Batch

Abstract

Bangladesh has made significant strides forward in the field of e-Government Services in the past decade, starting with somewhat scattered projects on infrastructure development and some applications for automation of internal processes, but gradually moving towards e-services delivery and inter-connected governance. From late 1990s till about 2013, the government undertook a number of e-Government projects, many of which were initiated from the Ministry of Planning. After 2006, a more consolidated approach to e-Government was undertaken with increased emphasis on citizen service delivery and transparency.

The Government has introduced e-Service at DC office at district level, Upazila Information Service Centre at Upazila level and Union information service centre at Union level to give e-services to the citizen. However, several major challenges still exist, such as lack of infrastructure, human resources, financial allocation and institutional capacity, Affordable connectivity, Reliable and continuous power, Full-fledged ICT policy.

Laxmipur District, one of the 64 district of Bangladesh has achieved satisfactory success in providing e-Service to every level of people in the district but faces some significant barriers to its further enhancement with respect to the government's capacity. While the government's ICT infrastructure has improved notably, they are still limited mostly to offices in urban locations and skill manpower is badly needed. The administrative structure needed for a coordinated approach to e-Government is also non-existent, the requisite policy and legal framework to enable growth of e-Government still has some major gaps, with respect to guidelines for data standardization, shared ICT resources, data security and privacy.

This writing contributes exposing various initiatives, challenges, prospects of e-Government and e-Services in our country keeping special focus on Laxmipur District .It is seen that Laxmipur DC Office though new in giving e-Services is doing quite well and is improving day by day .There is no policy barrier at the moment as steps has been taken to solve the existing problems by A2i and Government.

In this research I have focused on e-Government, for this I have used survey strategy to find e-Services and relevant expectations from the citizens of Bangladesh. They have suggested 101 different e-Services also identified certain areas for improvement. I mainly emphasized on the required e-Services hence an arranged list of e-Services has been provided separately in the paper.

Acronyms & abbreviations

A2I Access to Information

ADB Asian Development Bank

ADP Annual Development Program

BANBEIS Bangladesh Bureau of Educational Information and Statistics

BDT Bangladeshi Taka (the currency of Bangladesh)

BEI Bangladesh Enterprise Institute

BEPZA Bangladesh Export Processing Zones Authority

BITMAP Bangladesh Technology Information Programme

BOI Board of Investment

BPDB Bangladesh Power Development Board

BPSIG Bangladesh Private Sector Infrastructure Guidelines

BTCL Bangladesh Telecommunications Company Ltd.

BTRC Bangladesh Telecommunication Regulatory Commission

BTTB Bangladesh Telegraph and Telephone Board

CIDA Canadian International Development Agency

CIO Chief Information Officer

DC District Commissioners

DCCI Dhaka Chamber of Commerce and Industries

DDA Directorate of Drug Administration

DESA Dhaka Electricity Supply Authority

DESCO Department for International Development

DGFP Directorate General of Family Planning

DGHS Directorate General of Health Services

DLRS Directorate of Land Records and Survey

DMP Dhaka Metropolitan Police

DNS Directorate of Nursing Services

DPDC Dhaka Power Distribution Company Ltd.

DPE Directorate of Primary Education

DSHE Directorate of Secondary and Higher Education

DWASA Dhaka Water Supply and Sewerage Authority

e-Government Electronic Government

e-Health Electronic Health

EMR Electronic Medical Record

EU European Union

FY Fiscal Year

GIS Geographic Information System

GoB Government of Bangladesh

HSC Higher Secondary Certificate

ICT Information and Communication Technology

IFC International Finance Corporation

ILO International Labour Organization

IT Information Technology

ITC International Trade Center

JGTDSL Jalalabad Gas Transmission and Distribution System Limited

JICA Japan International Cooperation Agency

LAN Local Area Network

LGD Local Government Division

LGED Local Government Engineering Department

LGRD (Ministry of) Local Government and Rural Development

MIS Management Information System

MoCommunications Ministry of Communications

MoEdu Ministry of Education

MoEF Ministry of Environment and Forestry

MoHA Ministry of Home Affairs

MoHFW Ministry of Health and Family Welfare

MoLand Ministry of Land

MoLaw Ministry of Law, Justice and Parliamentary Affairs

MoPEMR Ministry of Power, Energy and Mineral Resources

MoPME Ministry of Primary and Mass Education

MoPT Ministry of Posts and Telecommunications

MoSICT Ministry of Science and ICT

MoWR Ministry of Water Resources

NBR National Board of Revenue

NGO Non-governmental Organization

PGCB Power Grid Company of Bangladesh, Ltd.

PMO Prime Minister's Office

PPP Public Private Partnership

REB Rural Electrification Board

RJSC Registrar of Joint Stock Companies

ROM Rehabilitate-Operate-Maintain

ROT Rehabilitate-Operate-Transfer

SICT Support to ICT (SICT is a project to support the National ICT Taskforce of Ministry of Planning of GoB)

SLMTTM Self-Learning Multimedia Teachers' Training Materials

SMS Short Message Service

SOT Supply-Operate-Transfer

SSC Secondary School Certificate

TTI Teacher's Training Institutes

UIC Union Information Center

UP Union Parishad (an elected local government body)

UN United Nations

UNIDO United Nations Industrial Development Organization

UNDP United Nations Development Programme

UNESCO United Nations Educational, Scientific and Cultural Organization

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CHAPTER ONE

INTRODUCTION

1.1 Background of Research

The growing role of Information and Communications Technologies (ICT) in facilitating and expediting economic, social and political development is now being recognized by most of developing countries. An increasing number of federal, state, and local governments are developing national ICT initiatives and strategies, putting plenty of information online, automating administrative processes, procedures, and interacting with citizens, businesses and employees through online services, yet the great opportunities offered by these new technologies remain largely unutilized. The emerging ICT for development approach towards public sector transformation is creating new perceptions about government and governance. Achieving both more improvements in service delivery and efficiency in government functioning is bringing about a rethinking of the role of ICT (UN, 2008).

The increasing use of Information Communications Technology (ICT) in government operations is transforming the way governments conduct their business. ICT has great potential to stimulate social development and citizen participation. According to Graber (2003), "Conventional practices must be revised and new norms created to guide behavior in the new environment". To this end electronic government (e-government) is now taking form and is being used to transform the way government provides services to its constituents and how it interacts with them.

Most government e-service sites are just quick sources of information and a place to download forms but lack of proper access to the internet hinders the delivery of e-services. According to Kuk (2002) that, in contrast to regions of high household Internet access, the quality of local government websites in regions of low household Internet access was significantly poorer in terms of information content and relatively limited in terms of the range of e-enabled services. There is a lack of dialogue between the service provider and the user of that service. Government services need to be more interactive with the people they serve. By making government e-services more interactive, this will increase participation among the governed and those that govern and provide services. This will also hold those responsible for providing service more accountable because they are put up front in this interactive e-service community. To do build a

successful e-government infrastructure for services the citizenry must be educated, a strong technical infrastructure must be developed and put in place. The government needs to provide the e-services that its citizens want and need. These services must be useful, easy to understand and add value to the service provider and user. The government must be committed to new changes and provide the financial backing to implement these new e-services. However providing citizens with as quality e-services with convenience and in an affordable cost are really great challenge particularly for developing countries.

1.2 Problem Statement

The realization that ICTs can be an important enabler for Bangladesh's development is not new. The early efforts in this regard are directed towards developing ICT as an export sector and a potential area of employment generation for ICT graduates. As early as 1991, the Export Promotion Bureau (EPB) with support from United Nations Development Programme (UNDP) and International Trade Centre (ITC) undertook an initiative to explore market potential of ICTs. Through a series of meetings and seminars, the key issues Ire identified and corrective measures Ire suggested. Another project of Ministry of Science and Technology with support from UNDP and United Nations Industrial Development Organization (UNIDO) in 1992 involved identification of problem areas and drafting of recommendations to promote ICT export of Bangladesh. In both cases, however, no follow-up action appeared to have been taken.

One of the most recognized efforts in this regard was taken in 1997. A committee was formed with Professor Jamilur Reza Chowdhury as its convener to explore the potential of an export oriented software industry in Bangladesh. The committee comprised of representatives from the government, industry, and academia, which submitted its report in September 14, 1997. Several of the recommendations of the committee are implemented which, in many ways, shaped the modern discourse around ICT in Bangladesh. Establishment of Bangladesh Association of Software & Information Services (BASIS), formation of ICT Task force headed by the Prime Minister in 2000, substantial reduction of government levies on ICT imports, etc. can be traced back to the recommendations made in that report.

Early efforts to introduce e-governance system started in mid 1990s, when the government introduced the e-ticketing system for the railway services. Since its completion in 1994-95 it has been running successfully. This railway ticketing system automation is considered as the first

noticeable large-scale e-Government projects in Bangladesh, and is a major milestone in the path of e-Government. Since then, a fairly large number of different initiatives have been taken by the government for the implementation of e-Government. Another notable project from this period was the e-birth registration project under Rajshahi City Corporation in 2001, which made the process significantly faster and more efficient. Another early success was the automation of BANBEIS, which included GIS mapping of all schools and detailed information regarding them (including logistics, teachers, etc.), enabling unprecedented efficiency in education planning.

Initially, there was a clear emphasis on building ICT infrastructure, possibly deemed as a pre-requisite to the delivery of e-citizen services. However, despite some successes, many of these e-government projects did not sustain in the long run due to lack of long-term visions for those projects, and myriad other challenges. Although early attempts were top down, sporadic and uncoordinated but since 2006a gradual shift was noticed in the approach to e-Government. The top-down approach to planning was gradually being replaced by more participatory approach within different entities of the government. It was increasingly realized that without internal demand and ownership generated through a planning process, success with such projects, which required extensive change management, could not be achieved. In that time an entity, which played an important role in this shift, was the Access to Information (A2I) Programme at the Prime Minister's Office (PMO). The programme was initiated in 2006 with support from UNDP to support the e-Government Cell at the PMO. Although A2I was not directly in charge of implementing e-Government projects, it took significant initiatives to generate internal bureaucratic demand for e-Government, such as the series of workshops which led to 53 e-Citizen services being committed to by the secretaries of various ministries and divisions in June 2008. Similarly, 64 e-Citizen services were later identified by District Commissioners (DCs) for implementation. A2I also provided continuous technical support and consultation to these projects.

Following this legacy, e-government system was also introduced in Laxmipur DC office. About few dozens of citizen services are being provided through e-government system. However, as the initiatives are new the citizen encountered numerous challenges to get benefits of these services. Although commonly known challenges are institutional, political, economic, social and technical in nature, however no systematic study is conducted to ascertain the quality of services received

by the citizen and the challenges encountered. This study is first of this kind to explore the issues related to e-government system in Laxmipur District. Therefore, the aim of this study is to describe the level of interaction on local government websites when trying to reach and inform its citizens. This will give the citizen/user the ability to directly contact those that are responsible for the services provided and interact directly with them, allowing direct participation in government and accountability for those in office. The results of this study will provide a view on the role that the internet can have in the delivery of government services by the citizens of the three municipalities under investigation.

1.3 Objective of Study

The success of e-government project is primarily associated with understanding the need of citizens and addressing them through ease. Therefore, alongside proper budgetary allocation and technical assistance there is a clear need for knowing the expectation of citizen from government through e-services. In line with this the study is aimed to achieve the following objectives.

i. To identify the ranges of services that the citizen of Laxmipur District get through e-governance system;
ii. To examine their attitude toward the e-government services available in the study district;
iii. To identify the challenges and the barriers that the citizen encounter to get e-government services in their areas.
iv. To recommend some policy and strategic measures to improve the e-government services in the study area.

1.4 Research Question

This study is aimed to answer the following research questions.

i. What level of e-government services the citizen of the Laxmipur District get from the government?
ii. What are the problems they encounter while gaining access to these e-government services?
iii. How the service delivery system could be improved through citizen participation.

1.5 Justification of the Study

E-government system provides the citizen with various services at a very little cost and within short span of time. To be a successful venture, the e-government system must know what are the

services that the citizen demand the most; how the citizen want that services at what cost; how the citizen could contribute to better delivery of the e-government services. These are very fundamental question to be addressed before building a system of e-governance for the citizen. While at the central government level there is macro level data and information about the required services but that information are really ineffective for local level e-government service planning and management. As Bangladesh is a developing country with limited means to invest for local level study of all local units, this current study despite an academic research would assist the decision maker to tailor made the e-government services for the citizen of Laxmipur district.

1.6 Organization of this Report

This report consists of six chapters. First chapter laid down the general background of e-government system and Bangladesh and the problem encountered in e-government system in general. Then it clarifies the objective and justification of doing research taking Laxmipur as a case study district. Chapter two present a succinct literature review on the e-government in general, its component, and the historical mile stone of e-governance initiatives in Bangladesh. Chapter three is about the methodology that is adopted to carry out the study. The chapter four gives an over view on ICT infrastructure in the study area- Laxmipur District. Chapter five is devoted to present the survey finding and discussion. It starts with giving background information of the survey respondents and presented the empirical information to satisfy the objectives stated earlier. Finally chapter six give focus on presenting some policy and strategic suggestion for improving the e-government services in the Laxmipur District.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter starts by presenting a succinct review of various terminologies, concepts and issues that relate to government and e-government system. Later it gives a brief overview of the e-governance system in Bangladesh; it also presents a comparative perspective in this respect from global review of e-governance system.

2.2 Terminologies, Concepts and Issues related to E-governance

2.2.1 Government and E-Government

Government

The word government is derived from the Greek Κυβερνήτης (kyvernites), which means “steersman", "pilot" or "rudder"(www.en.wikipedia.org). A government is a body that has the authority to make and the power to enforce laws within a civil, corporate, religious, academic, or other organization or group. In its broadest sense, "to govern" means to administer or supervise, whether over a state, a set group of people, or a collection of assets. (www.en.wikipedia.org)

e-Government

e-Government can be generally defined as e-Business of the state. From a technological point of view, e-Government is the use of ICT and multimedia technologies to improve the access to and delivery of government services to stakeholders, such as, citizens, businesses and government employees. e-Government basic principles are providing services around citizens needs and desires; making the services more accessible; facilitating social inclusion; providing information responsibly; and using scarce resources effectively and efficiently, Bhoovarahan (2002). At the third Annual e-Government Conference held in Lisbon during May 2002, the term ‘e-Government’ was used in the following way: “e-Government is the application of Information and Communication Technology by government and public sector agencies, and is transforming the way governments interact with their citizens. It uses promises to enhance the effectiveness

and efficiency of government and radically alter its relationship with the public. Improvements in communication and technology are playing a vital role in raising the living standards and empowering people to understand and gain access to all the initiatives and support systems that are available to them". As noted in the United Nations "World Public Sector Report 2003: e-Government at the Crossroads", "public value refers to the value created by government through provision of services, the passing of laws and regulations and other actions".

Therefore, e-Government (electronic government) represents a new concept of government organization and operation. It offers the public information networks and services that can be accessed easily, quickly and transparently, thanks to the opportunities provided by digital technologies (www.innovazione.gov.it).

2.2.2 e-Government Components

It incorporates four key dimensions, which reflect the functions of government itself. According to Sharon (2002), these four e-Government components are:

e-Services -- the electronic delivery of government information, programs, and services often (but not exclusively) over the Internet.

e-Democracy -- the use of electronic communications to increase citizen participation in the Public decision-making process.

e-Commerce -- the electronic exchange of money for goods and services such as citizens paying Taxes and utility bills, renewing vehicle registrations, and paying for recreation programs, or Government buying supplies and auctioning surplus equipment.

e-Management -- the use of information technology to improve the management of Government, from streamlining business processes to maintaining electronic records, to improving the flow and integration of information.

2.2.3 e-Services

E-service is the use of ICT to improve the process of Government. In a narrow sense it is some time defined as citizen's services, re-engineering with the technology, or procurement over the Internet" (Gordon 2002). E-government service can be defined as digital information and online transaction services to citizens (Caldow, 1999). According to Bruecher and Scholl (2004), E-service is a fast growing field that is getting lots of attention and importance. Citizens demand

that government should provide e-services with high quality, quantity, and availability 24/7. For the deployment of e-services, governments are developing information systems and electronic services that have the capacity to fulfill the demands of its citizens.

Therefore, an e-service is a piece of software that is part of the Government system. The aim is to automate or partly automate one particular administrative process. This process can be triggered by a request from a citizen (www.emacao.gov.mo).

2.2.4 Types of e-Services

Types of e-Services to citizens in e-Government, like any e-business, are generally divided into the following categories:

Informational: Gartner notes that "the vast majority of governments" have developed a web presence and have moved on to further development (www.sun.com).This is the first phase and includes the provision of information alone. The quality, usability and currency of the content determine the value of this phase of e-Government. This is the least complex of all the phases.

Interactive: In this phase, e-Government provides some degree of online interaction. For instance, citizens can enter complaints or job applications online. This phase does not include secure transactions such as financial or other transactions that require a high degree of authorization and audit (www.unpal.un.org).

Transactional: Enabling e-citizens to complete tasks online is the major characteristic of this critical third phase (Gartner). It provides secure transactions with high level of authorization. Citizens can now apply online for passports, NICs (National ID Cards) and make payments online. This requires a high degree of security and basic infrastructure allowing for secure transactions.

Collaborative: In this phase citizens and businesses collaborate with the government on processes, projects, etc. This is especially important for businesses working together with the government on projects, for public-private partnerships, NGOs, citizen forums, etc.This phase requires a collaboration infrastructure, which brings together suppliers, consumers and the government in a network with the object of increasing value creation (www.unpal.un.org).

2.2.5 Citizen and e-Citizen

Citizen

Mintzberg, who usefully distinguishes customers from clients, citizens and subjects. He points out that you don't have to call someone a customer in order to treat them well or ensure that services are designed with them in mind. Customers buy products, clients buy services, but citizens have rights “that go far beyond those of customers or even clients”. Furthermore, citizens not only have rights, but also duties, as subjects: to pay taxes, to be drafted in armies and to respect laws (or suffer the consequences). To suggest that citizens are equivalent to and should be treated as customers not only grossly oversimplifies the nature of the relationship between government and citizen, but it perverts it (Mintzberg, 1996).

e-Citizens Services

e-Citizens of the future will be part of ‘knowledge’ communities where they have easy access to e-Services, transport, amenities and social contact regardless of location or personal circumstances. This will include opportunities for e-Citizens to develop community websites and train other communities reaching across many boundaries of communication to develop a community 'brand'. Training is an important aspect of closing the digital divide by empowering e-Citizens and Council staff. However it is also recognized that citizens have the right to choose how services are delivered either directly using the web, mobile phone, kiosks or via an intermediary. (IEG 2 Statement October31st 2002 Revised 22nd January 2003)

2.2.6 Government-Citizen Relationship

Government organizations comprise an important part of the unique relationship between citizens and the state, and this affects the responsibilities of these organizations with respect to protecting the privacy of individuals' information. In contrast to private businesses that market goods and services to customers, government organizations have a responsibility to serve a very diverse set of individuals, including those with different needs, beliefs, attitudes, cultures, languages and educational levels (Kent & Millett, 2003).

2.2.7 e-Citizen Expectation

The following discussion concludes as a deed between the Government and the citizens .Government can set or consult these requirements as goal for their services measurement form e-Government similarly these requirements can be considered also from the citizens. These standard requirements will be useful for both the Government and Citizen as both can measure

their expectations:

Choice of Channel
As a citizen I can choose for myself in which way to interact with government. Government ensures multi-channel service delivery, i.e. the availability of all communication channels: counter, letter, phone, e-mail, and internet (Burger, 2005).

Transparent Public Sector
As a citizen I know where to apply for official information and public services. Government guaranties one-stop-shop service delivery and acts as one seamless entity with no wrong doors (Burger, 2005).

Overview of Rights and Duties
As a citizen I know which services I am entitled to under which conditions. Government ensures that my rights and duties are at all times transparent. (Burger, 2005).

Personalized Information
As a citizen I am entitled to information that is complete, up to date and consistent. Government supplies appropriate information tailored to my needs (Burger, 2005).

Convenient Services
As a citizen I can choose to provide personal data once and to be served in a proactive way. Government makes clear what records it keeps about me and does not use data without my consent (Burger, 2005).

Comprehensive Procedures
As a citizen I can easily get to know how government works and monitor progress.
Government keeps me informed of procedures I am involved in by way of tracking and tracing (Burger, 2005)

Trust and Reliability
As a citizen I presume government to be electronically competent. Government guarantees secure identity management and reliable storage of electronic documents (Burger, 2005).

Considerate Administration
As a citizen I can file ideas for improvement and lodge complaints. Government compensates for mistakes and uses feedback information to improve its products and procedures (Burger, 2005).

Accountability and Benchmarking

As a citizen I am able to compare, check and measure government outcome. Government actively supplies benchmark information about its performance (Burger, 2005).

Involvement and Empowerment

As a citizen I am invited to participate in decision-making and to promote my interests. Government supports empowerment and ensures that the necessary information and instruments are available (Burger, 2005).

2.2.8 Good Governance and e-Government:

The United Nations Development Programme (1997) operationalize good governance as a system of government that ensure participation of citizen, responsiveness, efficiency and effectiveness, accountability , transparency, fairness and rule of law. Common conception on Good Governance is:

- Good Governance means clarity and fairness and reduction of corruption;
- Good Governance ensures fairness and transparency and access to information in every sphere.

Good Governance can be interpreted in a few ways, firstly, by terms of ensuring social security in a country like ours and by maintaining and/or bringing economic stability by developing investment climate."

Since governance is the process of decision-making, good governance assures that corruption is minimized, the views of minorities are taken into account and that the voices of the most vulnerable in society are heard in Decision-making. Decentralization is indeed a technical necessity for good governance. It is changing the ways in which government does business with the public and, in the process, is creating demand for some form of Participation from the citizen while reducing administrative burdens that can ensure good governance. Good Governance is vital for the development of a country as it support people by facilitating the free flow and exchange of information from government as well as non -government sources to substantiate freedom of Expression and opinion. The governance structure in Bangladesh is hardly accountable to its citizens. The Problem of poor governance has been manifested in adopting

unfair business practices in Bangladesh. Poor Governance can be both a cause and an indirect affect of ineffective trade and commerce development.

e-Government is not just "electronic" government. It is "enabled" government, the government that delivers different and better programs and services. e-Government which initiates e-Governance is about people: new skill sets, mindsets and leadership approaches. It will transform how public servants work, relate to each other, do business, and engage citizens and others. e-Government is a process that requires a sustained commitment of political will, resources and engagement among the government, private and public sectors. However, if e-Government practitioners ask and answer the following ten questions outlined in the Roadmap, they potentially can develop a system of e-Government that not only makes current government practices more efficient, but also transforms the very relationship between the public, the private sector and government. e-Government is more about government than about "e". It enables better policy outcomes, higher quality services and greater engagement with citizens which is the attributes of Good Governance.

E-Government improves the development and implementation of public policies and helps the public sector to cope with the conflicting demands of delivering more and better services with fewer resources. A recent report commissioned by the European Public Administration Network (EPAN, 2004) types of interconnected benefits of e-Government on ensuring Good Governance are:

- Improved quality of information and information supply;
- Reduction of process time;
- Reduction of administrative burdens;
- Cost reduction;
- Improved service level;
- Increased efficiency;
- Increased customer satisfaction.

The introduction of modern technologies in relevant sectors can serve a variety of different ends:

- Better delivery of government services to citizens,
- Improved interactions with business and industry,

- Citizen empowerment through access to information, or
- More efficient government management.

Adopting e-Government strategies to establish e-governance in the trade and commerce sector will reduce the scope for corruption and attract investment. The promotion of good governance is widely accepted as a prerequisite for development .The application of e-governance helps to reduce costs, inefficiency, inconvenience and ineffectiveness in service delivery. E-Government is also expected to develop content of immediate local relevance, and preserve national history, heritage and traditional knowledge.

e-Government is likely to contribute to the creation of productive employment for the poor through the strengthening of many small-scale and informal sector activities by reducing the corruption and creating a favorable condition for investment and increase economic competitiveness. A study by the World Bank revealed that where there is participatory governance, an additional 1 per cent of gross domestic product in aid translates into a 1 per cent decline in poverty and a similar decline in infant mortality (World Bank, 1998).

2.2.9 The benefits of Good Governance from e-Government

The benefits of good governance by implementing e-Government is certainly above the standard such as reduction of corruption, traceable documentation, systematic investigation of problems, transparency, improvement in management efficiency. A data center can be build to preserve data with high security which can meet many of the good governance demands. E-Government helps make the procedures of government internal processes more efficient, save time and resources. It can also help boost private sector performance and efficiency by reducing the time and expenses required for businesses to interact with the government. Getting updates is easier. There can be one-stop-service centers/portals which will save both time and cost providing information on how to get services from government or how to acquire important information. Dissemination of information from ministries and offices countrywide along with business promotion initiatives may become seamless.

The above mentioned targets could be achieved with the applications of the following common e-Initiatives as these are considered as some of the most popular e-Government initiatives that address corruption and lack of transparency:

- Online delivery of government information and services
- Computerized licensing and registration
- Web-based tender notification and procurement
- Web-enabled complaints submission
- Online public comment for draft legislation.
- Online procurement system

Good governance ensures uniformity which can be possibly done with the help of e-Government procedures. If information is disseminated from the center to the hubs at the same time, there is low chance of distortion.

2.3 The e-Government System in Bangladesh

Information and Communication Technologies (ICTs) are recognized as a powerful tool for socio-economic development. With appropriate policies, supplemented by realistic strategies, ICTs are known to have brought tremendous welfare to people in terms of better access to information, job creation, and enhanced public services through efficient governance and diversification of economic opportunities. Implementing e-Government in every district is one step closer towards aligning with the fast moving world.

The realization that ICTs can be an important enabler for Bangladesh's development is not new. The early efforts in this regard are directed towards developing ICT as an export sector and a potential area of employment generation for ICT graduates. As early as 1991, the Export Promotion Bureau (EPB) with support from United Nations Development Programme (UNDP) and International Trade Centre (ITC) undertook an initiative to explore market potential of ICTs. Through a series of meetings and seminars, the key issues Ire identified and corrective measures Ire suggested. Another project of Ministry of Science and Technology with support from UNDP and United Nations Industrial Development Organization (UNIDO) in 1992 involved identification of problem areas and drafting of recommendations to promote ICT export of Bangladesh. In both cases, however, no follow-up action appeared to have been taken.

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government, industry, and academia, which submitted its report in September 14, 1997. Several of the recommendations of the committee Ire implemented which, in many ways, shaped the modern discourse around ICT in Bangladesh. Establishment of Bangladesh Association of Software & Information Services (BASIS), formation of ICT Task force headed by the Prime Minister in 2000, substantial reduction of government levies on ICT imports, etc. can be traced back to the recommendations made in that report.

Completed in 1994-5, and running successfully since, the railway ticketing system automation was the one of first noticeable large-scale e-Government projects in Bangladesh, and was a major milestone in the path of e-Government. Since then, a fairly large number of different initiatives have been taken by the government for the implementation of e-Government. Initially, there was a clear emphasis on building ICT infrastructure, possibly deemed as a pre-requisite to the delivery of e-citizen services. However, despite some successes, many of these e-government projects did not sustain in the long run due to lack of long-term visions for those projects, and myriad other challenges. Early efforts started in mid 1990s, when the government automated the railway ticketing system. Another notable project from this period was the e-birth registration project under Rajshahi City Corporation in 2001, which made the process significantly faster and more efficient. Another early success was the automation of BANBEIS, which included GIS mapping of all schools and detailed information regarding them (including logistics, teachers, etc.), enabling unprecedented efficiency in education planning.

The first full-fledged ICT policy of Bangladesh, a major milestone in the path to e-Government, was passed in 2002, following the then Prime Minister's declaration of ICT as a 'thrust sector'. The document was focused heavily on ICT infrastructure building, process automation and creating an enabling environment. The policy, therefore, was literally largely an 'ICT policy', and not an e-government policy per se, although it represented the de-facto e-Government policy until 2009. The policy adequately reflects the approach of the government towards e-Government for much of this period (until 2006) - as being limited to ICT capacity and infrastructure development, and not as a core development and governance issue. Many of the projects initiated by the SICT or the line ministries themselves during this period did not sustain in the long run. In May 2008, a Review Committee formed by the Caretaker Government found.

That out of the 103 policy directives of 2002, only 8 were fully or largely accomplished, 61 were partially accomplished and 34 remained unaddressed.

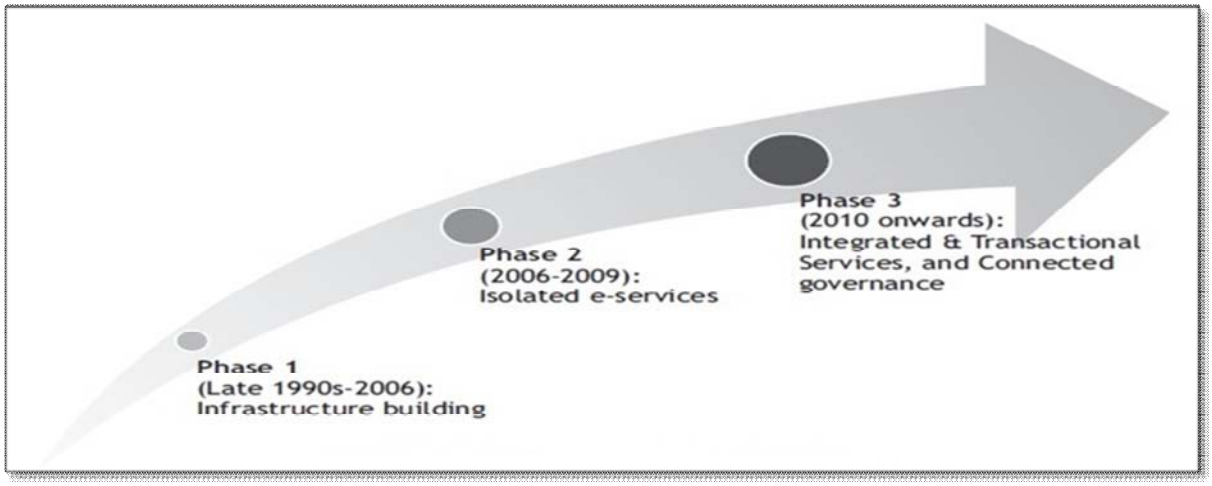

Figure 2.1: Evolution of e-Government in Bangladesh

Since 2006, with the caretaker government taking over, a gradual shift was noticed in the approach to e-Government. The top-down approach to planning was gradually being replaced by more participatory approach within different entities of the government. It was increasingly realized that without internal demand and ownership generated through a planning process, success with such projects, which required extensive change management, could not be achieved.

An entity, which played an important role in this shift, was the Access to Information (A2I) Programme at the Prime Minister's Office (PMO). The programme was initiated in 2006 with support from UNDP to support the e-Government Cell at the PMO. Although A2I was not directly in charge of implementing e-Government projects, it took significant initiatives to generate internal bureaucratic demand for e-Government, such as the series of workshops which led to 53 e-Citizen services being committed to by the secretaries of various ministries and divisions in June 2008. Similarly, 64 e-Citizen services were later identified by District Commissioners (DCs) for implementation. A2I also provided continuous technical support and consultation to these projects. A list of A2I initiatives is available in A2I Programme website. A comprehensive list of all e-Government projects completed, undergoing and planned by ministries and divisions are given in Appendix 1.A structured policy and regulatory environment, brought about through the creation and passage of the new ICT Policy 2009 and the ICT Act

2009, can play an enabling role for current and new e-Government projects.

2.4 The e-Government system of Bangladesh in Comparative Perspective

In this region, most portals and websites have remained stagnant since the 2008 Survey in terms of developing new features. As a result, the region as a whole has regressed in the 2010 Survey and remains far below the world average. Maldives (0.4392) continues to lead the region because it gained the highest scores for infrastructure and education indices. Nevertheless, its online services received very low scores and made very limited progress in overall e-government development. Iran (0.4234) and Bangladesh (0.3028) are the two exceptions, both having significantly improved their government development scores and global rankings in 2010 Survey. Among national portals in the region, India has the highest ranking portal with the highest online services score. It has the most e-services and tools for citizen engagement in the region.

Table 2.1: e-government development of Bangladesh

	E-government development index value		World e-government development ranking	
Country	2010	2008	2010	2008
Maldives	0.4392	0.4491	92	95
Iran (Islamic Rep. of)	0.4234	0.4067	102	108
Sri Lanka	0.3995	0.4244	111	101
India	0.3567	0.3814	119	113
Bangladesh	0.3028	0.2936	134	142
Pakistan	0.2755	0.3160	146	131
Bhutan	0.2598	0.3074	152	134
Nepal	0.2568	0.2725	153	150
Afghanistan	0.2098	0.2048	168	167
Sub-regional average	0.3248	0.3395		
World average	0.4406	0.4514		

Least developed countries have no real e-services, nor are they providing citizens with transactional opportunities, as presented in table below. The vast majority of the sites surveyed primarily contain e-information and the beginning stages of citizen engagement with polls and feedback forms. The top two positions among least developed countries in the online service assessment went to Bangladesh and Angola.

Table 2.2: Online service levels in least developed countries

Rank	Country	Emerging information services (stage 1)		Enhanced information services (stage 2)		Transactional services (stage 3)		Connected services (stage 4)		Total	
		Points	Score (%)	Points	Score (%)	Points	Score (%)	Points	Score (%)	Points	Score (%)
60	Bangladesh	48	71	44	38	5	3	15	30	112	28
65	Angola	52	76	38	33	9	5	8	16	107	27
95	Lesotho	52	76	29	25	1	1	1	2	85	21
106	Afghanistan	41	60	25	22	5	3	2	4	83	21
111	Ethiopia	32	47	23	20	3	2	5	10	73	18
114	Bhutan	30	44	21	18	6	4	2	4	63	16
116	Mali	29	43	12	10	9	5	8	16	59	15
120	Senegal	32	47	14	12	3	2	7	14	58	14
121	Rwanda	34	50	14	12	2	1	5	10	56	14
121	United Republic of Tanzania	34	50	21	18	...	...	...	...	55	14
124	Mozambique	32	47	13	11	3	2	6	12	55	14
125	Nepal	30	44	22	19	...	...	1	2	54	13
126	Madagascar	28	41	13	11	4	2	7	14	53	13
127	Maldives	27	40	24	21	...	...	...	...	52	13
129	Burkina Faso	26	38	13	11	...	...	10	20	51	13
129	Sudan	23	34	16	14	2	1	8	16	49	12
134	Samoa	24	35	21	18	...	...	...	...	49	12
135	Cambodia	25	37	13	11	2	1	3	6	45	11
138	Timor-Leste	23	34	16	14	...	...	3	6	43	11
143	Benin	20	29	10	9	4	2	3	6	42	10

2.5 e-Government: Global Perspective

The term e-Government (e-Gov) emerged in the late 1990s, but the history of computing in government organizations can be traced back to the beginnings of computer history. A literature on “IT in government”, goes back at least to the 1970s. (Kraemer, et al, 1978, Danziger and Andersen, 2002).The e-Government was born out of the Internet boom. However, it is not limited to Internet use or publicly accessible systems for direct use by customers or citizens. (Gore, 1993; Salem, 2003).e-Government refers to the use by government agencies of information technologies that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions” (World Bank, 2004)

Developments in Europe and the rest of the world create challenges for the public sector. On the

one hand, citizens and businesses have high expectations of accessible and efficient services and Administration. On the other, limited or reducing resources. e-Government is an enabler to realize better and more efficient administration. Public e-Services (e-Government services for citizens and businesses) are a part of e-Government, which specifically holds a potential for developing more efficient and user-centered ways to deliver public services.

Citizens are increasingly expecting government units to perform more like commercial entities. In order to provide various service levels and to meet rising expectations, government needs to utilize recent advances in technological development (Reynolds &Regio).West defines e-Government as the delivery of government information and services online through the Internet or other digital means. West, in his study, states that the particular characteristic of this system, that makes it so special, is that it allows citizens to seek public services at their own convenience and not just when the government office is open (West, 2004).

While defining the domain of e-Government, has identified the importance of serving civil society by delivering services to wide array of citizens (Grönlund, 2005). Related to citizen services, there have been widespread recommendations that these services have to satisfy customer or citizen needs – leading them to be customer-centric or citizen-centric (Scott et al, 2005)

To achieve the full public value for society from e-Government, decision makers must understand the full scope of the transformation of public services. Governments should seek to involve all stakeholders in the design and implementation of the transformation of public services. Any kind of change to public services utilizing new or existing technology needs to be properly understood and planned. In order to ensure that full consideration is given to assessing and understanding the impact of new technology on private citizens, employees, and business, EICTA proposes that all these stakeholders should be closely and deeply involved in the development of the inclusive e-Government agenda. Governments should focus on developing Interoperable, secure and compatible services for citizens and businesses in strategic areas, such as Security, Taxation, Health, European procurement, and Education. Industry calls upon Governments to give special attention to such services in 2006 (www.egov2005conference.gov.uk).

2.6 e-Government: A Great Divide between Developed and Developing Countries

Some important factors have been collected which will guide to understand how developed and developing countries differ from each other. e-Government strategies have had a tremendous impact on the way governments interact with their citizens. Though there has been significant progress made in developed countries in e-Government implementation, for many developing countries have been left behind with a long way to catch up. Hence it would be significant to understand the following factors between developed and developing countries.

Table 2.3: e-Government: A Great Divide between Developed and Developing Countries
(Source: Journal of Global Information Management, 14(1), 23-46, January-March 2006 232)

	Developed Countries	**Developing Countries**
History and Culture	Government and economy developed early, immediately after independence Economy growing at a constant rate, productivity increasing, high standard of living Relatively long history of democracy and more transparent government policy and rule.	Government usually not specifically defined; economy not increasing in productivity 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 Has outsourcing abilities and financial resources to outsource; current staff would be able to define requirements for development	Does not have a staff, or has very limited in-house staff 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 High Internet access for employees and citizens	Bad current infrastructure 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.

2.7 UN Recommendation for e-Government

As noted in the United Nations "World Public Sector Report 2003: e-Government at the Crossroads", "public value refers to the value created by government through provision of services, the passing of laws and regulations and other actions". "Only the public can determine what is truly of value to society. In a representative democracy, value is determined by people's preferences, expressed through a variety of means and refracted through the decisions of elected politician. People's preferences are formed socially; in the family, among friends and in public debate. Citizens' engagement in public affairs is desirable precisely because it challenges and changes underlying preferences" (Kerby, 2005).

2.8 Challenges to e-Government

There can be different challenges which can hinder in the successful deployment of e-Government in any country. Following are the major issues while considering about the e-Government:

Access Issues

Providing access to needed information

Some of your information or forms will not be in digital form and may need to be converted. You must also decide what information you will provide or will be able to provide online. (www.archives.nysed.gov)

Ensuring privacy and security

You need to protect citizen privacy. One way to ensure privacy is to provide adequate security for all of your e-Government systems. The other way to ensure privacy is to be careful to keep private information off your website. (www.archives.nysed.gov)

Technical Issues

Integrating legacy systems

Old computer systems may need to be integrated into a new Internet-based platform. This conversion may be time-consuming and costly and will require technical expertise. (www.archives.nysed.gov)

Changing technology and maintenance

You will need to keep up-to-date on current technology trends and enhance your website with the latest applications and features, while at the same time, keeping the content on your website updated. (www.archives.nysed.gov)

Human Factors

Measuring citizen satisfaction

In order to ensure that your e-Government is working, you must design a method to monitor and measure citizen satisfaction and participation. (www.archives.nysed.gov)

Transforming the culture

Some staff members or citizens will be less receptive to the adoption of e-Government applications due to a variety of reasons such as a fear of technology, changes in the traditional way of doing their work, etc. These people may need additional encouragement and reassurances. (www.archives.nysed.gov)

Service Delivery Issues

Managing financial transactions

Financial transactions are a particularly touchy issue. Many people are wary of providing credit card information via the Internet. You need to obtain the trust of your customer, which can only be done by ensuring adequate protection of e-Government transactions.
(www.archives.nysed.gov).

Delivering integrated services

New York State's Governor has encouraged the integration of services between departments and between state agencies and local governments within the state. There have also been efforts to integrate government services throughout the country. But individual state agencies and local governments are used to being totally in charge of their own affairs and may need to be

convinced of the value of service integration. (www.archives.nysed.gov)

Resource Issues Staff

Training is an integral part of any e-Government implementation. Staff will require training and retooling of their skills. If your staff is not able to handle some or all aspects of the e-Government application, you may need to hire additional information technology staff either on a temporary or permanent basis (www.archives.nysed.gov).

Equipment

Chances are the more complex your e-Government applications are, the more equipment (e.g., computers, servers, wiring, etc.) you will need so there will be costs. (www.archives.nysed.gov).

Other Issues

Structural Issue

Government officials are concerned about the implications of e-Government. e-Government often causes significant change in an organization. Some e-Government services, such as the issuing of licenses and permits and the collection of monies from them, seem to have become increasingly centralized in county or state governments. This centralization challenges traditional roles and may modify the role of local government to officials. There are concerns that e-Government may affect jobs that local officials may find the need to cut staff, restructure jobs (e.g., lose clerical staff, but gain IT staff) or retrain current staff. (www.archives.nysed.gov)

Digital divide Issue

Researchers are beginning to realize that factors such as income, race and gender are less significant in facilitating or inhibiting Internet access than previously thought. Instead, surveys have shown that education and age are perhaps more significant factors. Internet usage seems to be most prevalent among people who have a college degree, are young (18 to 25 years old), and have a high income. Regional differences (e.g., urban vs. rural, more vs. less developed industrial countries) are also factors (www.archives.nysed.gov).

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The aim of this chapter is to present and justify research methods used in this research.

It starts by presenting the research conceptualization by discussion with research supervisor, and literature review. It then presents the research design and the methods of data collection and analysis.

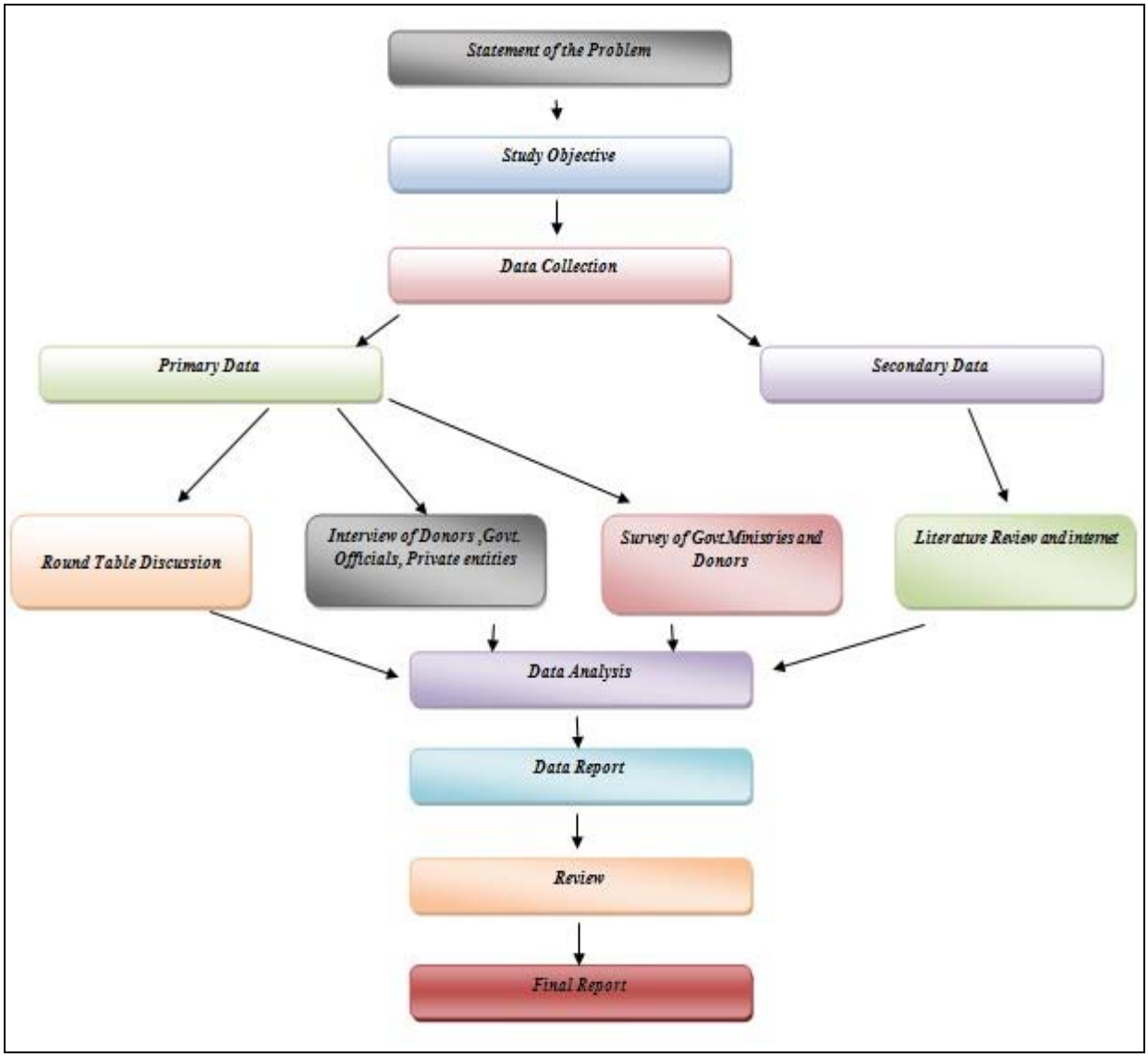

Fig 3.1: Process flow diagram

3.2 Research Purpose

All research approaches can be classified into one of three general categories of research: Exploratory, descriptive and casual. These categories differ significantly in terms of research purpose, research questions, the precision of the hypothesis that are formed, and the data collection methods that are used (Aaker et al, 1998).

Exploratory research is used when one is seeking insights into general nature of problem, the possible decision alternatives and the relevant variables that need to be considered. The research methods are highly flexible, unstructured and qualitative, for the researcher begins without firm preconception as to what will be found. The absence of structure permits a thorough pursuit of interesting ideas and clues about the problem situations(Aaker et al, 1998). On the other hand, in descriptive research there hardly exist hypothesis, if exist, it may be tentative and speculative. In general the relationships studied will not be casual in nature. However, they may still have utility in prediction (Aaker et al, 1998).

Finally Casual research is necessary to show that one variable causes or determines the values of other variables (Aaker et al, 1998).

Given the objective of research, this research heavily draws on exploratory research although there will have substantial descriptive focus. A part from this, it heavily draws on review of secondary sources. The primary data and information will be collected from people who are familiar with the e-Services. The citizens who have basic IT knowledge and insight concerning research question will be surveyed rather than any sample group of citizens. This are discussed in some details in respective section of this chapter.

3.3 Research Approach

The choice of research approach is not only dependent on researcher's epistemological position and pre knowledge, but should also be influenced by the research questions set out to illuminate (Yin, 1994). Usually, quantitative research approach is followed to answer questions about relationships among measured variables with the purpose of explaining, predicting and controlling phenomenon. This approach is sometime called traditional, experimental, positivist approach. Quantitative researchers seek explanations and predictions that will generalize to other persons and places. The intent is to establish, confirm or validate relationships to develop generalizations that contribute to theory (Ormrod, 2005). On the other hand, qualitative research

is typically used to answer questions about the complex nature of phenomenon, often with the purpose of describing and understanding the phenomenon from the participants' point of view. The qualitative approach is also referred to as the interpretative, constructivist, or post positivist approach. The qualitative researchers seek a better understanding of complex situations. Their work is often exploratory in nature, and they may use their observations to build theory from the ground up (Leedy, Ormrod, 2005).

Both approaches have their strengths and weaknesses and neither one of the approaches can be held better than the other one. The best research method to use for a study depends on that study's research purpose and the accompanying research questions(Yin, 2003). This research make good blending of both qualitative and quantitative approached. Therefore, this research has followed a mixed methods approach.

3.4 Research Strategy

The first step to take when conducting research is to evaluate the research strategies. There are five types of research strategies when conducting social science research: experiments, surveys, archival analysis, history, and case study (Yin 1994).Depending on the type of research, there are advantages and disadvantages to all the research strategies. The most important criterion for deciding what strategy to use is to look at the research questions/objectives (Davey 1991, Yin 1981).According to (Yin, 1994) Survey Strategy becomes more relevant when the research question is about (what, how much or how many) and respondents' behavioral control is not firm and are interested in contemporary events. Given the context and the nature of inquiry this research adopted the survey strategy for data and information collection.

3.5 Sample Selection

Choosing a study sample is an important step in any research project since it is rarely practical, efficient or ethical to study whole populations (Marshall, 1996). Purposive sampling involves selection of informants based on an important characteristic understudy, such as where they live (rural or urban), position in society (for example, community leader or ordinary householder), or specific cultural knowledge (for example, caretakers of children, farmers, traditional healers).For this research, citizen having IT literacy are purposefully included in research framework. In this

group generally tertiary level students and educated professionals group belong. To prepare the sample frame a list is of email address of citizen who belong to various occupation groups were included. The email address were collected from Business directory, Educational institute directory and Government offices.

3.6 Data Collection

The choice of data collection method is a critical point in the research process. The decision is seldom easy, for there are many factors to be considered and many variations of the four basic survey methods such as Personal Interviews, Telephone Interviews; Mail Survey; Fax Survey.

Because each research problem will have a different ranking of importance, and no data collection method is consistently superior, few generalizations can be made (Aaker et al, 1998). As the primary data and information for this research need to be collected from ICT enabled citizen, therefore, email survey method of data collection was preferred over other methods. Accordingly, a semi structured questionnaire was sent to 500 prospective respondents through email attachment.

3.7 Formulation of Questionnaire

The questionnaire was in the form of simple word document. The language used for questionnaire is English. The purpose of the research and a short introduction about the researcher were given on the top of the questionnaire. In the first page, definitions of some important key terms as ready reference for respondent were given before the start of the questions to be answered by the respondents. Both close ended and open ended questions were included. It starts by asking respondent about their internet usage because e-Services are mainly concerned with internet infrastructure. Therefore this is important to know how often people use internet. Second question is about why Government should provide e-Services. These suggestion will able us to narrow down the importance of e-Services in the society. In Third and fourth questions, it was asked if there are barriers in implementing the e-Services. This can be helpful to understand different problems and issues from the citizens' point of view. The fifth, sixth and seventh questions are about the current scenario of e-Services in their area. These are related to each other. The respondents are IT literate so it is important to ask them either they are using the

e-Services, how often and either there should be more e-Services respectively; provided by the Government of Bangladesh. Further, respondents were asked in which e-Services or activities they are interested in. The ninth question which is also an open ended question asked for suggestions to improve e-Services. Every respondent can feel free to express his/her feelings which can be necessary to articulate. Tenth question is about respondent personal details. Here their demographic, socio-economic profiles are asked for. The questionnaire sample is appended in *appendix 1*.

3.8 Data Analysis and Preparation of Report

For data and information analysis spreadsheet software and SPSS 20 were used. Mostly the descriptive statistics are used to present the finding. To communicate with reads easily, wherever possible various graphs and Tables are used. The draft report is prepared based on the initial analysis. After getting the feedback from supervisor, his comments are addressed before final production of the research report.

CHAPTER FOUR

ICT INFRASTRUCTURE IN LAXMIPUR- AN OVERVIEW

4.1 Basic Information on Study Area- Laxmipur District

The basic statistics about the various affairs of citizens' life in Laxmipur is presented the table below.

Table 4.1: Laxmipur at a glance . Source :(www. http://www.lakshmipur.gov.bd)

Official Name:**Laxmipur**		
Total Area	**1440.39 Sq. Kim**	
Population	**1.729188 million ,Female : 0.745 million, Female = 0.745 million**	
Internet Connections	**10,000**	
Literacy rate	**49.4%**	
Education	Primary Schools	**713**
	Middle Schools	**172**
	High Schools	**22**
	Secondary Vocational Institutions	**5**

4.2 Mission and Vision of Laxmipur e-Government

Laxmipur e-Government Vision: To harness the potential of Information Technology as a key contributor to development of Laxmipur. (http://www.lakshmipur.gov.bd)

Laxmipur e-Government Mission: Rapidly develop the infrastructure in synchrony with the creation of excellently trained individuals and teams. Direct these at transforming our society into a prosperous and dynamic one-one that values and benefits from the creation and free flow of information and knowledge. Encourage and assist the entrepreneurial spirit, and make the fruits of this technology available to every citizen (http://www.lakshmipur.gov.bd).

4.3 The ICT Infrastructure in Laxmipur DC office

Deputy Commissioner's Office (DC Office) is one of the most important offices of the country. Over the past 200 years, District Administration has been the hub for government services for the mass residing in rural and urban areas. A wide range of useful services to citizens are provided from the DC offices regarding control and supervision of revenue, maintenance of public order and security, license and certificates, land acquisitions, census, relief and rehabilitation, social welfare, pension matters, education and public examinations, public complaints and enquiries. By providing these services, the DC office represents the Central Government at the grassroots (district, upazila and union).

The work of e-Government in Laxmipur DC Office started on 14 November, 2011, first it starts with 10 desktop computers than in the 2nd phase another 20 desktop computers and 4 laptops, one server, teleconference equipment were given according to hierarchy of DC office (Fig below).DC Office Laxmipur has one programmer who is to look after the work progress and one assistant commissioner was to supervise the whole work progress.

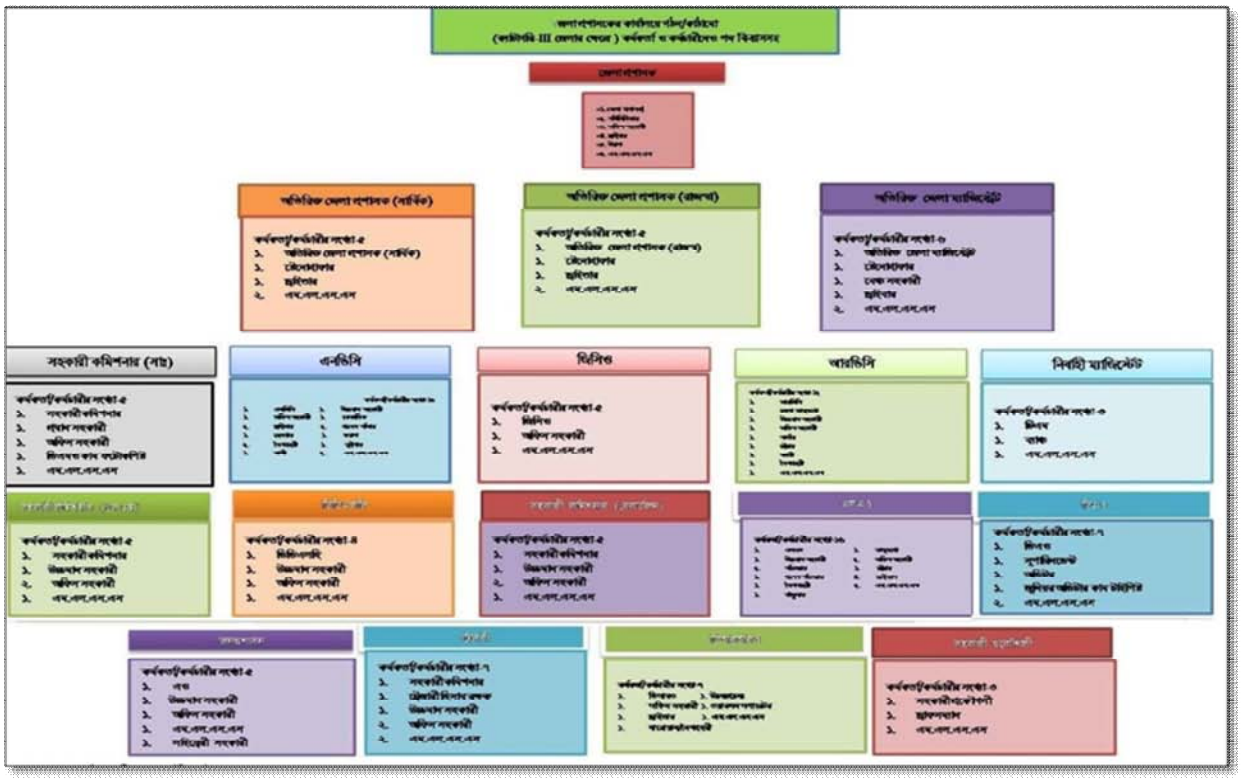

Figure 4.1: Hiararchy of DC-office Laxmipur

4.3.1 Stages of forming e-Government in DC Office Laxmipur

- Build a website for DC office with the help of access to information programme (A2i).
- Build a server room.
- Arrange computers for every section of DC office as Ill as DESC and server room.
- Connect ourselves with the internet ADSL.
- Connect different sections of DC office by LAN (local area network)
- Build an e-service centre at the front of the DC office, so that people can have an easy access.

4.3.2 Hardware used

- Desktop computer (Dual Core processor) for DC Office : Qty # 37
- District e-Service Center : Qty # 10
- Server : Qty # 1
- Backup Server : Qty # 1
- Multimedia (Projector) : Qty # 1
- Equipment for video conference : Qty # 1
- Laptop (Dell, Dual core) : Qty # 4

All computers are connected by LAN and have 100 Mbps internet connection.

4.3.3 e-Service medium: Through two modes e-Services are given to the citizen of Laxmipur DC office these are:

- Laxmipur District e-Service Center (DESC) and
- web portal/website services

4.4 Laxmipur District e-Service Center (DESC)

The conventional system of office management and service delivery at the DC offices is paper-based, which is time consuming and labor intensive for both the service provider and receiver. Moreover, as it is inflexible so it causes delay in the service delivery process and is prone to abuse or corruption and can hinder access to the poor, marginalized and vulnerable.

Due to shortage of manpower and infrastructure, DC offices are also unable to meet the high demand for services from the growing population. Therefore, it has become imperative to put in place an innovative solution combining back-end automation with efficient services points to improve the quality and speed of services at the DC offices.

According to Grönlund (2005), e-Service is a core component in e-government domain because it bridges the gap between the government administrators and citizens. Figure-1 shows 'e-Service' as one of the main actors in e-government domain; where arrows indicate '*influence*', circles indicates '*domains of control*' and intersection of circles indicates '*transactions zones'*.

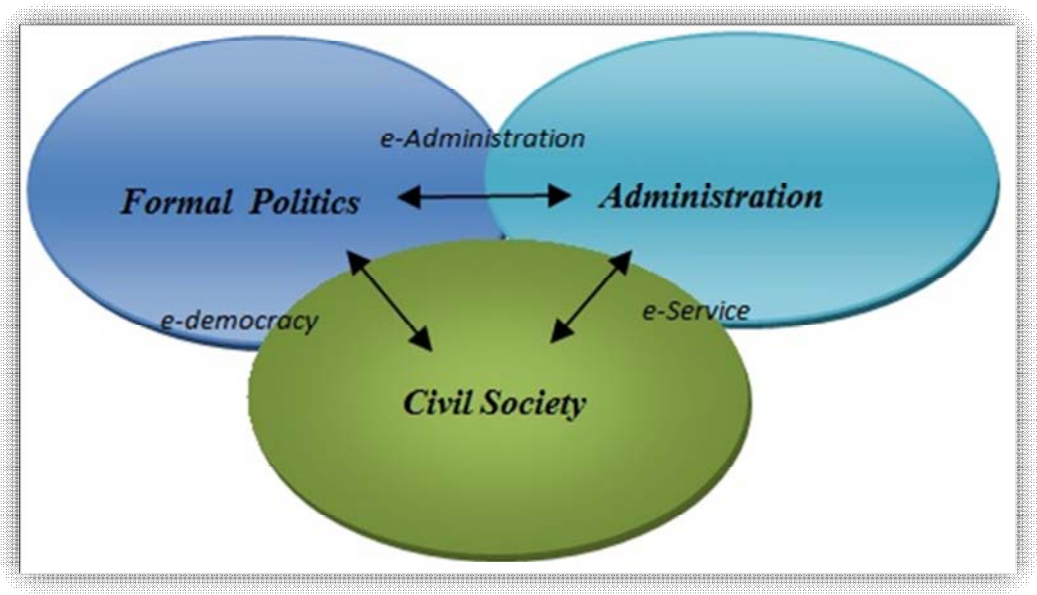

Figure 4.2 :e-Service as a component in e-Government Domain (Grönlund, 2005)

In a democratic government system, the triangular relations (as in figure-3) are vital where service delivery is one of the main interactions between public servants (administration) and citizens & businesses (civil society). With the advent of ICT and Internet, such interactions get new dimension of '*virtual interactions*' instead of '*traditional front-desk interactions*'. The strength of virtual interaction is dominated by the e-service existence and its quality.

4.5 Important Components of District e-Service Center (DESC)

Services cannot be truly delivered to citizens' doorsteps unless they are decentralized. Based on this premise, On 14 November, 2011 Shaikh Hasina, the Hon'ble Prime Minister of Bangladesh

and Mr. Ban-ki-Moon, Secretary General of the United Nations jointly inaugurated all the 64 DESCs located all across the country. Laxmipur DC office DESC came into being at that time .Citizens are now able to submit their applications online from service centers located at the DC office, UNO office, Union Parishad or even from their own home without having to travel to the district headquarters. Upon submitting their applications, citizens receive an SMS Notification with a receipt number and date of service delivery. In addition, citizens will also be able to submit their applications through the District Portal from anywhere in the world including all the Union Information and Service Centers. Citizens are notified through either SMS or email once the service is ready to be delivered. They can choose to receive the service in-person from the concerned DC office or by postal mail if the application is regarding request for any documents. During the waiting period, citizens are able to check the status of their lodged applications though SMS or District Portals. This has allowed citizens to avoid in-person visits to DC offices which were the practice previously.

The District e-Service Centre (DESC) is an ICT facilitated one-stop service centre which provides an efficient electronic version of the century-old manual and heavily bureaucratic service delivery system at every DC office. It is located in the Deputy Commissioner's (DC) office. DESC has been designed to improve the accessibility and transparency of public service delivery system at the district level as well as to achieve the following objectives:

- Ensure service delivery at the at the door steps of the people at the least possible time
- Uphold citizens' Rights to Information through extensive information flow Save time and labor in the processing period
- Increase the number of clients served everyday through the use of ICT
- Reduce corruption and increase accountability by ensuring enhanced flow of information and more transparent processes
- File sharing facilities through LAN for Officers and stuffs.
- Video Conferencing when necessary.
- Electronic Notice Board to make the notices available online.
- Software for tracking movement of files.
- Services available at the DC office can be requested and received through the one stop service counters, online, by phone, by post, or by fax.

Figure 4.3: District e-Service Center Laxmipur

4.6 Web portal/Website based Services

website offers different e-Services for the citizens so they can interact with the Government in more effective way. Today the website has brought government closer to its citizen. Governments can reach and interact with their constituents faster and with more information. At the same time access and participation by citizens with their government has also increased. According to the International Council for Information Technology in Government Administration, Waller P, Livesey P, Edin K (2001) the objectives of the government is to use the Internet and other communication technologies to facilitate, broaden, and deepen participation and interaction in the democratic process. This has increased the interaction between the government and its citizens. This makes government more participatory and democratic.

A large number of people of all sections have to come to DC office for getting various kinds of service everyday. In order to provide services and facilities of the DC Office to the citizens home and abroad web portal/ website have been launched. As DC office deals with Land management and Land Acquisition, Magistracy, Development Activities, Public Exams, National and other elections, treasury functions, different types of licenses, Law and Order situations, etc ,e-Services is the most urgent demand now a day for giving these services quickly to the citizen. In hosting this site the people are not supposed to come to dc office physically for every aspect. Now people can get some of these services electronically form anywhere in the world. And in near future we are going to extend the facilities so that the people can apply online for services/

facilities through this web site. e-Government is the next step in the natural evolution of how government going to work in future and how services will be given in respond to citizens need .Now a days web portal is a tool used by the modern world as a mode of communication and service delivery . A good website is presumed to be particularized concern of citizens and citizens have lot of expectation from Government for service delivery.

A wide range of useful services to citizens are provided from the DC office regarding control and Supervision of Revenue, Maintenance of social order and security, License and Certificates (arms, drugs ,NGO's etc), Land Management , Development activities, different kind of Census, National and other Elections related responsibility, Relief and Rehabilitation, Social welfare, Pension matters, Education and Public examinations, Public complaints and enquiries ,Treasury functions, Different types of licenses, Maintenance of Educational Institution ,Maintenance of Law and Order situations etc. By providing these services, the DC office represents the Central Government at the grassroots (District, Upazila and Union.

4.7 Laxmipur District Website Services

All the necessary information can be found through website of Laxmipur District.

Figure 4.4: Laxmipur District website

Figure 4.5: e-Services by dc office Laxmipur

- Different e-Services citizen can get through website :

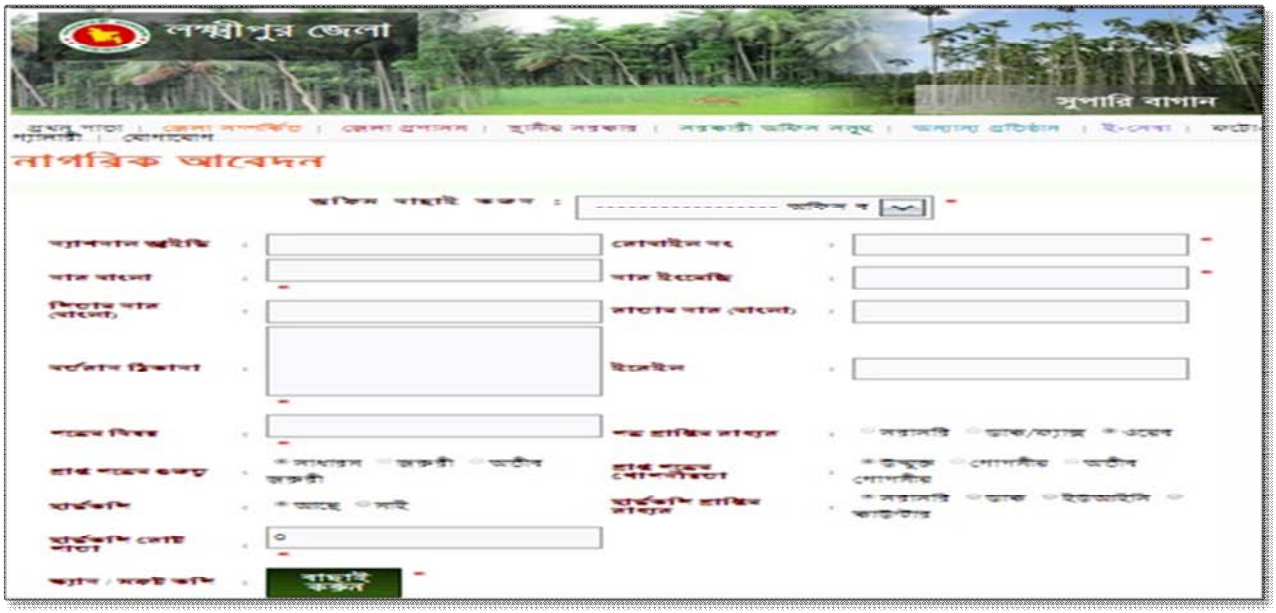

Figure 4.6: Online application for Citizen

4.8 District e-Service: An illustated example

Afzal Mian cannot believe his eyes. He lodged his application to the DC Office Laxmipur just day before yesterday and Now the porcha is in his hands. He needs it badly. He has to send a big amount to his ailing son who is receiving treatment in India. He has decided to sell a piece of

land and made all arrangements accordingly. His only worry was to get the much-needed purcha. Now he has it, he has got it without any hassle within three working days!

This was unthinkable even a few months ago but the District E-service Centres have made this possible. From these centres, people of all the 64 districts are now receiving multiple services from the DC offices in an incredibly short time. Thanks to the government's much-talked-about Access to Information (A2I) project aided by UNDP. Earlier, for getting any documents or public services, people had to roam around the DC office for weeks and had to spend money and time. Now the conventional office services have been replaced with e-service centers equipped with information technology equipment. The total scenario of the DC offices has changed altogether countrywide. Now one can hardly find a lot of people loitering in the verandahs of different offices in the DC office compound or long queues there.

CHAPTER FIVE

SURVEY FINDING AND DISCUSSION

5.1 Rate of Responses from Email-Survey

A total of 500 e-mails were sent to target recipients of Laxmipur district. There were only 57 replies. Therefore 11.4% of replies were made available. Although it's a small set of replies but services and suggestions are significant.

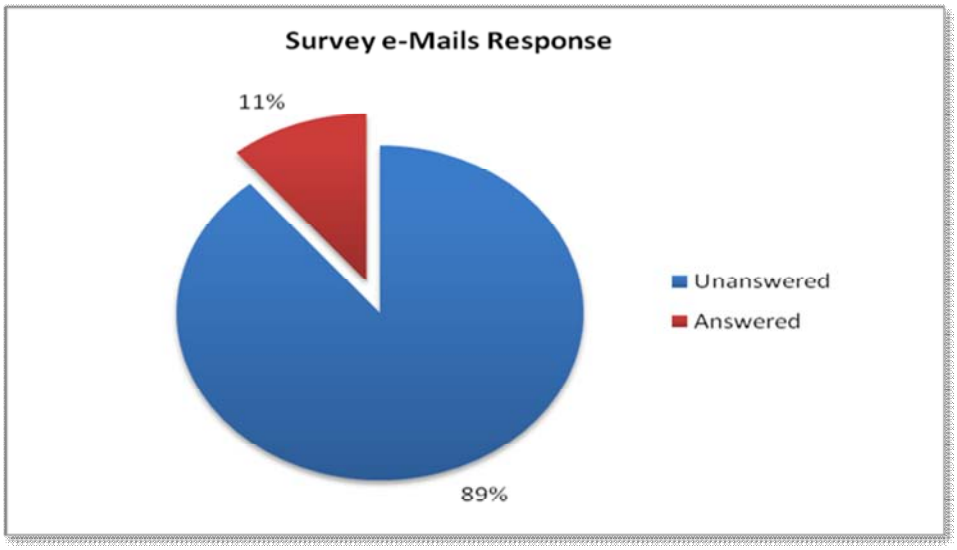

Figure 5.1: Survey Response

The survey is not intended to provide a complete picture on the actual requirements of e-Services expectations in Laxmipur. It provides an overview of particular e-Services expectations from certain population.

The following survey result presents 57 respondents. In response to every question citizens responds varyingly. Every respondent answered the first question which shows a large number of respondents are using internet in their daily routine as there were 53 such respondents. Only few people use internet alternatively. Most of the respondents want e-Services because it will save the time, money, and resources by getting increased efficiency and better communication among the citizens and Government. This shows how current generation in getting converted towards online usage. The respondents mentioned different types of barriers like lack of education and awareness, Insufficient Electricity, Political Issues, Reliability and Security, High

Internet Cost, Low Bandwidth although few of the respondents did not mention any barrier. There are some e-Services which are already available in e-Government of Bangladesh. A total of 39 respondents use these e-Services whenever they needed. These services are applying for jobs, Passport and National identity cards information services, license information, educational results, voting results, Hajj information and State bank Services. There were 18 respondents who never used any of the e-Services. All the respondents show high degree of intentions for more e-Services implementation in Bangladesh. In this response they have suggested a total of 327 e-Services of their interest. This reflects their daily routines and most common required e-Services. These services demand can stimulate further development process of e-Government services in Laxmipur.

5.2 Participation by Different Age-Groups

There were 55 services suggested by 21-25 age-group. The maximum services were suggested by age-group 26-30 which are 69 in number. The services suggested by age-group 31-35 were 41. Age-group 36-40 proposed 27 services.

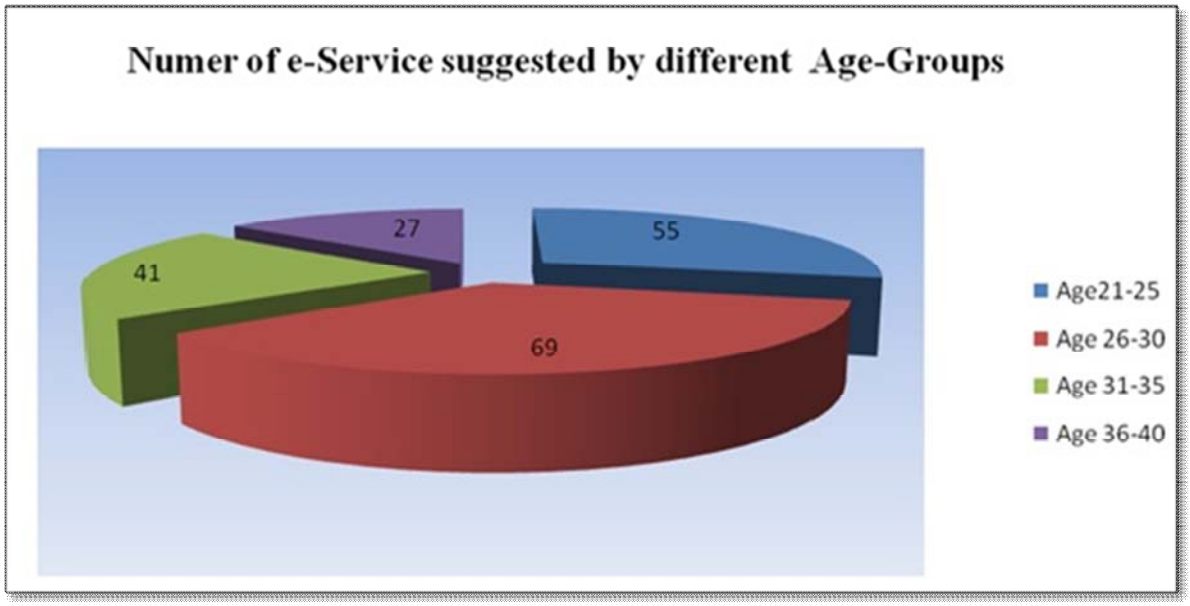

Figure 5.2 : Different age-group participation

5.3 Available e-Service and Service Demanded by Citizen

A total of 35 categories of e-Services are suggested by all respondents which have been grouped into 4 groups aging 21-25, 26-30, 31-35, 36-40 (Figure. Grouped e-Services). These contain 101

unique e-Services which are available in Appendix 2. These services can be delivered by the DESC with the help of concern ministry and related department .The services are categorized based on the response from the citizen' demand ,number of use yearly, intensity of uses (high – medium-low), Revenue Generation Chance (High-Medium-Low) of the above age group of people .

There are 44 e-Services which are suggested by the citizens as highly needed in their life, 47 e-Services are considered to be medium and 10 e-services are less needed by the citizen.

Following chart shows some of the suggested e-Services which have been divided into 35 different categories (Appendix 2). Each age-group response is represented by different colors and numbers in each bar. This shows the intensity of the uses of e-Services in each group.

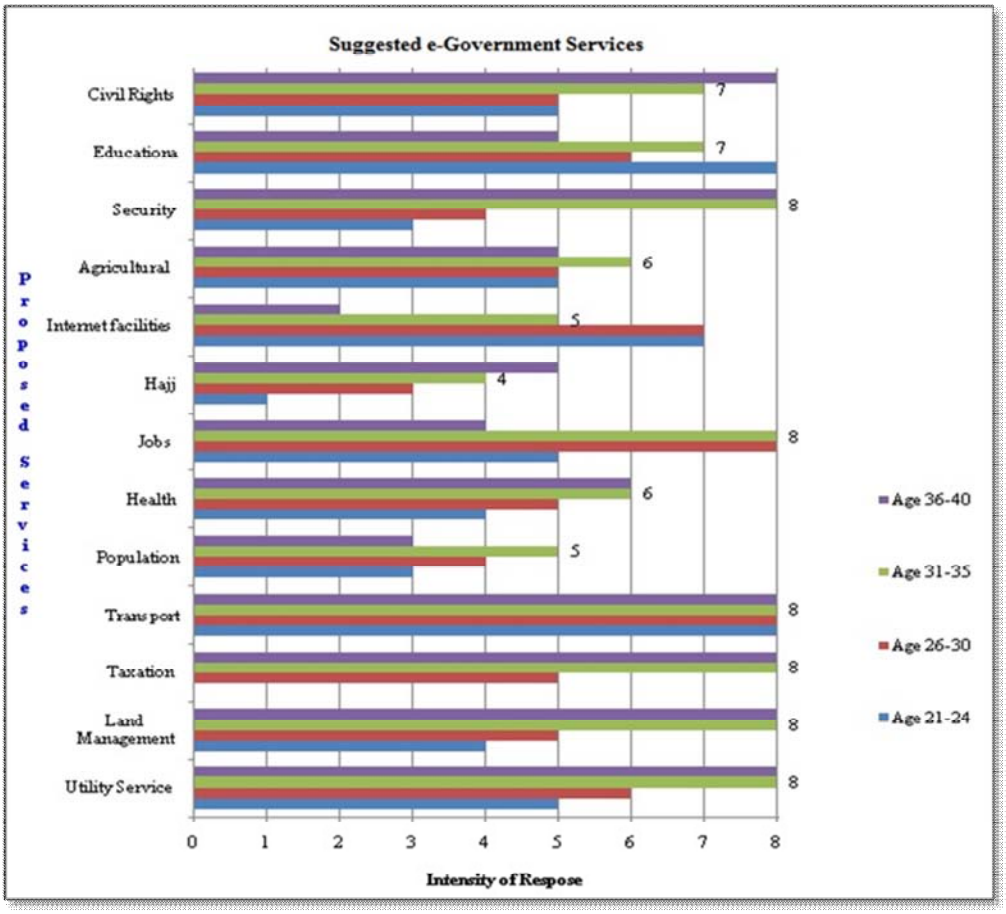

Figure 5.3: Suggested e-Services uses by different age groups.

Here it is seen Transport, Jobs, Utility services, Health, Education, Civil rights services are considered to be used more frequently but all age groups e-Services of Hajj, Population are comparatively less required. Details of e-Services are provided in appendix -2.

5.4. Citizens Choices in Laxmipur e-Government

Government services are constrained by the citizen's personnel choice which are based on different tasks and made applicable by the Government and to make improvement in access of service to citizens. e-Government has made lot of investments in this regard. (Al-Kibsi et al., 2001; Sia and Neo, 1997; Chan and Pan, 2003). This indicates that Government should take more responsibility for making these e-Services applicable by providing easy access to the citizens. This is also abstracted from survey results that Government of Bangladesh needs to identify the importance of e-service to citizens and these services should reflex the needs of citizens. The survey result locates that improvements are required for implementing e-Government services in Laxmipur district. Overall results depicts that every body is looking for e-Government facilities. Though lot of informative websites is available but still their usage is not so common. To make them publicly accessible, Bangladesh Government may need to follow a developed country like USA or New Zealand as both these countries are already using same such e-Services.

5.5 Impacts of e-Government on Stakeholders

Impact on Government Officials

- Trust and Confidence built: While stakeholders outside the government are skeptical about capability and commitment of government officials in making e-services available "at the doorsteps", government officials in general also do not believe that they can deliver. The most important contribution of e-Government training program taken by A2I is that trust and confidence has been built amongst the government officials – both at individual level and for many agencies they were institution-wide. Efforts should now be made to retain that confidence and spread it further.
- Use of ICTs by government officials: Computerization in government offices started from early 1990s. HoIver, except for clerical jobs, ICT use remained very limited, only in selective agencies. The general perception among the officers about the use of ICT was that using computers and the Internet was not appropriate for officers in an institutional hierarchy. The systematic training and sensitization by A2I was able to break that mindset for many officials sitting in critical positions of the decision-making hierarchy. Most of the government officials have now their own email and they use computers for

various purposes. While the entire credit is Not A2Is, however, there is No doubt that behind the visible change, its role was very crucial.

- Contribution and Lead Role in e-service design: The combination of confidence and skills acquired through the capacity building initiatives of A2I and thorough understanding of service delivery procedure was 'magical' in designing many of the e-services in such a way that the use case analysis was of global standard and definitely 'pro-poor'. E-Government strategy to go for 'low-cost' local solutions with 'local experts' was possible to realize due to an excellent combination of leadership and know-how at the top of the bureaucracy, domain knowledge in the mid-level and technical support from A2I worked in some cases to design, develop and deliver e-services within very short time and with very low cost.

- Strategic Targeting: The strategy to create allies at the top of bureaucracy worked very Ill. Many mid-level government officials are now at decision-making levels which created champions in many ministries at the top levels.

- Ownership: Most of the successful quick win initiatives have been led and funded by individual ministries and agencies. For example, the Local Government Division (LGD) now leads the UISC initiative and the Ministry of Education (MOE) (TQI) leads the Multimedia Classroom initiative. The District One Stop e-Service centers are led by the Cabinet Division, e-Purjee is led by BSCIC, district portals by offices of the district commissioners – these are few examples of leadership at the Ministries and agencies.

Impact on People's Representatives

- Spread of Digital Bangladesh Concept: *TheA2I* initiative played an important role in spreading proper understanding of Digital Bangladesh at the grassroots level. Rather than doing it all themselves, A2I organized workshops at the PMO for the Upazila Chairmen. Subsequently, the Upazila Chairmen have been playing an important role in sensitizing local stakeholders. Along with the UNOs, the Upazila Chairmen took in general the ownership of not only initiatives by the government but also by the NGOs and private sectors. The political support makes implementation of initiatives at local levels easier. A

number of Chairmen also made financial contributions to some local initiatives, which shows their commitment to the cause of strengthening e-Government e-Services.

- Employment: The launching of 4,501 UISCs had a direct impact on employment. Under the initiative, 9,002 young people received self-employment opportunities. It is true that the selection process of the entrepreneurs is not un-questionable; however, avoiding the influence of local political leadership and others is difficult. 'Job' or 'entrepreneurship' – the confusion is there among some of the selected entrepreneurs, which needs to be addressed. The adequacy of support and demand for a 'salary' by the entrepreneurs also needs attention. These issues might be an 'Achilles heel' for a larger initiative.

The UISCs play a very important role for capacity building of youth in the community. The idea of entrepreneurship with ICTs inspires other young people in the community to start their own ICT shop.

5.6 Barrier to E-Government Service

Technical Staff and Government Officers

An important finding of survey was that more technical staff should be employed in Governmental departments to get better utilization of full possible potential of e-Government for the citizens. Many respondents told that Government staff and politicians should work more efficiently. The allocation of budget should be utilized in proper way. This will enhance the usage of different e- services provided by the Government and their utilization level will rise. The low Internet access, IT illiteracy in Government employees and their inadequate usage also causes in its widespread application. According to (Journal of Global Information Management) developing countries does not have a staff, or has very limited in-house staff. 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

Time and Resources

Survey Findings also show by using more efficient and effective e-Services, citizens will increase their productivity in routine work, by saving time, money and resources. Some of respondents are looking for informative services but most of respondents mentioned both

informative and interactive services. Many respondents asked there should be one portal for all the Government departments as (Richard Kerby, 2005, pp 1) said about this in the key challenges faced by governments

Infrastructure and Awareness

Another important finding of survey was that challenges from the new technological revolution and infrastructure problem. As most of our respondent said the key barrier for implementing e-Services in Bangladesh is its infrastructure. According to them, to facilitate the effective Communication there should be proper infrastructure having easy, reliable and culturally feasible e-Services. They suggested citizen awareness training programs and certain benefits for the promotion and increased usage of theses e-Services along with low cost Internet facilities. According to the Journal of Global Information Management, infrastructure is also an issue for developing countries in term of e-Government usage. Citizen e-Services have been a key challenge for the Government. The survey results show there should be involvement of such channels to make citizens Ill-aware which will increase their skills and knowledge about e-Service. For example media can play role in this regard, educational training programmes are also there.

5.7 Future Plan for Capacity Building of E-Government

Initiatives have been taken to integrate the services from the DC offices and UNO offices so that citizen can apply for any kind of public services from anywhere. The project has started identifying the services available at DC and UNO offices and designing for Business Process Simplification (BPS). The initial Proof of Concept (POC) is being installed at 8 Upazillas of Jessore District. It is expected that this will be installed soon in Laxmipur Districts as well to give better e-services to the citizen.

5.8 Summary of Survey Findings

The summary of all the information which was collected during the survey can be viewed as follow:

Table 5.1: Survey Summary

Area	**Findings Main**
Internet Usage	□□□□All the respondents have experience for internet usage □□□□93% of the respondents use internet daily □□□□Remaining 7% are using it alternatively □□□□This indicates the large number of citizens are using internet which will increase the online usage of e-Services and their value in the social arena □□□□More online service conversion demands
e-Services essence Barriers	□□□□Every respondent is interested to have e-Services □□□□They know about the potentials of e-Services by saving time, money, resources ultimately getting more efficiency and satisfaction □□□□Bangladesh is a developing country having less resources and infrastructure problems □□□□The major issues are i. Lack of education and awareness ii. Insufficient Electricity iii. Political Issues iv. High Internet Cost with Lower Bandwidth v. Reliability and Security vi. Infrastructure problems vii. Technology and Trained Stuff viii. Economic issues
e-Services Usage	□□□□Citizens are not able to find the needed e-Services either in the form of informative or interactive e-Services so availability and awareness are still important issues □□□□Besides above mentioned problems Government is still providing some e-Services □□□□According to respondent's result few of them are using the provided e-Services.
Intention	□□□□Every respondent has recommended that there should be e-Services from e-Government. □□□□68% respondents use available e-Services when they needed □□□□32% have not used any e-Services

CHAPTER SIX
RECOMMENDATIONS AND CONCLUSION

6.1 Recommendations

As Bangladesh proceeds boldly to implement it's ambitious and yet achievable digital Bangladesh vision 2021 priorities through e-Government and e-Services, it faces several challenges. These are precisely the areas where the government needs to work with the development partners to gather international best practices, transfer technology and knowhow to the government, and build institutional capacity. It must be realized by both the government and the development partners that e-Services have emerged as a non-threatening approach to catalyze, not force, administrative reform through various productivity enhancement tools and knowledge management platforms, but most importantly, by providing a natural vehicle for re-engineering business processes both for service delivery and for administrative decision making.

6.1.1 Human resource development

The policy makers in Bangladesh have woken up to the reality that 'Humanware' is far more important than hardware and software to realize the e-Government services. The HRD challenge appear in different forms: first, the service providers especially the government must be much more aware of the service delivery options and benefit ICTs present; second, the government officials must embrace ICTs in their day to day work – the younger officers seem must more amenable to developing an ICT work culture; third, the general literacy of the population being less than 50% presents a significant challenge in adoption of computer technologies (and, for this reason, adoption using mobile phones, TV, radio at the general user end is far more realistic in the short term. however, in the long term, meaningful adoption and multiplier effect in service delivery, employment creation, among many other areas of ICTs, will depend on uplift men of general literacy in the country.) the development partners already working on primary and secondary education will be able to create larger impact by focusing on e-learning and ICT literacy. the creation of one of the largest voter id databases in the world in just one year proves that a pool of secondary and higher secondary students embrace ICTs with avid interest and successfully accomplish a mammoth task. The development partners focused on skills enhancement in the civil service need to take a change management approach and focus on peer learning and ultimately institutional capacity development described in the next section.

6.1.2. Financial allocation and institutional capacity

The still lacking institutional capacity to identify, design and manage ICT-based projects within the government deters the policy makers to allocate significant budgets that would be required to implement e-Government. some of the demonstration initiatives called ‘quick wins’ facilitated by the access to information (a2i)programme and other programmes such as managing at the top (matt-2) are recently creating an appetite for calculated risk-taking for larger ict-based projects within the civil service. Institutional capacity must be enhanced to formulate conducive policies and procedures as Ill. the change agent network of secretaries, e-governance focal points, deputy commissioners and upazila nirbahi officers that is systematically being developed by intervention of the prime minister’s office and ministry of establishment may be leveraged by the development partners in developing change management leadership and institutional capacity.

6.1.3 Affordable connectivity

The cost of internet connectivity is still one of the highest in the region and is Ill below the affordability of the common citizen. Broadband access is still in its infancy because of lacking last mile connectivity and high cost of access. Development of a policy for universal service fund is still an area of exploration.

6.1.4 Locally relevant and local language content

The new media and internet open up the user to a world of information and knowledge, but unfortunately, very little is in the native language and much of the content is not locally relevant, contextually meaningful or culturally sensitive to the teeming millions.

6.1.5 PPP framework

It is seen that ICT projects especially e-governance or e-service delivery projects tend to sustain themselves much better when the private sector takes a financial stake.Such public-private partnerships minimizes risk on the government side and creates natural incentives on the private side to ensure the quality of service and responsiveness to citizens. A PPP framework that complies with public procurement rules 2008 to accommodate ICT projects is still very much in its infancy.

6.1.6 Reliable and continuous power

The country currently suffers from a chronic shortage of about1, 500 mw of power. in locations of the country, power is not available when it is needed to conduct a digital porgramme such as during office or school hours. with digital Bangladesh implementation, this shortage will one hand impede progress of digitalization, and on the other, will make the power shortage more acute unless power generation can be boosted in the short term.

6.1.7 Legal reform for businesses and consumers

e-Government based service delivery requires modifications to many existing laws. Several development partners are already working on legal reform. Such effort may be linked to the reform necessitated by digital Bangladesh efforts for larger impact.

6.1.8 Branding Bangladesh as a software outsourcing destination

Bangladesh has high potential manpower in outsourcing which needs international market access. International market access is a critical factor and mandatory for outsourcing .Some young boys and girls are working in this sector but compare to our neighboring country like India it is not satisfactory . it has been found that NRBs (non resident Bangladeshis) have played a significant role in branding Bangladesh as a high potential country for outsourcing .In majority of cases with respect to successful export in key markets, particularly in USA, Japan and Australia, the NRB entrepreneurs have played the main role in creating market access. However, this linkage remains person dependent and very small at a national level. With Every DC office involvement in creating individual entrepreneurship a national momentum for huge foreign currency earning and country branding is very much possible. a distinct focus on ITES (Information Technology Enabled Services) is necessary for two simple reasons: one, ITES industry can employ far more people than the software industry, and two, the country has tens of thousands of available unemployed resources who can be gainfully employed in the ITES sector. Every public agency is required to ensure full-time ICT manpower for system maintenance and regular update of organization’s website. Government set-up a central body for Research &Development (R&D) in order to achieve the quality and sustainability of the emerging new e-Services with better citizen satisfaction that they will deliver.

6.2 Conclusions

This writing contributes exposing various initiatives, challenges, prospects of e-Government and e-Services in our country keeping special focus on Laxmipur District .It is seen that Laxmipur DC Office though new in giving e-Services is doing quite well and is improving day by day .There is no policy barrier at the moment as steps has been taken to solve the existing problems by A2i and Government.

Government should concentrate more on developing integrated and interoperable systems which will lead to provide efficient public service delivery. In fact, interoperable systems will help the government bodies to attain transparency as well as accountability, and thus will benefit the society as trust in government services may increase. On the other hand, some e-Services will create greater scope for the government to generate more revenues, while citizens will benefit from prompt and improved service delivery. However, the e-Services in Bangladesh are becoming steadily more mature. The assessed level of maturity may possibly be used as a benchmark to measure periodically the comparative progress of Bangladesh in e-Service development. The writing will create further scope for developing a temporal benchmarking model for assessing the progress of e-Service development in our country compared to neighboring countries.

6.3 Future Research

This can be extended in future to examine how can be certain e-Services implemented successfully with a more participatory way. By identifying various factors for example reliability, availability of resources and societal needs etc. can be discussed individually, coming up with their strengths and weaknesses. This will offer certain guidelines for the successful implementation. Another study can be made in this area, how to Government to Citizen (G2C) e-Services utilization can be increased in the society? In this regard special measures like certain promotions, highlighting different benefits can be explored in detail to improve the citizen's awareness about G2C e-Services.

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APPENDIX 1

e-Government Services in Bangladesh Questionnaire

Survey Purpose: e-Services in e-Government have been used and implemented in most of the countries and its usage continuously increasing. e-Government today allows countries like Bangladesh to leapfrog over multiple generations of technology to deliver efficient and cost effective public services to citizens. Here the purpose of e-Government practice - carried out by Haroon and Waqas students of Master Programme in Systems Sciences at Lulea University of Technology, is to evaluate what kind of e-Services are required by the citizens of Bangladesh from Government.

e-Government: e-Government is defined as the usage of Information and Communication Technologies (ICT) to support processes within the Government as Ill as for the delivery of Services to its consumers, including other organizations, citizens as well as businesses.

e-Service: An e-service is a piece of software that is part of the Government web system and whose aim is to automate or partly automate one particular administrative process. This process can be triggered by a request from a citizen.
e-Services can be used electronically for all interaction between citizens and government agencies, availing services from the government, understanding the status of work in progress and accessing results of the process. e.g. Obtaining birth certificates, requesting a vehicle registration, applying for unemployment benefits, paying a parking fine, issuing a complaint on the performance of the agency's staff etc.

Types of e-Services: There are two basic types of e-Services in e-Government :i. Informative e-Services ,ii. Interactive e-Services

Informative Service: How and what information citizens can access through e-Government portals. e.g. Online access market rates for farmers, forecast of possible pest attacks, Iather forecast, education related information, Multilingual Portal, Job notifications etc.

Interactive Service: How and in what e-enabled processes can citizens use e-Government to

Interact with Government agencies (here user normally gives some input and gets relevant Information). e.g. including online submission of Hajj applications, routine automations like application processing and notification, travel planning, registering child birth, registering death, renewing driving licence, paying online taxes. etc.

Please answer as many of the following questions as possible. You can add more space if required. It will be highly appreciated for your comments and suggestions.

1.**How often, do you use Internet?**

Daily weekly

Monthly Yearly

2.**Why do you think there should be e-Services by the Government of Bangladesh to the citizens?**

3.**Do you think, there are barriers in implementing Governmental e-Services in Bangladesh?**

Yes No

4.**If yes to question 3, please mention what kind of barriers these are?**

5.**Have you ever used any e-Service(s) provided by the Government of Bangladesh? If yes, please write down their names**

6.**How often, do you use e-Services from The Government?**

7.**Do you think that Bangladesh Government should implement more e-Services for citizens?**

8.**Please mention activities or e-Services which you think must be added in the e-Government. (Add as many as u think)**
e.g. Getting renewal of Passport, getting National Identification Card, Paying Tax, Health and Care registration, Online Voting System etc.

9.**Pleasegiveyour comments or suggestions about Government to citizen e-Services in Bangladesh?**

10.**Please provide your details**

a) Name:

b) Age Group

- 21-25
- 26 – 30
- 31 – 35
- 36-40

c) Gender

- Male
- Female

d. Occupation:

e. Country:

f. Duration spent in Bangladesh:

g. e-Mail:

Note: Your personal detail will be kept confidential and will not be used for any other purpose.

Thanking you with anticipation

Md.AbdulWahabRashed

APPENDIX 2

Comprehensive list of possible e-Government services :This comprehensive list of possible e-Government services is done for identifying some potential e-Government services considering some parameters given in the table:

General Category	Possible Services	Responsible Entity	Ministry	PublicDemand High-Medium-Low	Number of Use Yearly	% of Total Citizens Use High-Medium-Low	Revenue Generation Chance High-Medium-Low
Utility Service Electricity	Line connection & maintenance	DESA, DESCO & REB (all are under	MoPEMR	High	Unknown	Medium	Medium
	Bill payment	DESA, DESCO & REB (all are under BPDB)	MoPEMR	High	12	High	High
Utility Service Gas	Line connection & maintenance	Titas Gas, BGSL, JGTDSL (all are under BOGC/Petrobangla)	MoPEMR	High	Unknown	Medium	Medium
	Bill payment	Titas Gas, BGSL, JGTDSL (all are under BOGC/Petrobangla)	MoPEMR	High	12	High	High
Utility Service Telephone	Line connection & maintenance	BTCL	MoPT	High	Unknown	Medium	Medium
	Bill payment	BTCL	MoPT	High	12	High	High
Utility Service Water & Sewerage	Line connection & maintenance	DWASA & Local Municipality	MoWR	High	Unknown	Medium	Medium
	Bill payment	DWASA & Local Municipality	MoWR	High	12	High	High
Land Management	Land survey	DLRS	MoLand	High	Several times	High	High
	Land record	DLRS	MoLand	High	Several times	High	High
	Land mapping	DLRS	MoLand	High	Several times	High	High
	Land registration	Directorate of Registration	MoLaw	High	Several times	High	High
	Land mutation	Directorate of Registration	MoLaw	High	Several times	High	High
	Tax payment	Directorate of Registration	MoLaw	High	Several times	High	High
Construction Management	Land Use Permission	RAJUK	LGRD	Medium	Unknown	Low	Low

	Issuance of Clearance Certificate for Building Design	CDA	LGRD	Medium	Unknown	Low	Low
Document Registration & Legislation	Stamp duty	District Registrar and Sub-Registrars (under Directorate	MoLaw	Medium	Unknown	Medium	Medium
	Registration fees	District Registrar and Sub-Registrars (under Directorate of Registration)	MoLaw	Medium	Unknown	Medium	Medium
	Affirm the affidavit	District Registrar And Sub-Registrars (under Directorate of Registration)	MoLaw	Medium	Unknown	Medium	Medium
Taxation	Income Tax & Return (individual & company)	Tax Commissioner's Office (under NBR)*in the district.*	*Internal Resources Division (IRD) of the Ministry of Finance (MoF)*	High	1 - 12	High	High
	Online Taxation System Services Yearly income tax returns	Tax Commissioner's Office (under NBR)*in the district.*	*Internal Resources Division (IRD) of the Ministry of Finance (MoF)*	High	1	High	High
	Income Tax Records Tax Calculation	Tax Commissioner's Office (under NBR)*in the district.*	*Internal Resources Division (IRD) of the Ministry of Finance (MoF)*	High	1	High	High
	VAT (individual & company)	Tax Commissioner's Office (under NBR)*in the district.*	*Internal Resources Division (IRD) of the Ministry of Finance (MoF)*	High	1 - 12	High	High
	Payment of large taxes	LTU	*Internal Resources Division (IRD) of the Ministry of Finance (MoF)*	High	1 - 12	High	High
	Holding Tax Payment	City corporations, municipalities	LGRD	High	1	High	High
	Land Tax Payment	DC Offices	Cabinet Division	High	1	High	High
	Money Order Service	Postal Department	*Ministry* of Posts and Telecommunicat-ion	High	Unknown	High	High
	TIN/BIN providing	Tax Commissioner's Office (under NBR)*in the*	*Internal Resources Division (IRD) of the Ministry of Finance (MoF)*	High	1	High	High
Company Registration & Legislation	*Trade license & Renewal*	*RJSC*	*Ministry of Commerce*	*High*	*Unknown*	*Medium*	*Medium*
	Company registration & Renewal	*RJSC*	*Ministry of Commerce*	*High*	*Unknown*	*Medium*	*Medium*
	Online audit documents	*RJSC*	*Ministry of Commerce*	*High*	*Unknown*	*Medium*	*High*
	Registration of Livestock Farms	*Department of Livestock*	*MoFL*	*Medium*	*Unknown*	*Medium*	*Medium*
NGO	*NGO registration & Renewal*	*NGO Bureau &DoSW*	*MoSW*	*Medium*	*Unknown*	*Medium*	*Medium*

	Project approval & Management	*NGO Bureau &DoSW*	*MoSW*	*Medium*	*Unknown*	*Medium*	*Medium*
	Online audit documents	*NGO Bureau &DoSW*	*MoSW*	*High*	*Unknown*	*Medium*	*High*
BSTI	*Registration & Quality Certification*	*BSTI*	*MoIndustries*	*High*	*Unknown*	*Medium*	*High*
	Various payments	*BSTI*	*MoIndustries*	*High*	*Unknown*	*Medium*	*High*
Transport - Bus	*Bus Ticket Selling and Booking*	*BRTA & BRTC (both are under Roads & Railways Division), BRTOA*	*MoCommunications*	*High*	*Frequently*	*High*	*High*
Transport - Railway	*Train Ticket Selling and Booking*	*Bangladesh Railway (under Roads & Railways Division)*	*MoCommunications*	*High*	*Frequently*	*High*	*High*
Transport - Motor Vehicle	*Registration*	*BRTA (under Roads & Railways Division)*	*MoCommunications*	*Medium*	*Unknown*	*Medium*	*Medium*
	Issue and Renew motor driving licenses	*BRTA (under Roads & Railways Division)*	*MoCommunications*	*Medium*	*Unknown*	*Medium*	*Medium*
	Issue and Renew route permits of commercial	*BRTA (under Roads & Railways Division)*	*MoCommunications*	*Medium*	*Unknown*	*Medium*	*Medium*
	Fitness certificates	*BRTA (under Roads & Railways Division)*	*MoCommunications*	*High*	*Unknown*	*Medium*	*High*
	Collection of fees and taxes	*Postal Department only collect money, main agency BRTA (under Roads &*	*MoCommunications/ MoPT*	*High*	*Unknown*	*Medium*	*High*
Population	*Telephone Directory*	*BTRC, BTCL*	*MoPT*	*High*	*Several times*	*High*	*Medium*
	Birth & death registration	*City corporations, Local municipalities*	*LGRD*	*High*	*Unknown*	*High*	*High*
Health	*Providing blood bank facility*	*DGHS*	*MoHFW*	*High*	*Unknown*	*High*	*High*
	Health care information and management	*Health agencies, NGOs*	*MoHFW, MoSW*	*High*	*Frequently*	*High*	*High*
	Telemedicine	*Health agencies, NGOs*	*MoHFW, MoSW*	*Medium*	*Frequently*	*High*	*Medium*
Government's Financial Support/ Social Safety AllowaSnce	*Old age allowance*	*DSS*	*MoSW*	*High*	*12*	*Medium*	*Low*
	VGD and VGF card	*DRR*	*MoFDM*	*High*	*12*	*Medium*	*Low*
	Freedom fighters allowance	*FFWT*	*MoLWA*	*High*	*12*	*Medium*	*Low*

	Maternity allowance	*DWA*	*MoWCA*	*High*	*12*	*Medium*	*Low*
Procurements	*e-Procurements*	*Various agencies*	*Various ministries*	*High*	*Unknown*	*Medium*	*High*
Jobs	*Applying for jobs Online*	*Bangladesh Public service commission*	*Ministry of public administration(MoPA)*	*High*	*unknown*	*High*	*Medium*
	Job Opportunities	*Bangladesh Public service commission*	*Ministry of public administration (MoPA)*	*High*	*unknown*	*High*	*Medium*
	Recruitment Services	*Bangladesh Public service commission*	*Ministry of public administration (MoPA)*	*High*	*unknown*	*High*	*Medium*
	Online Job Portal	*Bangladesh Public service commission*	*Ministry of Science and Technology (MoST)*	*High*	*unknown*	*High*	*Medium*
	Job information services	*Bangladesh Public service commission*	*Ministry of public administration (MoPA)*	*High*	*unknown*	*High*	*Medium*
	Manpower services	*Bureau of Manpower Employment and Training*	*Ministry of Expatriates' Welfare and Overseas Employment*	*High*	*unknown*	*High*	*High*
Natinal ID Card	*Applying for NIC, NADRA*	*District Election Commission's office*	*Election Commission Secretariat*	*High*	*1*	*High*	*Medium*
	NIC information	*District Election Commission's*	*Election Commission Secretariat*	*High*	*1*	*High*	*Medium*
	Issue and Renewal of NIC	*District Election Commission's*	*Election Commission Secretariat*	*High*	*1*	*High*	*Medium*
	NIC Verification (New and Old)	*District Election Commission's office*	*Election Commission Secretariat*	*High*	*1*	*High*	*Medium*
	Paying NIC Fee	*District Election Commission's*	*Election Commission Secretariat*	*High*	*1*	*High*	*Medium*
Citizen Directory	*Getting Citizen Particulars*	*Different Department under ministry*	*Ministry of Social Welfare (MCW)*	*High*	*unknown*	*Medium*	*Low*
	Changing of Addresses	*Different Department*	*Ministry of Social Welfare (MCW)*	*High*	*unknown*	*Medium*	*Low*
	data centre for related wholepopulation information	*Different Department under ministry*	*Ministry of Social Welfare (MCW)*	*High*	*unknown*	*Medium*	*Low*
Hajj	*Hajj applications Online Hajj service and booking*	*Hajj Agencies, Hajj office & mission (Dhaka, Jeddah, Makkah, Madina)*	*Ministry of Religious Affairs (MoRA)*	*High*	*Generally 1 in a life time*	*Medium*	*High*
Banking	*Online Banking Services*	*Bangladesh Bank*	*Ministry of Finance: Finance Division (MoF)*	*High*	*unknown*	*High*	*High*
Travelling	*Online Booking for Travelling*	*The BangladeshParjatan Corporation (BPC)*	*Ministry of Civil Aviation and Tourism(MoCAT)*	*High*	*unknown*	*Medium*	*High*
	All kinds of Reservations	*The BangladeshParjatan Corporation*	*Ministry of Civil Aviation and Tourism(MoCAT)*	*High*	*unknown*	*Medium*	*High*
	e-Ticketing Services	*The BangladeshParjatan Corporation (BPC)*	*Ministry of Civil Aviation and Tourism(MoCAT)*	*High*	*unknown*	*Medium*	*High*

Internet facilities	*Low Price Internet Service*	*Bangladesh Telecommunication Regulatory Commission(BTRC)*	*Ministry of Science and Technology (MoST)*	*High*	*Often*	*Medium*	*High*
	Internet facility Services	*Bangladesh Telecommunication Regulatory Commission(BTRC)*	*Ministry of Science and Technology (MoST)*	*High*	*Often*	*Medium*	*High*
Agricultural	*Agricultural Reforms and Bank Loans*	*Bangladesh Agricultural Development Corporation (BADC), Bangladesh Agricultural Research Institute (BARI)*	*Ministry of Agriculture (MoA)*	*High*	*Often*	*High*	*High*
	Farmer Education Trainings	*Bangladesh Agricultural Development Corporation (BADC)*	*Ministry of Agriculture (MoA)*	*High*	*Regularly*	*High*	*High*
Hotline/ Helpdesk	Hotline support or Online helpdesk for various public queries	BTRC	MoPT	High	Frequently	Medium	Medium
ID & Signature	Digital ID and Signature	BCC	MoSCIT	High	Unknown	Medium	Medium
Agricultural & Livestock Information	Information on market price (crops, livestock, fertilizer & pesticides etc.), product, vaccination for poultry and livestock, new investment, business models, new technologies etc.	BARC, DAM, DAE	MoA, MoFL, MoIndustries,	High	Several times	Medium	Low
Online citizen participation portal	Public participation for Govt.'s performance indication, submission of civil petitions, public proposals, policy discussions, community clubs etc.	BCC	MoSCIT	Low	Unknown	Low	Low
Election	Voter enlistment and renewal	*District Election Commission's office*	*Election Commission Secretariat*	High	Unknown	High	Medium
	Political party registration, Candidate registration	*District Election Commission's office*	*Election Commission Secretariat*	Low	Unknown	Low	Low
	Online voting for national and local level elections	*District Election Commission's office*	*Election Commission Secretariat*	Medium	Unknown	High	Medium
Civil notice & service	Certified copy of court cases & complaints	Chief Metropolitan Magistrate's Office, Supreme Court, High Courts, District courts	Cabinet Division, MoLaw, MoHA	High	Many times	Medium	High

	Issuance of Judicial and Non judicial Stamp and Court Fees	DC Offices	Cabinet Division	Medium	Unknown	Low	Low
	Car Tickets	Traffic Division of DMP/ Police Headquarter	MoHA	\ High	Frequently	Medium	High
Security	Entry of general diary & case filling	Crime and Operations Division of DMP/ Police Headquarter	MoHA	High	Unknown	Medium	Low
	Filing of civil cases	District Judge Court	MoLaw	High	Unknown	Medium	Medium
	Issuance/Renewal or arms and ammunitions licenses	DC Offices	Cabinet Division	Low	Unknown	Low	Low
	Immigration support (e.g. No Objection Certificate)	Police Headquarter	MoHA	Medium	Unknown	Low	Low
Passport	Passport Issue	District Passport Office or DC Office	MoHA	Medium	Unknown	Medium	Medium
	Passport Renew & Correction	District Passport Office or DC Office	MoHA	Medium	Unknown	Medium	Medium
VISA	VISA Issue	Consular and Welfare Wing	MoFA	Medium	Unknown	Low	Low
	VISA Extension & Correction	Consular and Welfare Wing	MoFA	Medium	Unknown	Low	Low
Educational Service	Registration for admission, Issuance of admit card and Publication of exam result	DPE, DSHE	MoPME,MoEdu	High	Several times	High	High
	Online certificate	DPE, DSHE	MoPME,MoEdu	High	Unknown	High	High
	e-Learning tool kits and training materials	BCC, BRDB	MoSCIT, LGRD	Medium	Several times	Medium	Medium
	Information And registration for higher education, scholarship & research opportunities etc.	DSHE	MoEdu	High	Several times	High	High
	Payment of stipend to the	DPE, DSHE	MoPME, MoEdu	High	Several times	Low	Low
Civil Rights	Services to citizens (e.g. Inform about human rights, democracy development)	Bangladesh Parliament	MoLaw	High	Unknown	Medium	Low