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e-Government as a Tool to Promote Transparency and Openness: The Case of Bangladesh

A thesis submitted in fulfilment of the requirement for the degree of

Doctorate of Philosophy

by

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Statement of Authorship

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Executive Summary

The concept of e-Government has emerged rapidly in the developing world to establish citizen-centred government. The Bangladesh Government has also concentrated on introducing e-Government as a part of existing governance reform through the use of ICT. This study is a comprehensive investigation of the effects of e-Government on transparency and openness through greater information flows in the public sector. Bangladesh encounters a multiple form of governance challenges, including corruption, malfunctioning public management and lack of transparency and accountability in public decision making and delivery of public services. Transparency and access to information is a prerequisite for strengthening governance mechanism in this context. The potential benefits of e-Government in Bangladesh largely depend on the establishment of accessible ICT infrastructure to provide online services. However, the existing body of knowledge on assessing e-Government's impact on transparency in the public management is scanty. No significant prior study of the use and impact of e-Government in improving transparency and openness from a developing country perspective is known. Hence, this study was undertaken to address this gap in the literature. Further, it investigates the drivers and obstacles to the successful implementation of e-Government.

This exploratory, qualitative research involved detailed case studies with two organisations selected from amongst nine implementing e-Government initiatives across the public sector in Bangladesh and made use of diverse data sources. Findings from these case studies support the benefits that e-Government can achieve transparency and openness in the government system when technological integration involves constant engagement between service providers and the users to 'join up services'.

The major theoretical contribution of this thesis builds on the 'Technology Enactment' theory of Fountain (2001). Although developed in an Anglo-American context, Fountain's 'technology enactment' is reflected this study which uses her theory as an analytical framework to study the information-based changes in the organisations studied. The thesis identifies several factors affecting successful implementation of e-Government development in this context, including the role of political leaders and improvement of infrastructure

capacity. Public-private partnership e-Government projects offer the potential of new knowledge and skills, financial support, and performance accountability. However, caution should be taken to fair play the role of the private partners within the purview of PPP.

Finally, the thesis finds that the implementation of e-Government necessitates crafting strategies that affect the structures and processes of the government and demand large amounts of scarce resources, money, skills and commitment of the political leaders, public sector leaders and managers.

Dedication

I dedicate this thesis to my parents, Abdur Rashid Sarker and Sayera Khatun who are no longer in the world but always dreamt of my undertaking a Ph.D.

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When I came to Australia four years ago, it was indeed a bit obscure as well as thrilling to me to start a new life with my two little daughters. However, following the submission of the thesis, I came through new insights in my academic as well as the whole life perspective. First of all, I would like to dedicate this thesis to those who helped make this thesis a reality.

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Glossary

ACC- Anti-Corruption Commission

ADB- Asian Development Bank

ADP- Annual Development Program, prepared by the Planning Commission, Bangladesh It is the budget for annual development under which many projects are undertaken.

A2I- Access to Information Access to Information Program

AGIMO - Australian Government Information Management Office

APSA- American Political Science Association, a society of experts, students of political science, academics and researchers in the United States.

ASYCUDA- Automated System for Customs Data to increase efficiency and effectiveness of customs service delivery

ATM- Auto Teller Machine

BAC- Bureau of Anti-Corruption

BANBEIS- Bangladesh Bureau of Educational Information and Statistics

BASIS- Bangladesh Association of Software and Information Services

BCC- Bangladesh Computer Council

BCE- Before the Common Era, also *Before the Current Era*, a secular alternative to BC (Before Christ)

BCS- Bangladesh Computer Society

BDT- Bangladesh currency

B/E- Bill of Entry, a formal declaration of goods which are being imported or exported

BEI- Bangladesh Enterprise Institute

BGMEA- Bangladesh Garment Manufacturing and Export Association

BOT- Build Operate Transfer, an arrangement wherein the private sector develops an infrastructure, operates it and finally transfers ownership of the project to the government

BOOT- Build-Own-Operate and Transfer, an arrangement by a private developer for establishing an infrastructure. The private body owns and operates the project for a fixed time frame following which ownership is shifted to the government without compensation (Raihan, 2010).

BOI- Board of Investment

BR- Bangladesh Railway

BTRC- Bangladesh Telecom Regulatory Commission

BTTB- Bangladesh Telephone and Telegraph Board

CARD- Computer-Aided Administration of Registration Department

CCCI- Chittagong Chamber of Commerce and Industry

CEG- Council for Excellence in Government, a non-profit, non-partisan organisation established in 1983 in USA. It aims to continuously progress performance at all stages of the government; and government's position in the lives, values and esteem of American citizens (Alyssa, 2009).

CCH- Chittagong Custom House

C&F- Clearing and Forwarding Agents

CIDA- Canadian International Development Agency

CMS - Central Management System

CPI- Corruption Perception Index, quantifies the perceived intensity of public-sector corruption in 180 nations and regions across the globe. The CPI is known as "survey of surveys" on basis of 13 different expert and business surveys (TIB, 2010).

CSRTS- Computerised Seat Reservation and Ticketing System in Bangladesh Railway

CVC- Central Vigilance Commission in India started an initiative to create a website with the objective of reducing corruption and increasing transparency by sharing a large amount of information related to corruption with citizens

CWCS- Computerised Wagon Control System in Bangladesh Railway

DCC- Dhaka City Corporation

DDN- Digital Data Network, shares data within and outside organisations which coordinates works efficiently and effectively.

DFID- Department for International Development, a United Kingdom government department. The main objective of the department is to advance sustainable development and eliminate world poverty (UKaid, 2011).

DMP- Dhaka Metropolitan Police

DCR- Duplicate Carbon Receipt, a document given to individual applicant for the right to use government owned land for a year.

DWASA- Dhaka Water and Sewerage Authority

e-Government-Electronic Government, the adoption of information technologies by the governments (for instance Wide Area Networks, the Internet, and mobile computing) enabling transformation of relations with citizens, businesses, and other agencies of government (Bhatnagar, 2004).

EDI- Electronic Data Interchange, the process of applying computers to exchange business information and documents between organizations which was performed previously by fax machines or traditional mail (Michael & Burrows, 2008).

EGM- Export General Manifest, the declaration filed according to the Customs Act is in case of export by sea

ERP- Enterprise Resource Planning, an integration of business management practices and modern technology

ESCAP- United Nations Economic and Social Commission for Asia and the Pacific

EU – European Union

FAST- Fully Automated Services for Transport established by Kerala State Motor Vehicles Department in India

FDI- Foreign Direct Investment

GoAP- Government of Andhra Pradesh

G2C – Government to Citizen, involves interaction between government and citizens

G2B- Government to Business, involves interaction between government and businesses

G2G - Government-to-Government, involves interaction between inter or intra government officials

GIS- Geographic Information System

GOB- Government of Bangladesh

ICT4D - Information and Communication Technologies for Development, implies the adoption of ICTs in socioeconomic or international development (ICDT4, 2008).

IDRC - International Development Research Centre, a Canadian organisation which facilitates researchers from the developing countries to enable them to develop more just, equitable and well-off societies (IDRC, 2007).

ICTs- Information and Communication Technologies

IGM – Import General Module, the declaration filed according to Customs Act in case of import by sea

IMF- International Monetary Fund

IOS- Interorganisational System, allows the flow of automated information between organisations in order to reach an expected supply chain management system, which enables the development of competitive organisations.

IPAA- Institute of Public Administration, Australia, a certified organisation for the public sector, basically originates the Australian public sector, local government, the university, and project-related government organizations (IPAA, 2007).

IPLC- International Private Leased Line Circuits, a point-to-point private line used by an organisation to communicate between offices across the world (Microsoft Encyclopedia of Networking, 2002).

ISD- Integrated Service Delivery, refers to the process of bringing together government services to enable citizens to access these services in a seamless fashion based on their needs

ISDN- Integrated Services Digital Network

ISP- Internet service providers, is a company that supplies Internet connectivity to home and business customers

IT- Information Technology

ITU- International Telecommunication Unit

IVR- Interactive Voice Response, a technology that automates interactions with telephone callers

JICA- Japan International Cooperation Agency

KOICA- Korean International Cooperation Agency

LAN- Local Area Network, provides networking facility to a cluster of computers near each other for instance in an office premises, a school, or a home

LDC- Least Developed Country

LGED- Local Government and Engineering Department

MAN- Metropolitan Area Network, a large computer network that usually spans a city or a large campus (Aaron & Wyndrum, 1986).

MDG- Millennium Development Goal. The UN Summit on the Millennium Development Goals ended with the adoption of a global action plan to achieve the eight anti-poverty goals (United Nations, 2009).

M&E- Monitoring and Evaluation System

MIS- Management Information System

MOSICT- Ministry of Science and Information and Communication Technology

MRP- Machine Readable Passport

MRV- Machine Readable Visa

NASPAA- National Association of Schools of Public Affairs and Administration

NBR- National Board of Revenue

NeI- National e-Government Infrastructure. Four major issues of e-Government implementation designed by the Center for International Development at Harvard University, USA (Kirkman, Osorio, & Sachs, 2002).

NGO-	Non Government Organisation
NPM-	New Public Management, a management philosophy used by governments to modernise the public sector
NSW -	New South Wales
OECD-	Organisation of Economic Cooperation and Development
OPEN-	Online Procedures Enhancement for Civil Applications
PC-	Personal Computer
PIMS -	Payroll Information Management System
PMO-	Prime Minister's Office
PMS-	Progress Monitoring System, maintains data on the key aspects of a project which are important for policy makers in ascertaining a project's progress and fund utilisation
PPP-	Public-Private-Partnership
PRSP-	Poverty Reduction Strategy Paper, portrays the macroeconomic, structural, and social policies and programs implemented by a country for a number of years to advance growth and diminish poverty (Caillods & Hallak, 2004).
PSTN -	Public Switched Telephone Network
RAMS-	Road and Bridge Asset Management System
RHD-	Roads and Highways Department
SCERIH-	Standing Committee on Ethics in Research Involving Human
SICT-	Support to ICT Task Force
SIDA-	Swedish International Development Agency
SMART -	Simple, Moral, Accountable, Responsive and Transparent. The Government of Andhra Pradesh, India in its endeavour to provide simple, moral, accountable, responsive and transparent governance to its people at the secretariat level (Bhatnagar, 2004).
SMS-	Short Message Service

TEF- Technology Enactment Framework. The concept provides the guiding framework for Jane Fountain's *Building the Virtual State*. The framework is used to analyse the implementation and impacts of information technology in public organizations (McLoughlin, Wilson, Cornford, Vaughan, & Martin, 2004).

TIB- Transparency International, Bangladesh

TIN- Tax Identification Number

UNDP- United Nations Development Programme

UNESCAP- United Nations Economic and Social Cooperation in Asia and the Pacific

UNCAC- United Nations Convention against Corruption

UNICITRAL- United Nations Commission on International Trade Law

USAID- United States Agency for International Development

UK- United Kingdom

USA- United States of America

USD- United States Dollar

VOIP- Voice over Internet Protocol, uses the Internet's packet-switching capabilities to provide phone service. VoIP has several advantages over circuit switching (International Engineering Consortium, 2007).

VPN- Virtual Private Network, uses public telecommunication networks to conduct private data communications

WAN- Wide Area Network, a geographically dispersed telecommunications network (David & Skandier, 2005).

WWW- World Wide Web, through which Internet servers facilitates specially formatted documents. The documents are configured in a mark-up language known as HTML (*HyperText Markup Language*) that maintains links to other documents and graphics, audio and video files as well (Brügger, 2010).

Publications

Conference Papers (Refereed)

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Chapter1. Introduction

1.1 Background of the Study

This thesis is about e-Government's impact on facilitating an environment for transforming government activities in the public sector in a developing country context. The thesis investigates whether governments enabled with ICTs may become more transparent and responsive to the needs of citizens and significantly more efficient. E-Government aims to provide a viable framework to create public information and services accessible and convenient through increased transparency and openness in the public administration (United Nations, 2007).

During the last few decades, the advent of globalisation and its associated developments have literally transformed the way governments are running in the increasingly complex and competitive global environment. The major two objectives, greater efficiency and better service delivery, are at the core of governments' pursuit to cope with this changing environment. However, the prospect of achieving such objectives is often thwarted by a host of challenges such as the lack of transparency, accountability and responsiveness. Among these, transparency and openness have attracted considerable attention in recent years from civil society groups and international development agencies. Bhatnagar (2004) argues that improved transparency and openness are important preconditions for achieving higher levels of accountability and responsiveness. Electronic government (e-Government) is the application of Information and Communications Technologies (ICTs) to offer government information and services and to engage citizens in democratic decision-making. Many believe that e-Government offers seamless services to bring organisations together, which results in more citizen-centric services in a cost-effective manner (United Nations, 2010a; Wescott, 2001). In the long run, this will lead to the transformation of the relationship between government and citizen. Thus e-Government implies a fundamental shift in the way public services are delivered and managed.

E-Government using ICTs is a new-found tool that has recently been added to the list of existing tools for improving traditional governance systems. E-Government may be perceived as a sub-component of e-Governance. They are used interchangeably in some of the literature (Bhatnagar, 2004), but still can be defined and differentiated appropriately. Governance is the way of guiding the society to fulfil its goals and objectives (Keohane & Nye, 2000) while government is the right authority to perform it (Riley, 2003). E-

Governance is all-inclusive, covering the whole range of relationships and interconnections in government with regard to the use of ICTs. It is a wider concept that explains the effects of technology on public administration and the interface between the government and the society, e.g. elected bodies, non-profit organisations, NGOs or private entities (Sheridan & Riley, 2006). On the other hand, e-Government is generally a narrower discipline relating to provision of online citizen services, for example e-tax, e-transportation or e-health. The incorporation of modern information technologies has the potential to streamline administrative systems and improve the provision of public service delivery (Weill & Ross, 2004). Although the extent of transparency and openness differs from country to country, both developed and developing nations are fraught with the necessity of, and demand for, greater transparency and openness. There are obstacles in the process of e-Government development, such as: resistance to change; social, cultural and political issues; legal and regulatory barriers; limited budgets, which discourage collaboration; digital divide, i.e. inequitable access to the technology; and, uneven levels of information literacy. However, no significant previous study on the use and impact of e-Government in improving transparency and openness from a developing-country perspective has been found (Sasaki, 2010; Yuen Luk, 2008).

Using a qualitative approach, this research aims to study the role of e-Government in enhancing transparency and openness in the public management in Bangladesh. It is the eighth most populous nation in the world (BBS, 2008). Its traditional governance system has apparently failed to improve transparency in the system. Recently, the Government of Bangladesh (GOB) has taken substantive initiatives to use ICTs to improve its governance structure. However, it remains to be seen whether these initiatives have already engendered any such improvements. This research will endeavour to understand the current status of e-Government policy and practices in Bangladesh and their impact on transparency and openness there.

This chapter enumerates the background, significance of the research, justification of the research, the research objectives and the research questions, theoretical underpinning of the study, provides a brief overview of research methodology, contribution of the research, the limitations of the research and the thesis outline.

1.2 Significance and Rationale of the Research

"I believe in the Information Age. The role of government is to empower people with the tools to make the most of their own lives, to tear down the barriers to that objective, and to create the conditions within which we can go forward together".

—President Clinton (Intergovernmental Advisory Board, 1999, p. Inside cover page)

Governments across the globe are introducing the use of ICTs into many of their activities. However, little is known about whether citizens in Bangladesh are receiving information and services needed or about the state-of-the-practice of e-Government, its effect on issues of transparency and openness in the public management system.

Studies to evaluate the quality of e-Government are lacking in this context. Most studies focus on quantitative measures, i.e. number of websites, decrease in response time to questions, etc. but few qualitative measures is related to its effect on the level of transparency and openness. Hence no systematic quantitative and qualitative studies on widespread use of e-Government have been found (Carbo & Williams, 2004). In addition, many socio-cultural, economic and political implications of the use of IT to provide government information and services (e.g. increased expectations of citizens for better information and services and concerns about the extent of corruption in public service delivery) have not been addressed sufficiently. Although some initiatives are being taken to develop metrics, no government officials in Bangladesh are being asked to take on e-Government responsibilities with little or no education or training, to equip themselves with the competencies needed and to update their knowledge and skills for effective e-Government implementation. This study attempts to assess the impact of e-Government programs in public sector agencies in Bangladesh.

Bangladesh faces a variety of governance challenges including corruption and lack of transparency and openness in public decision-making (Sobhan, Shafiullah, Hossain, & Chowdhury, 2004). As in other developing countries, good governance in Bangladesh is hampered by widespread corruption and the absence of better governance (Jamil, 2002; Zafarullah & Siddiquee, 2001). Transparency International's corruption perception index ranked Bangladesh as the world's most corrupt country in the last few years (TIB, 2008). As

a matter of fact, no significant initiative has been in place, a drastic action is yet to be taken to wipe out corruption from this context.

The results of the survey caution the whole nation for a massive and realistic change. This change demands the existence of a strong leadership will and commitment. Transparency in public management and fighting against corruption are essential which should be sustained over the periods. According to Sobhan *et al.* (2004, p. 6) "these problems have prompted a growing interest in practical reform initiatives". E-Government holds significant potential as a tool to assist the government in achieving its governance reform objectives. In order to improve the traditional governance system, different ICT-related initiatives have been adopted by the government involving basic computerisation to the automation of internal processes and the electronic delivery of services to the people at large (UNDP & A21, 2007).

Of late, transparency and openness has become matter of discussion and has been expressed as an important issue in the light of viewing how public management system should be pursued in developing countries, especially in Bangladesh (Bhatnagar, 2004; Stiglitz, 2001). Public officials cannot disregard and overlook the interests of the citizens in presence of greater transparency while performing their duties, simultaneously emboldening democratic participation (Kim & Cho, 2005).

Corruption is one of the major constraints for national development. Corruption primarily acts against the accountability and the rule of law as it derogates governance, deteriorates people's trust and credibility in the state, and endangers the ethical norms of state and society (Heyman & Lipietz, 1999). When corruption becomes systemic, it is difficult to discover and correct it (Pillay, 2004). Corruption undermines the integrity of the public service. Corruption, therefore, is a critical problem for public service management system.

Transparency facilitates participation and civil society oversight, which have been crucial to prevent malpractices and improve governance. This enables the citizens to actively participate in democratic decision making. However, the tradition of the public sector in a developing country like Bangladesh maintains secrecy of decision-making. People's access to public information is not guaranteed, and judicial decisions are generally not open to the public. Although civil society is rising, the government usually does not consider NGOs to follow up its decision-making.

E-Government can have a profound impact on increasing government efficiency, providing quality government services and information, reducing levels of corruption, and fostering an overall increase in transparency and accountability (Kartasasmita, 2010). It concerns a way of reform in the manner governments work, exchange information and offer services to external and internal clientele. The consequential benefits would be increased transparency, efficiency and greater convenience.

Various measures have been taken to develop the levels of transparency and openness, however, no significant previous study is known on the use and impact of e-Government in improving transparency and openness from a developing country perspective. This study investigates how e-Government is being introduced and its impact on bringing transparency and efficiency to the operation of the government.

The government feels the need to introduce e-Government in various public sector agencies for streamlining the existing governance practices. There is in fact no ideal model for governments and citizens which can provide a context for implementing services and systems using ICTs. An appropriate model is needed to: 1) know the needs of public officials and citizens; 2) understand the problems in the existing governance mechanism; 3) identify the need for improvement; 4) address strategy and policy issues; and 5) ensure the regulatory provision and protection of privacy and security.

1.3 Justification of the Research

> *"When governments work for the people — when citizens receive good basic services, and have faith in the government that is providing them — when taxes are low, and government meets public needs without maddening bureaucracy — then a large measure of political and economic stability naturally follows".*
>
> *—Vice President Al Gore (Intergovernmental Advisory Board, 1999, p. 5)*

Transparency has drawn the attention of academics from the last few decades. Article 19 of the Universal Declaration of Human Rights mentions everyone's right to "seek, receive, and impart information and ideas through any media and regardless of frontiers" (UN, 1948). The growth of the Internet and the movement for transparency and accountability in government are going together. A website as a portal can be used to disseminate information

where the users can also express their opinions to make the government more responsive to their needs. However, little research has been conducted on assessing the potential of ICTs to ensure greater transparency and accountability (Sasaki, 2010).

Transparency is the access to public information regarding government decisions and services. When citizens are provided with more information on government functionalities, and more access to that information, government officials will then be made to execute their roles more satisfactorily. The significance of transparency is highlighted in the literature (Stiglitz, 2002). Transparency is crucial for better government and good governance (IMF, 2002; Kaufmann, 2002; Kurtzman, Yago, & Phumiwasana, 2004). Freedom of information may require public organisations to provide information about their functions, services, budgets, the awarding of contracts and rewards and so on in an accessible way. Eventually, transparency may redress corruption (Reinikka & Svensson, 2005; Rose-Ackerman, 1999).

Bangladesh is one of the poorest nations in the world with diverse problems of poverty and inequality, which may affect the effectiveness of e-Government in achieving access to public information and services and enabling government officials to be responsive and accountable (Hossain, 2005; Jamil, 2002). Since mismanagement and corruption are obstacles to development and good governance, Bangladesh, has to realise the potential of ICTs and e-Government in facilitating development. ICTs can minimise the cost of accessing government information through transparent practices. It is the government's responsibility to proactively promote transparent flow of information to the public (von Waldenberg, 2004). The government's failure to deliver this essential transparency may be due to the benefits of non-disclosure as the government may benefit out of this non-disclosure.

The government needs to change the culture to more openness and transparency involving a fundamental shift in the decision-making process. Transparency can be achieved by ensuring citizen access to information by means of 'Freedom of Information'. However, enhanced transparency does not cover all unless associated with strict enforcement (Bauhr & Nasiritousi, 2010). Hence, the government's responsibility is to ensure disclosure along with appropriate behaviour. The dispute of corruption and mismanagement in the public administration in Bangladesh should be considered within a wider perspective of strengthening governance and institutional reform (Zafarullah & Siddiquee, 2001). Maladministration twists policy-process, hence, in this circumstance, strengthening

transparency and appropriate institutional motivations are essential for the control of maladministration.

The world political situation is changing, and the Internet is part of that change. To better know its democratic capacity, technology has to be applied much more prudently. According to Steyaert (2002, p. 1), e-democracy "is not about applications; it's not about the tools. It's about the changes in the system, technology, and people – the whole lot. Consequently, it's not technology alone that's going to make Internet-permeated society an e-democracy". It is widely believed that ICTs assume the potential for creating democracy transparent and open (Cisar, 2003). However, ICTs will not automatically aid democracy unless observed with broader political and behavioural changes.

Transparency and its significance can be perceived from the way it functions in government. It offers the citizen a link to decision makers. However, studies reveal that transparency alone cannot offer the desired benefits. To be effective, transparency may need to be linked with accountability mechanisms through the application of ICTs (Lindstedt & Naurin, 2010). Hence, a change in mind-set is crucial, along with political will and commitment for a pragmatic change. Introducing e-Government practices to public services is one way to improve public sector transparency. The very notion of e-Government implies visibility and accessibility, which are the key elements of transparency. E-Government is likely to transform the culture of public management in Bangladesh, and can introduce a new culture of transparency in the system to ensure equal treatment from public officials (Hossan & Bartam, 2010).

A new system is difficult to introduce into government organisations where only very limited transparency and accountability exist. E-Government is still in a nascent stage in this context. E-Government, in fact, is not just about technology, it is a matter of political choice and commitment of resources. The objective of introducing e-Government in Bangladesh should not only be for computerising the internal functions, but also be for removing intermediaries in government businesses. It is hoped when people know that information cannot be restricted or monopolised they will start demanding access to it. Public sector management in the form of transparent monitoring and disclosure mechanisms with appropriate institutional incentives, integrity of political leadership, stakeholder participation and a consensus-building approach will assist in prevention of corruption.

Participation and voice are crucial for enhancing transparency and accountability mechanisms.

Evidence supports that a state with benevolent and transparent public institutions offers good governance. A number of studies demonstrate how transparency affects performance and responsiveness in government. There is a positive relationship between transparency and trust in government (Kaufmann, 2002). The history of good governance is linked with the role of ICTs in raising transparency and accountability (Shim & Eom, 2009). Technology has created better access to information and citizen participation. However, governance issues encounter numerous challenges to this process. It is important to have a well-established ICT infrastructure in Bangladesh.

Transparency, accountability and democratic participation are political issues (Bauhr & Nasiritousi, 2010). Increased participation and communication are the two basic tenets of transparency. Transparency and access to information enable people to create more informed decisions. Lack of access to information and transparent practices hamper the objective of monitoring government effectiveness. Citizens need access to information, without which corruption pervades (Sasaki, 2010). When a citizen's access to information is denied by the government, corrupt behaviours might tamper with clear institutional goals. Thus access to information laws is important for ensuring transparency. However, all these tools are useless if they are not strictly enforced (Kaufmann, 2002).

There are many reasons why governments do not provide information about their functions. These may include lack of resources, lack of technical skills, and avoiding criticism and revealing corruption (Sasaki, 2010). Even if they publish information, they do it in ways that are not straightforward. Similarly, there are challenges to transparency practices, including poor Internet infrastructure, high connectivity costs, lack of ICT policy and regulations, and shortage of skilled human resources etc. In particular, two major barriers remain: political will and access to the Internet. Inadequate access by the majority of the people to technology poses a threat to transparency. If government introduces e-Government through the use of ICTs with clear objectives in which the responsibilities of government officials are also defined together with performance evaluation, this could be the beginning of greater transparency, openness and accountability in the public management in Bangladesh.

1.4 Research Objectives

E-Government entails the application of ICTs to open up government systems, facilitating transparency by means of better access to information in order to achieve better transparency. It is perceived to be a unique system with far-reaching effects. The potential for e-Government to achieve such an objective may be substantial. Yet the extant literature has paid scant attention to such an important issue. No systematic research from a developing country perspective in relation to its impact on transparency and openness has been found.

The aim of this study is to examine the way e-Government creates a major contribution in enhancing openness and transparency within the government system, which in turn is likely to achieve the broader objectives of good governance. E-Government is argued to enhance transparency by strengthening good governance. It is also assumed that e-Government transforms government businesses facilitating improved services and citizen participation (Bertot, Jaeger, & Grimes, 2010). In doing so, it investigates whether and to what extent e-Government transforms government businesses, provides better information and quality service delivery and citizen participation in a developing country. Transparency is basic to a successful democracy, which necessitates government information to be open and accessible to public (Sturges, 2004). Government's adoption of ICTs is one way to increase public sector transparency (Kim & Cho, 2005). According to Heeks (2005a), e-Government envisages making public management more transparent, well-organised and professional. It has encouraged several governments to use technology to improve access to information and delivery of services to citizens, business and others. A wide range of influences of e-Government has enabled governments across the globe to set up an online presence by releasing information on the web (Iqbal & Seo, 2008). It is hoped that this will enhance efficiency and transparency in the system.

Thus the major objectives of the study are to investigate:

1. The current state of transparency and openness in the public management in Bangladesh.
2. The current state of the use of ICTs/e-Government in various public agencies in Bangladesh.

3. The role of ICTs in enhancing transparency and openness in the public management in Bangladesh.

Based on the literature review conducted in Chapter 2, the following research question and subsidiary research questions have been designed for this thesis. The research question of this study is:
Does e-Government lead to greater transparency in public management in Bangladesh?

The seven subsidiary research questions are:

Subsidiary Research Question 1. What is understood by transparency in Bangladesh?
Subsidiary Research Question 2. How does e-Government improve transparency?
Subsidiary Research Question 3. What constitutes success in the implementation of e-Government? What is failure? Does e-Government design mismatch hinder the implementation process? And if so, how?
Subsidiary Research Question 4. Does disintermediation improves the extent of transparency?
Subsidiary Research Question 5. What variations in e-Government (result) are found in practice and what effects do these variations have and why?
Subsidiary Research Question 6. What role does ICT Task Force play in implementing e-Government? Are government departments authorised by the Task Force or they have their autonomy to implement the system? And finally,
Subsidiary Research Question 7. Does e-Government reduce corruption?

1.5 Theoretical Underpinning of the Study

The area of e-Government is relatively a new field which lacks a strong body of well-developed theory. This became evident with literature searches conducted on topics such as its effect on transparency and openness, key drivers and impediments of the implementation process in the public sector particularly in developing country context which revealed only a handful of studies on this issue (Bhatnagar, 2004; Saxena, 2005; Sobhan *et al.*, 2004). Subsequent analysis of the literature focused on some issues, for example, only a few studies have employed an appropriate theoretical lens to elaborate the results of the study. This finding concurs with the thoughts of scholars who are critical to the fact that this research domain lacks a strong theoretical underpinning and have, therefore, called for

theory building research to be undertaken (Flak & Rose, 2005; Veenstra, Bram, & Marijn, 2009).

In an attempt at theory building, this study has employed Fountain's (2001) theory as the dominant theory while complimented with other theories for example, Bhatnagar's (2004) theory and Weill and Ross's (2004) theory to examine their applicability in this context. Although Fountain's theory is predominantly based on developed country perspective, it also reflects some relevance in a developing nation like Bangladesh. Fountain's theory explains the implementation of e-Government in the cases studied. An inductive analysis of the data (Strauss & Corbin, 1998) surfaced elements of technology enactment in Fountain's theory (McLoughlin *et al.*, 2004; Smith, 2009). The adoption of shaping the technology may be hindered due to embedded institutional norms and values in various public agencies in Bangladesh. The findings agree with the view of McLoughlin *et al.* (2004) that infrastructural resources can be appropriated in different user domains and contexts subject to modification of the design best suited to that context. However, leadership and commitment from the top, resources in terms of fund, skills and right calibre are critical to improve agency capacity to manage ICTs. Problems remain in system integration as technical, organisational, and managerial which are overall socio-technical in nature. The extrapolation of these drivers and impediments of e-Government have also highlighted elements of Fountain's theory. Although predominantly based on Anglo-American context, Fountain's (2001) theory can also be applied in this context with some modifications.

1.6 Research Methodology

An exploratory research study is conducted for a problem when little is known about the issue. It is applied to discover and obtain information on this particular issue. This exploratory study adopts a multiple case-study approach (Yin, 2003). The major advantage of case-study research is that it is useful to thoroughly investigate research objectives. According to Yin (2003), a case study is an empirical investigation that studies an event within its real life situation, especially when the margins between event and situation are not distinctly evident. Case-study methodology is primarily based on interviews, together with various sources of evidences (Yin, 1989).

Stake (2005) elaborates that qualitative research tries to establish an empathic understanding for the reader through description and conveying to the readers what experience itself would convey. The descriptive nature of this study expands rather than narrows the issue under

investigation. This study uses illustrations by reassembling experiences from the respondents. Yin (2003) acknowledges that the case study is not simply a data collection tactic nor merely a design feature, but a comprehensive research strategy. In addition to collecting data through in-depth interviews, emphasis is given to direct observation of real-life situations and written documents. Qualitative method appears to be the best possible option to conduct research in this emerging area of interest in e-Government.

Gummenson (2000) argues that the importance of case studies stems from their ability to generate a holistic understanding of the topic. The detailed observations entailed in the case study method enable the study of many different aspects, which are then examined in relation to each other. This description is apt for the current research, which seeks an understanding of the factors that influence public sector reform through the introduction of e-Government. In a multiple case study, each individual case comprises a study with evidence collected from many sources and ends with conclusions made from those evidence (Hamel, Dufour, & Fortin, 1993).

The field work of this research has been developed in two phases. Figure 1.1 presents an overview of the comprehensive research design of the study. Phase 1 was a pilot phase where interviews were conducted with experts within the ICT and public sector domains. This was followed by a qualitative phase in which nine case studies (e-Government implementing agencies) including interviews with 46 respondents were conducted with organisations across the stakeholders. These organisations for example include implementing agencies (9 cases), ministries (4 organisations), advisory bodies (5 organisations), development partners (4 organisations) and professionals (3 organisations). The research focuses on various government agencies introducing e-Government practices in Bangladesh. Cases were selected from across diverse categories of agencies. The organisations were chosen on the basis of their ICT involvement, specifically developed for the research. The cases for this research were selected so that there were similarities among the cases for theoretical replication (Yin, 2003) along with differences in the cases to optimise learning (Stake, 1995). The study highlights the successful operation of e-Government in certain cases. Some of them are very advanced while others did not progress that much in introducing the new concept. Hence for this study, some e-Government cases have been selected for analysis.

A semi-structured approach to each interview was adopted for this study. This approach was considered equally appropriate, enabling the researcher to gain in-depth views and experiences of knowledgeable individuals associated with e-Government implementation. The semi-structured interviews were flexible wherein the researcher was keen to observe how the respondents understand various e-Government issues and events. The researcher was careful about the need of some structure to ensure cross-case analysis (Miles & Huberman, 1994).

This research used diverse data sources, for example, interviews (with 46 respondents), participant observation, document analysis, and site visits. It is important to mention that this research used a multiple unit of analysis conducted at the organisational level and at the entity level. Analysis undertaken at these levels enabled the study to focus on significant issues around the whole gamut of ICTs.

Figure 1.1 demonstrates an overview of the research design of this thesis.

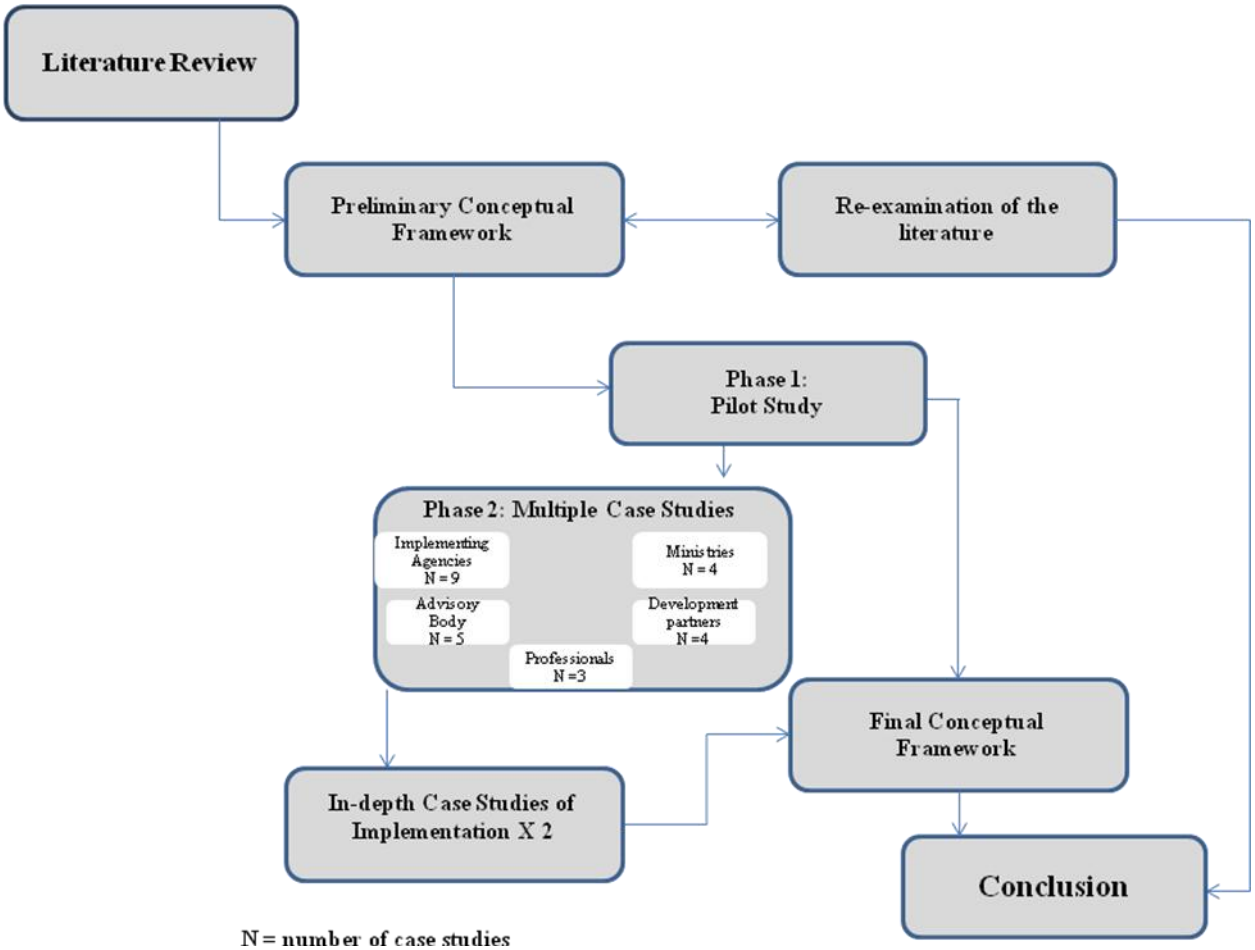


Figure 1.1 Research Design

1.6.1 Data Analysis

The data for this research were analysed inductively. According to Strauss & Corbin (1998), an inductive method intends to gain theoretical generalisations from the data. The inductive approach begins with observation and in-depth interviews with the respondents, which enables the researcher to design an explanation for the key findings (Schutt, 2006). In the editing approach, the researcher starts reading the text and attempts to identify a number of themes, which helps to develop categories. Then the researcher ascertains the link between the categories and gets back to the text for verification. This is continued till all the findings are presented. During editing, the researcher examines the issues in the text and attempts to identify its relevance to the research question. Subsequently, these are formed into codes or categories that create further abstractions (Miller & Crabtree, 1999). The editing approach is then supplemented with thematic analysis and conducting of a cross-case analysis for this study (Boyatzis, 1998).

1.7 Contribution of the Research

This research focuses on the effect of e-Government adoption in the public sector in Bangladesh. Further, this research develops theory by incorporating a combination of theories, for example, Bhatnagar (2004), Fountain (2001) and Weill and Ross (2004). Research findings reveal that Fountain's theory in particular elaborates e-Government in the cases studied. Fountain's theory forms the analytical framework to study the information-based changes in these organisations where the mutual interaction of e-Government technologies with the management and organisational framework is the key to this study.

Weak operationalisation of ICTs in different public agencies is the cause of failure or poor outcomes. Findings disclose the fact that governance and capability (leadership and management skills of the organisations) are the main factors for variation among different public sector organisations (Smith, 2009). Next, resources in terms of funds, skills and right calibre are essential to improve agency capacity to manage ICTs. Thus the success of e-Government in different public sector agencies depends on significant changes to individual roles, organisational structure and culture (McClure, 2001). This framework will enable public sector managers to understand the socio-technological aspect of organisation behaviour.

A number of lessons can be learned from the empirical investigations of this study. The study is relatively new research in the public sector domain in Bangladesh. Further, the face-to-face interview technique, collecting the information personally largely increased the response rate in this study (Zikmund, 2003). From a methodological perspective, this study differentiates itself from the previous studies to conduct empirical studies that take a 'holistic' view of the whole gamut of ICTs by collecting data across nine cases (public agencies) which include not only the implementers but also stakeholders for instance advisory bodies, representatives from development partners and professionals. The case study approach and in-depth interviews have enabled a good understanding of the impact of the adoption of e-Government in the public sector in Bangladesh. The cross-case analysis of this study allowed additional data richness. This also allowed comparisons and contrasts between the cases. Further, to study the effect of e-Government on transparency and accountability, this study focused on assessing the information and services offered by e-Government in different agencies. This study also identified the importance of a number of factors critical for successful adoption of e-Government.

The research has adopted a qualitative method to evaluate e-Government's impact on the public sector from a governance perspective. There is a need for developing an effective framework, which is necessary for advancing the adoption of e-Government. Thus this study has contributed to the development of an ICT-based e-Government framework. The proposed model addresses the factors critical for successful implementation. This is new research in this area which evaluates e-Government from the views of public officials. This category of respondents has been useful to identify the factors for successful implementation of e-Government to affect transparency and openness.

1.8 Limitation of the Research

The researcher acknowledges the limitations of the study in the following manner:

This study was based on a supply perspective in which the service providers' views were taken into account. Yet the perspectives of the service recipients were not considered due to limited time and availability of the users of e-services in various public sector agencies. Generalisability of this study needs to be done with caution in the absence of statistical inference in the case studies (Eisenhardt, 1989). The researcher, in this case-study method, relied on inferences to make analytical generalisations based on perceptions of the

respondents at a particular point of time and this may be subject to bias. Further, the sample of cases from other developing countries or sectors could have enriched the generalisability of the findings. Finally, the development of the theory and conceptual framework were based on the researcher's understanding and interpretation.

1.9 Summary of Chapter 1

Bangladesh in the late 1990s entered the digital era with government initiatives in ICT sector. Tremendous growth of ICTs has resulted in a digital revolution there. This research investigates the performance of public sector reform through introducing e-Government in various public agencies. It examines the context in which this reform has taken place, challenges faced during the reform, the influence of the ICT revolution on the performance of e-Government application and the paradox between myth and reality.

This chapter has presented the background to the study, rationale and significance of studying the effect of e-Government on improving efficiency, transparency and accountability in public sector agencies in Bangladesh, and the fact that this issue is considerably under-researched. It has identified the research objectives. The research method, limitations of the research and thesis outline have also been presented. The next chapter discusses the key ingredients of the study, e.g. issue of governance and its theories, good governance and the ways to achieve it, transparency and openness, corruption, and e-Government with its effect on transparency and corruption, across the research objectives. All these represent a link among governance, transparency, corruption and e-Government.

1.10 Thesis Outline

As presented in Figure 1.2, Chapter 2 presents an overview of the extant literature across the research objectives stated in Section 1.4. This discusses the key constructs of the governance reform mechanism: governance, good governance, transparency, corruption and e-Government in general, as well as the theoretical underpinnings deemed relevant for governance, transparency and e-Government research. These include both philosophical and modern governance theories, cases linking transparency and corruption and e-Government theories. The chapter also attempts to link the issues of governance, good governance, transparency, corruption and e-Government and represents the causal relationships among the issues. It also highlights the fact that these are interdependent and mutually reinforcing.

Chapter 3 discusses the context within which this study is undertaken. First, it provides an overview of the existing governance and the e-Government scenario in Bangladesh. The

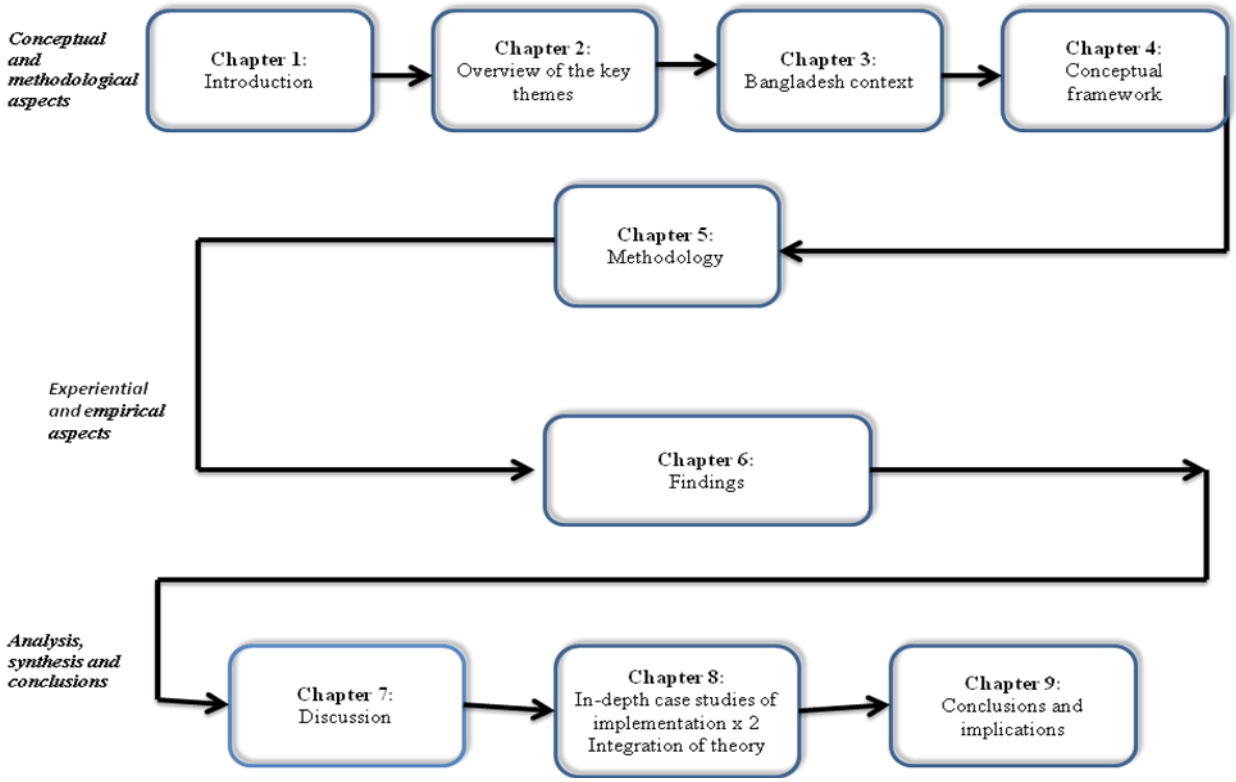


Figure 1.2 Thesis Outline

chapter describes the role of e-Government and analyses the background to the introduction of it in the existing public management of Bangladesh. The chapter highlights the contribution of e-Government to the issues of transparency and corruption in the public sector. The second section provides an overview of the status of national ICT initiatives taken so far to link it with the promotion of transparency and accountability. It describes selected literature on the challenges and factors preventing the success of e-Government .

Chapter 4 outlines a conceptual framework on the basis of the extant literature review. This framework attempts to demonstrate the effect of formulation and implementation of ICT-based e-Government policies and its perceived impact on enhanced efficiency, transparency and accountability, which would in turn lead to good governance.

Chapter 5 describes the methodological approach to this study. The chapter elaborates the applicability of a qualitative research design when investigating the effect of e-Government

on improving transparency and openness in various public sector agencies. It explains the significance of a multiple-case-study approach, the selection of cases, and finally the method of analysis used. This chapter also explains the ethical considerations, data analysis procedures, and the rigour and validity of the methods used.

Chapter 6 presents the research findings gathered from in-depth face-to-face interviews with public officials representing the implementing agencies, ministries, advisory bodies, representatives from development partners and professionals. It presents the perceptions of the respondents on e-Government's impact on transparency and openness, the challenges faced while implementing e-Government in this socio-political system and the future direction for successful implementation of this new concept. It provides the findings for the research question, findings for subsidiary research question 1, findings for subsidiary research questions 2, 3, 4, 5, 6 and findings for subsidiary research question 7.

Chapter 7 provides a discussion on the findings of the research question and subsidiary research questions. The research findings obtained from the qualitative interviews are analysed, integrated and discussed in this chapter to answer the research question and subsidiary research questions. A summary of the discussion is presented according to each research question.

Chapter 8 offers the in-depth case studies of implementation of two cases in the light of the research questions raised in Chapter 4. This research undertakes the study of nine multiple cases. Among the nine case studies, this chapter demonstrates two most significant cases in terms of their success and achievement. This chapter also identifies the factors for variation in results between these two cases. The chapter identifies appropriate theoretical aspect to explain the results. Finally, it proposes a revised conceptual framework based on research findings as a contribution of this research to theory development.

Chapter 9 provides a conclusion for the study, detailing the contributions and implications of the research, limitations and areas for future research. This final chapter provides concluding remarks including a discussion of the key areas. It provides a description of the current e-Government scenario, and identifies the weaknesses and constraints in the implementation process. The chapter describes its implications and discusses how the study contributes to the body of knowledge both theoretically and methodologically. Finally, the

chapter recognises the limitations of the research and suggests future directions and recommendations.

Chapter 2. Governance, Transparency, Corruption and e-Government: An Overview of the Key Themes

2.1 Introduction

This chapter reviews the extant academic literature relevant to the objectives of this research. Due to the multi-disciplinary nature of this study, the literature review draws on issues including governance, good governance, transparency, corruption and e-Government.

This chapter examines the imperative, background and theoretical underpinning of various governance issues to identify their significance and challenges in the context of developing countries, and Bangladesh in particular. To attain this objective, the chapter is divided into the following structure. The chapter begins with an overview of the issue of governance and looks at the nature of government and governance. An overview is provided of what constitutes governance and how academic scholars and researchers have attributed certain characteristics to definitions of governance. The overview also highlights other major governance issues including good governance, which will be followed by a discussion on transparency and openness, corruption and e-Government. The evolution of e-Government, its potential challenges in both developed and developing nations, are also elaborated. E-Government theories are briefly described to explain its emergence, development and fulfilling of stakeholder expectation. Then the impact of e-Government on transparency and corruption is described by citing some examples.

Figure 2.1 indicates the position of Chapter 2 in the overall research design of the thesis.

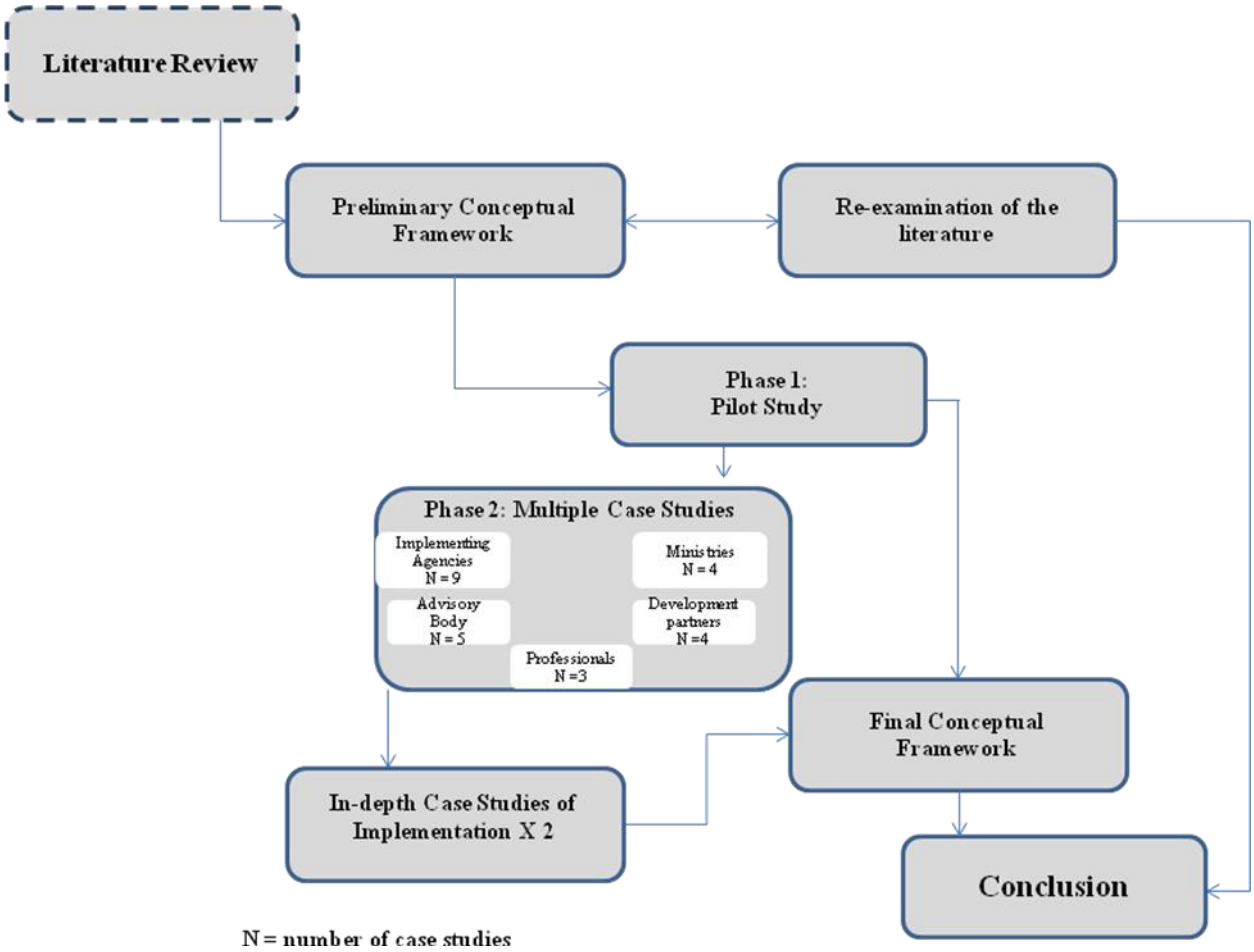


Figure 2.1 Location of Chapter 2 in the Overall Research Design

2.2 What is 'Governance'?

The concept of governance originated from the classical Latin and ancient Greek words that indicate the steering of boats (Malkia, Anttiroiko, & Savolainen, 2004). Discussion about governance has gained new dimensions since the early 1990s, especially in the Anglo-American world (Anttiroiko, 2004). The reduction of the traditional basis of political power, the emergence of non-governmental organisations, the increase in partnership relations between public and private organisations and the rise of a new order in global governance have transformed the whole institutional landscape throughout the world.

Governance is an important concept in recent times. In addition to the traditional role of government, governance is focused on participatory policy making and a huge network among different sectors in the society (Kim, Halligan, Cho, Oh, & Eikenberry, 2005). Similarly, Coghill (2003) views governance as comprising three clearly distinct sectors: public, corporate and civil society; and the relationship between these three domains

depends on its size and power. However, it is apparent that the role of the state is dominant in maintaining the enabling environment. There are different opinions about the relationships between these actors, while Rhodes (1997) argues that the governance process comprises multiple centres and there is no sovereign authority. The thought of governance emphasises the effectiveness and efficiency of government procedures. Despite the differences of opinion, one common factor is that a plurality of institutions should be in place to work together to achieve goals and objectives.

As the nature of governance is cross-disciplinary, it has various definitions that have conceptualised the term, in many ways making it a multifaceted concept. The definitions may be categorised in two directions. One is about behavioural aspects of societal institutions and organisations, focusing on such measures as performance, efficiency, growth, service delivery, and treatment of stakeholders (World Bank, 1992). The other definitions hold governance as a normative framework, consisting of a set of rules under which these institutions and organisations operate. In this category of definitions, governance is expressed by means of several institutional frameworks as policy, laws and legislation that ensure the environment in which stakeholders operate their businesses (Hyden & Court, 2002).

Kaufman *et al.* (1999) define governance as traditional norms and institutions through which power is exerted for the common welfare of the people. It entails the practice through which governments are chosen and changed, the ability of the government to develop and implement good policies, and citizens' trust in the institutions for governing their socio-economic interactions. The UNDP (1995) expresses it as administering a nation by the execution of political power. Fitzgerald *et al.* (1997) elaborates this by defining governance as dealing with citizens to administer public capital and resources and, overall, address the requirements and expectations of the people as individuals, interest groups and society. On the other hand, Riley (2003) considers that the most important function of the institution of government is to highlight society as a means to achieve the public interest. This can be justified in the manner that 'governance' is a way of explaining the interrelation between government and its broader environment: political, social and administrative. Each of these aspects makes one side of the "governance triangle" (Kettle, 2002). Typically, governance is a multiple-stakeholder process (Hemmati, 2002) and a function of a combination of ways that individuals and institutions, both public and private, accomplish their common matters (Commission on Global Governance, 1995). Some researchers view this trend as

government being transformed into governance (Albrow, 2001) while, for others, governance makes up rather than replaces government (Offe, 2005). Here the focus on government has widened with the diffusion of responsibilities and capacities for action within society.

According to ADB (2004), governance is the way of exercising power and authority for managing a country's social and economic capitals. ADB (2008) further clarifies the idea by pinpointing four elements, including accountability, participation, predictability, transparency. The World Bank (2008), on the contrary, identifies the six aspects of governance as voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law and control of corruption. Here control of corruption is added to the ADB definition.

From the review of the above definitions, it seems most definitions agree that the role of governance is for the overall benefit and welfare of the people. However, the opinions and definitions are so diverse that it is difficult to bind them together within a limited framework. Yet, taking the main factors into consideration, a convenient consensus may be reached. It appears that there is a general agreement over these definitions of governance. Almost all definitions come to an understanding that a country is governed by a set of values, policies and institutions. The rules are made to govern, to rule, to control them for their maximum individual and collective betterment. This means a good sense of values, moral codes, and distinct culture segregating individual identity as a nation maintaining uniqueness. The only difference between several governance mechanisms is the extent of government accountability to the people in general. The set of values encompass several dimensions among others, e.g. transparency, accountability, the rule of law and control of corruption. The provision of transparency in decision-making processes in institutions is vital for involving the stakeholders and making the overall governance standard better. In short, it appears that governance is by and large a system of multi-faceted functions to sustain stakeholders' interest in compliance with the rule of law and free from violence and corruption.

2.2.1 Theories of Governance

The premise of this section comprises the concepts of governance and theories to bring some clarity to the search for theories of policy implementation. A governance model of implementation is then explored as a theoretical alternative that offers the potential to synthesise different models and bring networks into the governance paradigm (Ewalt, 2001). A number of theories associated with governance and public management issues have been suggested as models of e-Government adoption (Persson & Goldkuhl, 2010). It suggests that the governance model can be applied to increase the understanding in the process of introducing e-Government in a developing country context. This section presents a number of theories of governance, for example, new public management (NPM), stakeholder and responsive governance theories are regarded as the modern theories of governance. These theories have a great impact on the issue of governance and the introduction and implementation of ICT-based e-Government. These are known as modern theory of governance originated following World War II when governments desired to guide their states' social and economic development towards definite goals (Kooiman, 2003). According to Kooiman (1993), these new forms have to take into consideration the basic principles of modern society. These principles constitute challenges for governing. The theories give an outline of key developments in governance in modern civilisation and illustrate recent theories of the interface of politics and society. These theories are described briefly below to relate their application in the context of governance reform in a developing country.

The emergence of a governance system is, therefore, a constant progress that is somewhat reflected in Table 2.1. It defines how the concept of governance changed over a long time. The mechanistic public administration model relied on Weberian principles to finally develop the modern concept of public management. It focuses on customers and finally proceeds towards the responsive governance model (UNDP, 2005b). This is concerned with more transparent and accountable government systems with democratic participation in decision making and its implementation.

Table 2.1 Three Models of Public Administration

	Public administration	Public management	Responsive governance
Citizen-state relationship	Obedience	Entitlement	Empowerment
Accountability of senior officials	Politicians	Customers	Citizens and stakeholders
Guiding principles	Compliance with rules and regulations	Efficiency and results	Accountability, transparency and participation
Criteria for success	Output	Outcome	Process
Key attribute	Impartiality	Professionalism	Responsiveness

Source: (UNDP, 2005b)

There is an overview of the issue (change of governance) below, exhibiting empirical examples of new types of governance adopted from Western Europe, and reviewing the main theoretical perspectives elaborating these developments. It also stresses the challenges and prospects for modern public management (Kooiman, 1993, 2003).

The following modern theories of government- new public management (NPM), stakeholder and responsive governance theories illustrate the changing role of the nation under the effect of globalisation. The theories focus on the changes with the advent of new public management, the hollowing-out of the nation and the new governance. Thus these theories explore the role of the state in advanced industrial democracies.

1.New Public Management (NPM)

In the 1980s the wave of public sector reform terms the new public management (NPM) starts (Bevir, Rhodes, & Weller, 2003). As a global phenomenon, NPM seems to be a policy issue for international organisations like the OECD (1999) and the World Bank (1992). The notion of governance has appeared as a consequence of NPM, which emphasises qualitative efficiency and deficiency of governance models (Dent, Gestel, & Teelken, 2007; Osborne & Gaebler, 1993). NPM (Hood, 1991) has become commonly accepted across the globe as an administrative reform. Hood (1996) also emphasises poor economic performance and scaling down of big government. One important aspect that has recently been added to the

NPM concept as 'reinventing government' is the public-private partnership in relation to national development (Dunn & Miller, 2007).

E-Government may be used as a tool to create new public management. Many e-Government initiatives are based on a set of ideas offered by NPM (Chadwick & May, 2003). E-Government is a means used to improve the overall performance of the public sector. The aspects of e-Government became embedded as part of NPM political and managerial reforms throughout the world (Cordella, 2007). NPM has been claimed to lower costs, offer better service, and integrate new technologies (Lindquist, 2006), objectives that e-Government can help realise. E-Government is incorporated in NPM as a mechanism to attain its (NPM's) objectives. E-Government and reform are, therefore, mutually reinforcing' (OECD, 2003a, p. 25), with the former contributing to a means to put in force the latter. Hence, e-Government, can be seen as an aspect of reform that is consistent with NPM (Mirandilla, 2008).

The OECD asserts that 'e-Government can help administrations do their job better by reinforcing good governance objectives and administrative reforms are necessary if e-Government is to be successful. The interrelation of NPM and e-Government is defined by the potential benefits that ICT can transform the internal strategies in the public sector. ICT is considered as a powerful tool to rationalise and re-engineer organisation practices (Bonina & Cordella, 2008).

The attention on customers and its organisational implications (i.e. one-stop service, grievance management) are important precursors for e-Government related to the objectives of NPM. Some recent developments in a number of countries illustrate that the adoption of e-Government can act as a catalyst influencing the change. Furthermore, the apolitical characteristic of e-Government simplifies its initiation compared with the more ideological NPM. Whenever a strategy-driven reform like NPM is obstructed by argument about the usefulness of this reform, the government may have very little power to stop a global technological advancement like e-Government. Also, due to the process redesigning done using e-Government, a real organisational change is taking place, resulting the faster impact of e-Government compared with NPM (Hood, 1991)

2.Stakeholder Theory

Another interesting theory is stakeholder theory, which looks at all stakeholders of an organisation and the role they play in the organisation's decision-making. In the area of information systems a stakeholder is a person or group who feel the effect of the system and whose responsibilities are affected by the system as well. The stakeholder concept is necessary and important for public sector reform for 'inclusion and management of constituencies' (Scholl, 2004). Besides its original focus on profit, there is no major conceptual difference between stakeholder theory and government's aim to provide services for citizens and organisations (Scholl, 2004).

Though stakeholder theory focuses mainly on the firm, in other words, on a private-sector organisation, some scholars try to apply it to public-sector organisations, especially to e-Government. Therefore, public management functions start to follow private-sector management practices in the rising number of network-related organisations on both sides. With its thrust on corporations (Freeman, 1999), stakeholder theory explores a theoretical choice for e-Government study. The role of citizens in e-Government and e-democracy may be more than just that of mere stakeholders, being treated in a manner that furnishes their needs without giving them rights or responsibilities. However, stakeholder theory may have the ability to widen the understanding of the growing importance of citizens in e-Government.

3.Responsive Governance Theory

A new model has recently come out focusing on 'creating public value', in contrast to the public management model based mainly on efficiency and results (Moore, 1995). This new concept differs from the underlying ideas arising out of many business models and focuses on the management of multiple stakeholders and contemporary values in relation to aspects of public interest. While NPM was based on a narrow set of assumptions and values, the responsive governance model, on the other hand, includes wider set of principles and practices. This model involves people in all their stakeholder roles. Apart from simply satisfying customers, they emphasise 'creating public value' (UNDP, 2005b).

The governance model differs from the NPM in that it emphasises government that is open and responsive to society, more accountable and under the scrutiny of external watchdogs

and the law (World Bank, 1994). The main focus of traditional public administration is hierarchical accountability within the civil service and political management. Public management also accompanies accountability of the manager in the public-sector, achieved through training and experience. NPM tries to address the dual, mutually strengthening accountability to the main authority and to the customer, while responsive governance develops different range and complex forms of accountability in which there are multiple stakeholders in both government and society. If e-Government essentially follows the NPM direction, is there a risk the social and political implications of the use of ICT in the public-sector will be omitted (Bonina & Cordella, 2008). Citizen empowerment through participation and increasing openness and transparency are part of this new model. Hence transparency and openness are the basic features of this model. Accountability in the responsive governance model requires new forms of skill and leadership from civil servants who are expected to be both politically and socially responsive, aware and neutral (UNDP, 2005b).

Government responsiveness to its citizens is a major issue in both public and political management. Having a more informed and politically conscious electorate enables government to be responsive. This indicates democratic institutions need to ensure that citizens' preferences are reflected in policy (Besley & Burgess, 2002). It is true that public servants can be responsive to the broader citizenry in several ways. It concerns public servants monitoring public opinion and the views of the community. It also adds a promise to share information and demonstrate openness with the citizens through consultative mechanisms.

The responsive governance model is also evolving from a distinct but parallel set of developments initiated by the promising impact of information and communication technologies (ICTs) on public management. ICTs might facilitate back-office systems integration in such a way that a customer can be attended at one point by a 'one-stop shop'. ICTs can be used in the functioning of certain values, e.g. legal, economic and democratic values (Snijkers, 2005). As e-Government aims to improve the effectiveness and efficiency of the delivery of public services, it could be claimed that e-Government as a means to attain good governance is closely related to the idea of responsive governance. In this study, this model will primarily be applied to study the development and implementation of e-Government in a developing country (Bangladesh).

Thus the most significant change in governance in current years has been shown to be a shift in the balance between government and society from the public-sector to the private-sector. These theories investigate various types of communication between government and society. They have provided new types of governing and public management on the basis of mutual accountability between the public and private sectors.

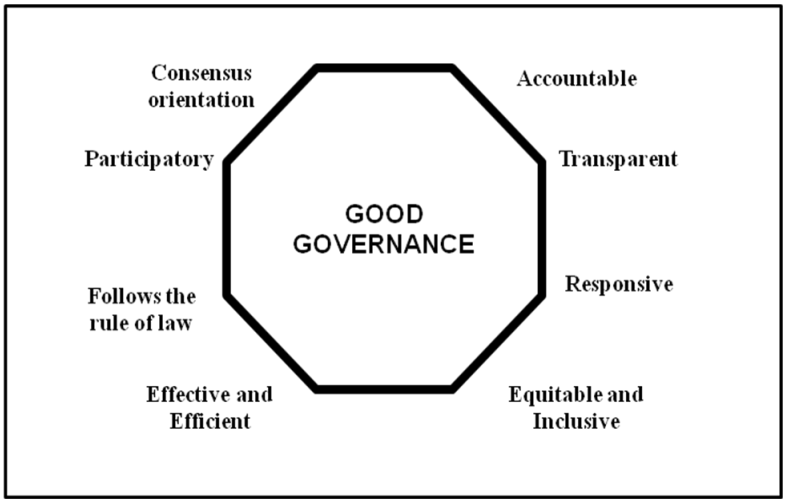
2.2.2 What is Good Governance?

Good governance is a process viewed by governments, institutions as crucial to guarantee that the governance of organisations has a legal and moral foundation. On that basis, decisions are made for the sake of stakeholders. Good governance attempts to contribute to raise people's lives in a significant manner. The highest standard of public accountability is the result of good governance. Kaufmann *et al.* (1999) observe that the rule of law, efficiency, effectiveness and transparency of the government are the indicators of good governance. Like governance, good governance is expressed in different ways by different people. However, it can be defined mostly in the context of a public sphere of society. Some definitions justify it as a means by which people enjoy the autonomy to fix priorities for their development requirements and take into account their specific socio-economic and cultural conditions (Holmes *et al.*, 2000). To others, yet, good governance signifies a set of principles formed by major development and governance issues (Gildenhuys & Knipe, 2000).

The concept of good governance appears to be employed in political science, public administration and development management. Certain terms emerge which includes democracy, civil society, participation, human rights and sustainable development. Good governance is closely related with public-sector reform in the last few years (Okpaku, 2008). Good governance is not the same as governance. Governance is a neutral issue whereas good governance directs the distribution and administration of resources in order to address common problems. It may be seen that what there is in societies is a confrontation between good and bad governance and their effects (Pillay, 2004). It is, in fact, difficult to obtain what represents good governance. Yet, theoretically, it is designated by the philosophies of participation, transparency, accountability, rule of law, effectiveness and equity (UNDP, 1997).

Kim *et al*. (2005) asserts that good governance is important for creating prosperous, and democratic societies and is marked by several major characteristics such as transparency, participation, consensus orientation, accountability, responsiveness, and fairness and inclusiveness in accordance with the rule of law. Azmat & Coghill (2005) view 'good governance' as a convergence of social and political participation. It is vital for the advancement of economic and social development in developing countries. Public governance plays a vital role in creating and shaping the enabling environment. Good governance is basic in the governance paradigm. Kofi Annan, former secretary-general of United Nations, observes that good governance is fundamental for the protection of the rights of citizens and the advancement of economic and social development (Okpaku, 2008). This idea is amplified by good governance: efficient and effective public administration is critical for sustainable development.

A more elaborate delineation has been given by UNESCAP (2008) that good governance ought to contain eight attributes: participatory, consensus-oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive, and follows the rule of law. However, all the above qualities may not be effectively implemented in absence of the following additional two qualities: free of corruption and of violence and terrorism.



Source: (UNESCAP, 2010)

Figure: 2.2 Characteristics of Good Governance

Paradoxically speaking, good governance in developing countries with poor physical and socio-economic infrastructure as in Bangladesh is a matter of high seriousness. It entails a significant effort to invite all stakeholders and concerned actors to take active part in

achieving sustainable human development and attaining highly sensible democratic values taking into account present and future societal needs. The modern concept of good governance embraces diverse and distinct connotations. The emergence of good governance involves a number of factors including the level of political development the country is at the moment, its democratic history, whether its parliament worked well with the fullest participation and cooperation of the people for the people's interest, what level of political consciousness the people possess, the socio-economic position of the people, and the level of corruption. The country can compromise on the latter because, in a developing country in particular, it is perhaps not possible to eliminate corruption altogether, at least in the short run, due to the volatility and vulnerability of the existing institutions and stakeholders. In short, good governance connotes the interplay and conglomeration of excellent elements that government is able to offer for the maximum welfare and benefit of the people, for sustainable development, and with utmost efficiency, effectiveness and excellence in an atmosphere free of violence, corruption and terrorism.

2.2.3 How to Achieve Good Governance?

Good governance can be achieved by undertaking key activities in 'democracy, civil society and public administration' by giving prior attention to it. Major activities in this area are reform of the legal and judicial systems, decentralisation projects, municipal development, and public institution-building (capacity-building, reform of administration), as well as an increasing effort to fight corruption (UNDP, 1997). However, there are barriers to achieving good governance. Most of the hindrances are related to the rigid and traditional bureaucratic practice and its resistance to reform initiatives. Good governance can only be achieved if these hindrances could be overpowered to a reasonable limit. In the light of the above discussion, it becomes apparent that good governance may have many different expressions. However, the major principle of how to achieve good governance could be summed up in the following manner (UNDP, 2007b).

1. Showing regard to/for human rights and increasing political and social rights: These imply human rights and norms in a country by human rights evaluation to ensure Millennium Development Goals (MDG)-based strategies for national agenda for human rights issues (UNDP, 2007b).
2. Active participation in political decision-making (e.g. freedom of association, holding of democratic elections, freedom of the press etc.)

3. Rule of law and the implementation of the law (independence of the judiciary, common law for all, and transparency in the state system). Legal and administrative systems need a strong/active legislature, judiciary and executive branch of government.
4. Promoting accountable public administration: Good governance hinges on political and bureaucratic accountability, transparency, and participation of people from all walks of life.
5. Development-oriented state programs (government policy programs based on ecologically, economically and socially sustainable development, the fight against corruption, the efficiency of public administration) (Federal Ministry of Economic Cooperation and Development, 2002). Government activities for example macroeconomic management, investment in infrastructure, and delivery of public services without the instance of corruption are major factors for private-sector development, as drawn in the Commission on Private Sector and Development and World Development Report (UN Millenium Project, 2005).
6. Sustaining civil society: It is the obligation of the governments to allow political freedom to civil society to narrate its ideas, to involve in the planning and monitoring of MDG-based goals, and offer institutional support for adopting public investment strategies (UNDP, 2007b).

The author attempts to develop a common conceptual framework in the following sections/chapters to know the shifting landscape of electronic revolution of society, i.e. the emergence of e-Government and its consequences for government and politics. This is about how ICTs can be applied in developing governance practices and how these e-initiatives in turn; change the preconditions of governance and good governance.

Table 2.2 illustrates the literature and research, and portrays the basic tenets of governance and good governance, summarising the overall concepts. This will enable the readers to have an in-depth knowledge of governance and good governance at a glance.

Table 2.2 Summary of Research Concerning the Issues of Governance and Good Governance

Author	Title	Concept/Empirical Support	Evaluations/Implications
World Bank, 2007	Governance Matters	Developing-country governance and its monitoring have come to the top of the development agenda. This is in relation to the linkage of governance to development performance-policy quality, public service provision, the investment climate, and the extent of corruption. Governance reform has no universally applicable way of change. The aims of governance reform depend on identifying country-specific entry points for reform which have development impact in the short term, to resolve public management constraints, and to help build momentum for further change.	E-Government in Bangladesh is in the preliminary stage and has not yet achieved its targets because of technical, infrastructural and political hindrances. A synchronised effort of political leadership, bureaucrats, and private entrepreneurs can facilitate the development of ICT and accelerate the presence of e-Government in Bangladesh. The government has focused on introducing e-Government as a part of existing governance reform through the use of ICT. The role of ICT to streamline governance is significant in this context. ICT's influence on transparency through the provision of available information is the main focus here. Transparency and access to information is a prerequisite for strengthening existing governance practices while e-Government may act as a catalyst in this phenomenon. It is expected that the malfunctioning public management system in Bangladesh can be improved in multiple ways through the increasing use of ICTs.
Coghill, 2003	Towards Governance For Uncertain Times: Joining Up Public, Business and Civil Society Sectors.	Governance is not just something similar to government. In the newer governance paradigm, government is only one of several actors involved in governance. Governance is based on participatory policy-making and a huge network comprising diverse actors for effectiveness and efficiency of the outcomes of governmental actions. In fact, governance has assumed a wider significance in the present changing scenario. With integrated governance comprising the state, the market and the civil society as three critical players in facilitating the task of development, government has to perform a multi-dimensional restructure role. It has to use the potentialities of markets, technology and people in exercising the task of governance.	Accountability, transparency, decentralisation, administrative reform, and quality public service are key problem areas in the present governance system in Bangladesh. E-Government and the potential role of IT is expected to bring about a radical change to improve the situation in various public agencies, e.g. Chittagong Customs House (CCH), Roads and Highways Department (RHD), Board of Investment (BOI) and Dhaka City Corporation etc. It is hoped that the digital governance model will be able to bring far-reaching changes in governance structures in a developing country like Bangladesh.
Azmat & Coghill,	Good governance and market-	Good governance means a convergence of social	ICTs seem to have enormous potential to achieve good

Author	Title	Concept/Empirical Support	Evaluations/Implications
2005	based reforms: A study of Bangladesh	and political participation, which is vital for the advancement of economic and social development in developing countries. Governance comprises three clearly distinct sectors – public, corporate and civil society. Market-based activities are the prerogative of corporate governance where civil society is composed of organisations variously known as non-profit, non-government organisations (NGOs) and professional associations. Public governance plays a vital role in creating and shaping the enabling environment.	governance goals**.** Various public agencies in Bangladesh adopted e-Government as an enabling tool for financial reform, transparency, anti-corruption, empowerment and poverty reduction. However, the potential still remains largely untapped to date. The scope and extent of e-Government needs to be contemplated to establish a wider economic and social impact in this context. Its implementation needs to be accompanied by the right mix of complementary good-governance initiatives tailored to specific institutional contexts. In Bangladesh, e-Government may act as a tool to support the government in fulfilling its governance reform objectives. In order to keep pace with the transition in the governance system, Bangladesh has undergone necessary arrangements to reshape political and administrative entities by establishing ICT to increase electronic interaction and service delivery in organisations like CCH, Bangladesh Railway (BR), RHD, LGED, DCC and so on.
Kaufmann & Kraay, 2002	Growth without governance	Good governance deals with the manner in which responsibility is discharged. Good governance is a condition whereby such responsibility is discharged in an effective, transparent, and accountable manner. Good governance encompasses efficient and accountable institutions (political, judicial, administrative, economic, and corporate) and entrenched rules that promote development, protect human rights, respect to the rule of law, and ensure people's participation in democratic decision-making.	As governance is recognised as more information-intensive, the government is endeavouring to apply ICTs as an integral part of governance initiatives in Bangladesh. ICTs are also viewed as a key weapon for change. The integrated role of e-Government implies using ICTs as an enabler of good governance. E-Government can make a significant contribution in establishing good governance in this context.
Zafarullah & Haque, 2003	Public management for good governance: Reforms, regimes, and reality in Bangladesh	The public governance system in all countries including Bangladesh is the result of a combination of some settings, e.g. political, economic, social and technological etc. The pattern of governance changes with changes in any of these factors. At present, ICT emerges in Bangladesh as one of the critical factors affecting	The policy-makers firmly believe that e-Government cuts costs, improves transparency, limits corruption and so on. Hence e-Government seems to resolve all nature of problems in almost all societies. However, the path is not that straightforward. It is not beyond criticism while some contend that ICT may have established a new form of 'digital divide' in information poverty. Technological

Author	Title	Concept/Empirical Support	Evaluations/Implications
		public governance. To keep abreast with this transition in the governance system, Bangladesh has undergone necessary arrangements to re-organise the political and administrative set- up by introducing ICT to enhance electronic interaction and service delivery.	outcomes depend on the social order: individuals, groups and institutions through which lives are organised. Hence, the aspects of technology and society should be synchronised.
Kim *et al.*, 2005	Towards Participatory and Transparent Governance: Report on Sixth Global Forum on Reinventing Government	In order to achieve the objectives of development, anti-corruption efforts are critical to good governance as declared in the Global Forum on Fighting Corruption, 2001. Corruption is detrimental for developing countries especially in least developed countries because these countries possess fewer resources and need to use these scarce resources most effectively**.** The pernicious effects of corruption results in uncertainty in access to essential services such as education, health, justice and individual safety etc. As a consequence, people are then subject to make unauthorised payments for their basic civic rights.	E-Government can afford greater transparency which may result into reduced administrative corruption in public agencies like CCH, RHD, BOI, and DCC. However, attention should be given to some factors while drawing objectives, which may serve greater transparency and accountability. Instead, gains from e-Government, for example reduction of corruption opportunities, will be of no significance if measures are not taken appropriately.

2.3 Transparency and Openness

As mentioned earlier, the key characteristics of good governance are participation, rule of law, transparency, responsiveness, equity and inclusiveness, effectiveness, efficiency, accountability, strategic vision and consensus orientation, among which transparency is considered to be an important one. Transparency and openness not only make the public aware about development ideas and proposals, but also attempts to satisfy people that the public entities are keen to pay attention to their views and act accordingly in response to their concerns. Subsequently, transparency increases the authority of the decision-making and reinforces democratic values (Parigi, Geeta, & Kailasam, 2004).

Transparency and openness do not have a commonly agreed definition. Some definitions used by international organisations address the issue of enabling access to information. For example, the World Trade Organisation holds the opinion that transparency in international commercial treaties usually comprises three key components: (i) to provide information on laws, regulations and other policies to the public openly; (ii) to inform concerned authorities of related laws and regulations and their updates; and (iii) to ascertain that laws and regulations are applied in a uniform, unbiased and justified manner (World Bank, 2005). Openness implies government officials to be open regarding all their business transactions. They must explain about their decisions and control information only in case of public-interest demand (Pope, 2005). Next, accountability denotes government officials to be liable for their activities and must be responsible for any system of scrutiny suitable for their offices. Transparency and openness are closely related. While transparency is about visibility, openness is a function of transparency and interactivity (Wong and Welch, 2004). Thus openness is a readiness to release information in an accessible manner and transparency is about how to achieve openness.

In addition to the quantity of information, Vishwanath and Kaufmann (1999) and Kaufmann and Kraay (2002) also focus their attention on the accuracy, relevance, and timeliness of this information. They identify transparency as the "increased flow of timely and reliable economic, social, political information, which is accessible to all relevant stakeholders" (Vishwanath & Kaufmann, 1999, p. 3). The government ought to have mechanisms of accountability and information to ensure transparency, effective management and constructive criticism to democratic processes to check and balance the government. In other words, the information given must be accessible, pertinent, of good quality and

trustworthy. The OECD (2003a) also stresses that transparency culminates in the interaction between governments and other concerned. If transparency and accountability is not sufficient at the time of using public resources, it is difficult for the government to build people's trust and credibility. Widespread corruption then undervalues the authority and integrity of democratic institutions and acts against good governance.

Based on these definitions it seems that transparency is closely associated with accountability. Transparency helps citizens or governments hold organisations accountable for their decisions and actions (Schedler & Scharf, 2002). Florini (1999) also emphasises the issue of accountability where transparency is perceived as the provision of information by organisations which is useful for their evaluation. Thus transparency acts as an enabler to expedite the appraisal of public organisations and information that is required to assess their actions. Simultaneously, people can also verify the information and by accessing it hold the institutions responsible.

Transparency is also known as another aspect of governance. The effect of poor governance on economic growth and development is unsatisfactory. Economists and policy-makers have contended that institutions have an impact on evaluating economic performance (Kaufmann, Kraay, & Mastruzzi, 2005). Most of the studies on transparency and accountability emphasise the effect of transparency in minimising financial crises and in monetary policy-making. However, as transparency is a significant element of good governance, it can also strengthen the independence, accountability and integrity of financial sector regulators (World Bank, 2005). Yet, the link between transparency and governance can be examined. In one study, Islam (2003) discovered how provision of information improves governance and institutional efficiency in 169 countries. The regression analysis demonstrates that, when nations yield quality economic information, they may also govern effectively in respect of a variety of governance indicators for example government efficiency and effectiveness, curbing corruption, voice and accountability, the rule of law, and bureaucratic efficiency (Kaufmann & Kraay, 2002).

Corruption and lack of transparency go hand in hand, deemed in some studies as two sides of a coin. However, the relationship between both is yet to be identified. The more transparent the system of governance is, the less the opportunities for corruption (Pathak & Prasad, 2006). In a study on transparency, Mauro (2004) develops an equilibrium model wherein 'bad equilibrium' is characterised by widespread corruption and low investment

and development. The significance of such model is that the objective of policies is increasing transparency and, by and large, information dissemination in reducing corruption and maintaining economic growth.

Information is critical for good governance since it reflects government activities and changes. A general citizen holds the right to have access to information under the custody of public authorities in line with the public interest. Government offers information to its citizens for enhancing transparency, openness and accountability in administration. Apart from these, it also ensures citizen participation in all issues concerning governance (Parigi *et al.*, 2004). The OECD Secretary General pointed out that transparency is not sufficient in even the most developed countries (Riley, 2000). However, countries also attempt to increase transparency under the right to information, legislation and citizens charters (Okpaku, 2008). Citizens all over the world require that governments should be more open in their transactions with the civil society.

The ICT revolution has triggered changes. This is reflected in a much organised form of transparency of governance in terms of information communication. For example, ICT can provide relevant and timely information in large volume and, as a result, governmental process becomes more open and democratic (Okpaku, 2008). Synder (2004) prognosticates that extensive computing and documentation eventually will make all things transparent in all public and private entities, with total transparency ultimately getting the form of international law in 15-20 years. Whenever there is insufficient transparency, government can easily hide its deficiencies or failures. This may in turn expose the government to the risk of dropping into a vicious circle. Inefficiencies of a government cannot be easily traced when it limits revealing information (Kotaro, 2003). As soon as it is visible, it strikes with great surprise to the view of general public and they become extremely angry. The government, apprehensive about this, would attempt more to keep information secret. On the contrary, if a government takes steps to deal positively to open information, its failures will gradually come to an end. At the same time, they will feel discouraged to further conceal information. By that means, this will form a virtuous circle (Stiglitz, 2001).

While countries are enacting legislation for the right to information, the United Nations General Assembly approved freedom of information as a fundamental right and the yardstick for all autonomies upon which the United Nations is committed (Anam, 2006). People may enjoy legal entitlement through right to information for ensuring information.

This also enables information publicly available by imposing the duty on public organisations, both government and non-government. It empowers citizens to get information from one who has the duty and hold him/her responsible to distribute important information proactively (Anam, 2006). Although right to information is not yet established as a fundamental right, it has significance on every aspect of people's wellbeing. It supports people with honour and security. An index with the information available on different indicators of transparency needs to be constructed. The index has to be refined as new indicators are available to correctly signify circumstances with so many dimensions of transparency (World Bank, 2005).

Table 2.3 elucidates the basic concepts and principles of transparency and openness achieved through the application of modern ICTs. The table is a summary of the studies enumerated in the literature.

Table 2.3 Summary of Research Concerning the Issue of Transparency and Openness

Author	Title	Concept/Empirical Support	Evaluations/Implications
Best, 2005	The Limits of Transparency: Ambiguity and the History of International Finance	Transparency means that information is freely available and directly accessible to those who will be affected by decisions and that the right information is provided in easily understandable forms. This requires that decisions are made and enforced in a manner that follows rules and regulations. Transparency carries with it a powerful array of moral and political associations, including honesty, guiltlessness and openness.	Bangladesh, with its very early stage of e-Government development, is focusing on rendering the first kind of services – 'information services'. This one-way interaction provides information to the citizens. Various public agencies, e.g. Passport and Immigration department, CCH, DCC, RHD, BOI and others in Bangladesh are adopting e-Government through automating traditional cumbersome processes and interacting electronically with their clients. Public agencies in Bangladesh developed their websites and provide information therein which is the first step of e-Government evolution. E-Government encompasses many applications and incorporates virtually all ICT platforms. The Internet is the most widely recognised component of e-Government. A key indicator of openness in various government agencies represents its provision of information on the Internet. Dissemination of public sector information and represents the wide use of the Internet. The government is increasingly adopting the Internet to ease business transactions, including custom clearance, tax collection, business registration, and the issuing of permits and licences.
Ciborra, 2005	Interpreting e-Government and development efficiency, transparency or governance at a Distance?	Increasing government transparency eventually brings about a dynamic change in the public management system of a nation. When a government discloses sufficient information and cost-benefit relationships become explicit, is accountable to the public, this makes the government implement policies based on the needs of citizens, as recipients of public goods and services.	E-Government initiatives in Passport and Immigration, CCH, DCC, BOI and RHD and include the establishment of websites that provide a variety of information, data and notices to stakeholders. The websites and databases created under the e-Government projects have been instrumental in enhancing transparency in their operations. This information include tender notification and procurement, web-based complaint submission, online public comment for draft legislation, computerised licensing and registration, automation of custom clearance, computerised holding tax management, MRP and MRV and so on.
Mclvor, McHugh, & Cadden, 2002	Internet technologies: supporting transparency in the public sector	The use of ICT, including e-Government has the potential to turn a developing nation into a developed one. However, the government	ICT can improve services to citizens through the process of automating public service delivery and enhance transparency. The websites and databases established in

Author	Title	Concept/Empirical Support	Evaluations/Implications
		and bureaucracy have to be transparent and accountable. The key to achieve that purpose is e-Government, which has the potential to eliminate corruption and bring order within government functioning. E-Government can bring transparency and eliminate corruption if it is adhered to it in its true form and spirit. However, it has not only the potential to bring transparency but also the capacity to breed corruption.	different public agencies have provided considerable information to the public, monitoring agencies, donor agencies and public officials as well. This is how the scope for manipulation has been reduced in those departments. Political leadership is critical for such databases and websites to serve as effective tools for preventing corruption.
Danziger & Anderson, 2002	The impacts of information technology on public administration: An analysis of empirical research from the "Golden Age" of transformation	Transparency allows making better decisions by breaking up the narrow circles that apply themselves to the task of policy-making and, in case of failure, as a rule, make the wrong choice: instead of broadening the circle involved in decision-making, they increase the level of secrecy, a breeding ground for more failures.	Many developing governments have a culture of keeping necessary information confidential, only the administrative head of a department can authorise the release of any such information. This culture goes counter to the logic of e-Government, which is to increase transparency in governance, including giving access to a wider range of public records. This means that where public officials or administrative systems benefit from poor governance and lack of transparency, they will be reluctant to open up their budgets and other records to the public. It is true that initially resistance was there in CCH, DCC and other departments which had to face greater internal resistance to its implementation. It was the leadership role played by top bureaucrats and politicians that motivated the stakeholders to accept the automated system.
Okot-Uma, 2007	Electronic Governance and Electronic Democracy: Living and Working in the Connected World.	The development of Information and Communication Technologies (ICTs) has brought about change in the form of information transaction, which has systemised the transparency of governance. For example, ICT can provide relevant and timely information in large quantities and makes the governmental process more open and democratic. Pervasive computing and documentation ultimately will make all things transparent in public dealings. This will enable transparency to finally become	The departments have applied Internet technologies to enable the creation of a web site, considering it as critical for interacting with citizens. E-Government initiatives in different public agencies in Bangladesh have created some positive impact in providing better information and services to citizens. However, most of them remain in the initial stage and are gradually progressing towards improving transparency. Although service automation or process re-engineering does not take place, human interface based delivery channels are there in these departments. Some of the information services are functioning through alternated delivery channels, e.g. mobile phone, radio, television etc.

Author	Title	Concept/Empirical Support	Evaluations/Implications
		international law within a short time.	The dissemination of information enabled improved transparency in service delivery. For a direct interface with the investors, BOI created an Internet portal that provides information on rules and regulations and allows monitoring of the status of an application for a permit or licence. Sophisticated e-Government software applications include service- tracking system, providing the most recent status of different registration processes. The electronic file tracking system increased transparency in BOI functions. The users (investors) can now determine the status of their registration process.
Eracovich, 2006	E-Government, technology and PA: Emerging issues, transparency and accountability	Transparency offers a basis for effective action based on knowledge and understanding. This can provide an important feature of any anti-corruption program and some detailed explanation. The progress of transparency is dependent on political will and the strength of civil society in countries where corruption is very deeply rooted.	Bangladesh has been facing a variety of governance challenges. Corruption is viewed as 'a way of life' in this context. Corruption is so severe that it almost becomes difficult to wipe it out from the society. Such corruption violates the contract between citizens and public officials, which has serious consequences for effective government. The lack of transparency in public dealings is likely to encourage corruption in public life.

2.4 Corruption: An Obstacle to Good Governance

The corruption and its consequences have attracted the minds of people who are committed to good governance. In Bangladesh, corruption is a hindrance for development and good governance. The lack of transparency in public dealings is one of the factors that encourages or promotes corruption in public life. Transparent government is a precondition for a less corrupt society as transparency restricts corruption. E-Government eases the flow of information and ensures more transparency (Iqbal & Seo, 2008; Shim & Eom, 2009). In order to achieve the objectives of development, anti-corruption efforts should be critical to good governance as declared in the 2001 Global Forum on Fighting Corruption[1]. Corruption should not be viewed as the wrong pattern of behaviour of politicians and public servants only. The problem is rather acute in the public sector (Pillay, 2004).

The issue of corruption has appeared close to the public sector reform programs of many developing countries. It must also be acknowledged that the negative aspects of corruption symbolises only one aspect of it. Corruption should also be considered simultaneously with the positive aspects of good governance (Pillay, 2004). It is assumed that majority of the programs for economic, political and institutional reforms depend on the integrity of the political and administrative practices. The United Nations Convention Against Corruption (UNCAC) aims to promote integrity and accountability in the public management system which can be achieved through e-Government 2010 (Iqbal & Seo, 2008; Shim & Eom, 2008). E-Government is practised as an anti-corruption tool in different areas of the world. In South Korea, Singapore, Hong Kong and India, there are many initiatives of e-Government to prevent corruption. OPEN, in South Korea is an example.

There is no complete and commonly established definition of corruption. We need a common definition to mark the actions of individuals and institutions, corrupt or incorrupt (Chinhamo & Shumba, 2008). The most effective way to coming up with an agreeable definition is to examine what different authors have said about it. There is a huge literature on corruption. Johnston (1996) offers a significant classification for the definition of corruption. He points out two different groups in the literature. The first group (Nye, 1967) emphasises the behavioural aspects of corruption. These behaviour-oriented researchers hold the view that corruption refers to the abuse of public office, power or authority for

[1] http://www.gf6.pp.gov.qa/overview.htm

private gain (Bardhan, 1997; Rose-Ackerman, 1999). The second group describes corruption through the relationship between those involved: a principal, an agent and a client.

Senior (2006) refers to Alam (1989) and Waterbury (1973), who endorse Johnston's (1996) classification. Waterbury (1973) describes corruption as 'the abuse of public power and influence for private ends'. Nye (1967) indicates it as 'behaviour which diverts from the rituals of a public role because of private concern (personal, relatives), pecuniary or status gains; or violates rules against the exercise of some kinds of private-related interests'. The two researchers are classified under Johnston's (1996) behaviour-oriented classification. On the contrary, Senior (2006) also mentions Alam's (1989) explanation, which portrays Johnston's (1996) second category of definitions demonstrating the interactions between principals and their agents. Alam (1989) views corruption as (1) the giving away the principal's interest for the agent's, or (2) the breach of norms expressing the agent's behaviour. Alam (1989) emphasises the relationships between the concerned parties.

Transparency International (TI) denotes corruption as the abuse of power and authority for personal gain. According to TI's Global Corruption Report (2007 p.xxi), corruption in Judicial Systems, private gain indicates 'both financial or material gain and non-material gain, such as the furtherance of political or professional ambitions'. It is quite close to the explanation about corruption in the Anti-Corruption Strategy of United States Agency for International Development (USAID), which also terms corruption as the misuse of entrusted power for personal benefit. The brief definition of the World Bank is the misuse of public office for private benefit (Shah & Schacter, 2004). Pathak *et al.* (2007) perceive corruption as a moral degradation, which exists in different forms in almost every society in varying degrees. Corruption includes both financial and non-financial gains. The very nature of corruption ranges from bribery, extortion, nepotism, swindling, fraud and opportunism (Chinhamo & Shumba, 2008).

Corruption is not new. The negative aspects of corruption came out with the advent of the concept of government. In 350 BCE, Aristotle said in *Politics* that in order to guard the treasury from any forgery, cash and money should be issued in open environment in front of all, and copies of the accounts should be deposited in different quarters (Aristotle, 350 BCE). The problems of corruption have upsurged in recent years, simultaneously with

increasing evidence of its damaging effect on a country's growth and development (World Bank, 2004). The prevalence of corruption in a developing country becomes acute to the magnitude of institutional and social aspects of development (Heyman & Lipietz, 1999). Governance rules and practices are the basics of sustainable development. All these rules and practices should be monitored effectively to observe whether a country is committed to keep to the basics or fundamentals of development. Only developing countries, in the past, were apprehended to be afflicted by corruption (Pillay, 2004). However, of late, developed countries also fit into the category, and it has become obvious that corruption is also ingrained in industrialised, democratic societies. Thus global concern about corruption is on the increase. Economic, political and administrative systems in developing countries, together with the excessive control of the state in granting resources and lack of accountability and enforcement, accelerate corruption (OECD, 1999; Zafarullah & Siddiquee, 2001). Corruption is more detrimental to developing countries as they possess less resources and need to use their scarce resources more effectively (Camerar, 1997; Iqbal & Seo, 2008).

Corruption in public sector is a sign of maladministration. The level of corruption in public sector depends on a number of factors, e.g. the quality of public-sector management, the extent of accountability of the government, the legal structure, and the extent to which public processes are complied with, transparency and provision of information (Shah & Schacter, 2004). The public sector has been absorbed by corrupt practices in major areas of the world. Corruption became evident acutely over two-thirds of the 159 nations studied in Transparency International's 2005 Corruption Perception Index (CPI) (Pathak *et al.*, 2007). These nations have scored less than 5 out of 10. Surveys also reveal that corruption exists in relation to red tape and is the oldest and most distorted shape of bureaucracy (Guirev, 2004). A lack of transparency and openness may be responsible for such deformities (Pathak *et al.*, 2007).

In Asia and Africa, a number of aid organisations, donors and governments, United Nations and its agencies are trying to solve the problems obstructing development. Business Crime Control (Ricks, 1995) and Transparency International (Eigen, 1995) are two important NGOs which have made tremendous progress in curbing corruption. In 1994, the OECD introduced guidelines in opposition to corruption in international business. European Parliament (MEPs) members have made strong steps against corruption as critical for

developing EU aid more functional. Even the UN General Assembly on 31 October 2003 endorsed the United Nations Convention Against Corruption (Pathak *et al.,* 2007). These illustrate the intensity of the concerns about corruption and offer valuable examples of political obligation to check it.

An intense, minute and profound perusal, assimilation and contemplation of the foregoing definitions reveal that corruption is universal, multidimensional, widespread and all pervasive with innumerable ramifications. It is easy to define anything that is contrary to law or human conscience as corruption. Literature is flooded with the causes, consequences and the fatal impacts of this human vice on citizens, the state, society, the economy, and groups of people in a society with unequal distribution of income, low literacy, a low resource base, and low sensitivity in people. The effect of corruption is not only personal loss, but also national loss, ultimately culminating in the terrible social loss. People resort to corrupt means mainly because of two reasons in a developing country like Bangladesh: need and greed. Need because the poor employees, who constitute majority of the total work force, wish to receive some illegal monetary gains from the service seekers who come to them for transactions of business. These employees are ill-paid and they tend to exploit the citizens desperately. Second is greed, which is universal in every human being and is equally applicable to both developed and developing countries' employees, private or public, poorly or handsomely paid.

After considering all these issues, corruption could be defined as the participation in the wrong-doing in terms of the wrongful misuse of private or public authority, power or resources for personal benefit. It acknowledges the prevalence of corruption in both private and public sectors. It involves individuals and institutions in the misuse of power and authority liable for corruption.

2.5 E-Government

2.5.1 History and Evolution of e-Government

An understanding of e-Government development rests on the historical knowledge of the relationship between technology and administration. The role of technology was confined only to solve problems of bounded rationality and provide infrastructure for decision-making (Simon, 1976). It implies that before the advent of the Internet and the use of computers, technology was used to computerise the back-office transactions and increasing the efficiency of clerical jobs (Zuboff, 1988). Thus government IT professionals were kept away from operational and executive oversight (Holden, 2003).

In the 1980s, public administrators were equipped with personal information technology with the spread of personal computers (Yildiz, 2007). This ushered a new wave of IT use in government. From this end, government started to decentralise technology management and integrating IT into its core functions. Three events were significant in the movement to technology integration and technology-related issues in public management in the United States. The first was the Urban Information Systems (URBIS) project in 1973-1978. This was the 'first large, systematic, empirical study to focus specifically on policy and outcomes of computer use in complex service organizations' (King, 2004 p.97). Second, in 1985, a National Association of Schools of Public Affairs and Administration (NASPAA) group suggested that computing is a basic skill educated in MPA (Master of Public Administration) programs (Northrop, 2003). Third, according to Bozeman and Bretschneider (1986), technology is changing the government which deserves further scholastic consideration.

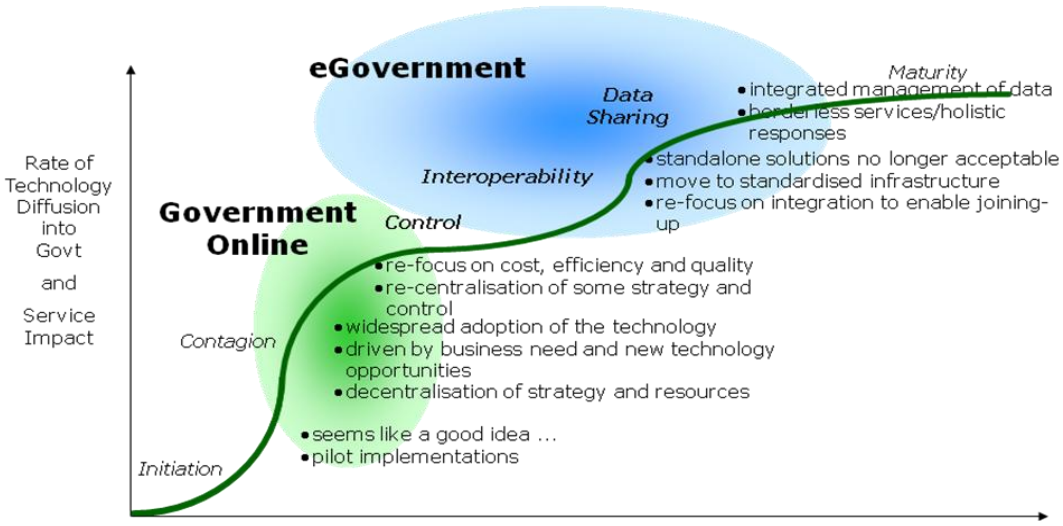


Figure 2.3 IT in Government Maturity Curve (Hodgkinson, 2002)

Until then, prior to the adoption of e-Government and a widespread use of the Internet, IT use of the governments was limited to internal and managerial functions (Ho, 2002). Subsequently, in the 1990s along with the adoption of the world wide web, IT was then introduced in government reform initiatives, culminates into the 're-inventing government' movement (Yildiz, 2007). Since then the development of a governmental portal, enactment of important legislation, IT integration into the strategic planning, and eventually the formulation of the 2001 E-Government Act in the United States, has offered both the organisational and the financial infrastructure of comprehensive e-Government applications (Schelin, 2003).

The use of ICTs in the late 1990s has enhanced effectiveness and accountability in government (Yildiz, 2007). E-Government in its early initiatives has promised that it would overcome unresolved issues in government agencies and transform citizens' expectations of the provision of public services (Smith & Teicher, 2006). The citizens also expect the government to be more transparent and open in terms of decision-making processes. *'eEurope'*, being highly politicised and highly result-oriented, is one of the success stories of e-Government. The EU has been showing its capacity to track, monitor and evaluate the implementation of each action plan by using an extensive system of key indicators and benchmarking reports to leaders for review and further action. The positive effects of political leadership and commitment through effective implementation benchmarking are probably the first lessons that developing countries might follow from eEurope.

So, what is e-Government? To begin, the answer is not straightforward because 'the quest is multi-dimensional across leadership, policy, economic competitiveness, education, digital citizen services, internal government operations, digital democracy, and enabling technologies for each dimension' (Caldow, 1999). Later, IBM suggests that multidimensionality is the first feature of e-Government process (Basu, 2004) and to sustain competitive advantage this multidimensionality needs to be considered through the 'seven e-Government leadership milestones': 'integration, economic development, e-democracy, e-communities, intergovernmental, policy environment, next generation Internet' [2].

[2] J Caldow 'Seven e-government leadership milestones', Company Report. Institute of Electronic Government, IBM corporation; www.ieg.ibm.com

2.5.2 What is E-Government?

Although e-Government is a concern of many governments across the globe, it has attracted the growing attention of the scholars and academicians (Heeks & Bailur, 2007; Yildiz, 2007) and has become popular research topic (Gronlund & Horan, 2004). Although definitions of e-Government abound, no single definition has been widely accepted (Scholl, 2003; Yildiz, 2007). While still remaining in its preliminary stages of development, a concrete definition of e-Government has to emerge. Yet there are some attempts to define e-Government on the basis of its different phases of advancement (Layne, 2001; UN & APSA, 2002) while others look up to the relationships between government and different stakeholders: citizens, business and other governments (Means & Schneider, 2000). Some definitions highlight the areas of impact on government, others read like mission and vision statements. However, these definitions suggest the expectations of some outcomes rather than the application of a particular technology and tool.

A relatively wider definition of e-Government is the application of ICT to strengthen government functions and services of (Heeks, 2005b), and a more value-driven definition is transformation of public-service delivery mode. The first definition highlights the basic form of e-Government in which public services are offered online to citizens and indicates efficiency and customer orientation; the second definition originates from a governance mode of increased democratic participation. The proposition of digital governance stresses the technology-driven changes in the transformation of delivery of public services. However, technology has to capture the socio-technical development aspects (McLoughlin, 2008). There is a interrelationship between technological and organisational transformation, and ICT can be better used in the interplay of these (Dunleavy, Margetts, Bastow, & Tinkler, 2006). According to the World Bank (2008), e-Government is the government's adoption of information technologies (for example wide area networks, the Internet, and mobile technology) that has the ability to transform relationships with citizens, businesses, and other organs of government. The techno-centric nature of e-Government is reflected in some of the definitions below:

- E-Government is the use of electronic means in the interfaces between the government and citizens, government and business, and internal government

operations in order to ease democratic, government and business perspectives of governance (Backus, 2001).

- E-Government is the pledge to apply befitting technologies to extend interactions between governments, in order to widen citizen participation, human values, sustain economic advancement, and promote provision of service delivery (Riley, 2003).
- E-Government is the application of ICTs in the public sector with the objective of strengthening provision of information and delivery of public service, promoting participation in democratic decision making and enabling government to be more accountable, transparent (Bhatnagar, 2004).

Like good governance, e-Government also derives its meaning from governance. E-Government has evolved as an information-age model of governance for harnessing the potential of ICTs at different levels of government. As e-Government has originated from a new category of Internet-based applications in organisations, it has been perceived more as being a technological construct (Okot-Uma, 2007). The idea of reinforcing relations with citizens is expressed by the OECD, which points out the scope for improved policy making and constituting a core element of good governance. In addition, it is about putting citizens at the core of democratic accountability (Department of Transport Local Government and the Regions, 2002, p. 2); it tends to establish public trust in government, enhance the quality of democracy and improve civil capacity (OECD, 2003a).

Four categories of interactions are there in e-Government practices (Lau, Aboulhoson, Lin, & Atkin, 2008). E-Government may be perceived as a sub-component of e-Governance. They are used interchangeably in some of the literature (Bhatnagar, 2004), but still can be defined and differentiated appropriately. Governance is the way of guiding the society to fulfil its goals and objectives (Keohane & Nye, 2000) while government is the right authority to perform it (Riley, 2003). E-Governance is all-inclusive, covering the whole range of relationships and interconnections in government with regard to the use of ICTs. It is a wider concept that explains the effects of technology on public administration and the interface between the government and the society, e.g. elected bodies, non-profit organisations, NGOs or private entities (Sheridan & Riley, 2006). On the other hand, e-Government is generally a narrower discipline relating to provision of online citizen services, for example e-tax, e-transportation or e-health.

The adoption of e-Government stresses the impacts of the interaction between technology and organisations. It is not only applying ICTs across the institutions, but also is meant for the attitude of government organisations towards the application of technology. The mutual relations between technology and organisations push for sustaining change (Bellamy, 2002; Fountain, 2001). Conceptually when there seems to be an agreement over what signifies e-Government, objectives differ among those who introduce e-Government to transform government. The major difference lies in the original visions that steer e-Government initiatives. The concept of e-Government has been introduced in a developing country context with the aim of offering the citizens with appropriate and suitable access to public information and services. Figure 2.4 highlights different domains of e-Government.

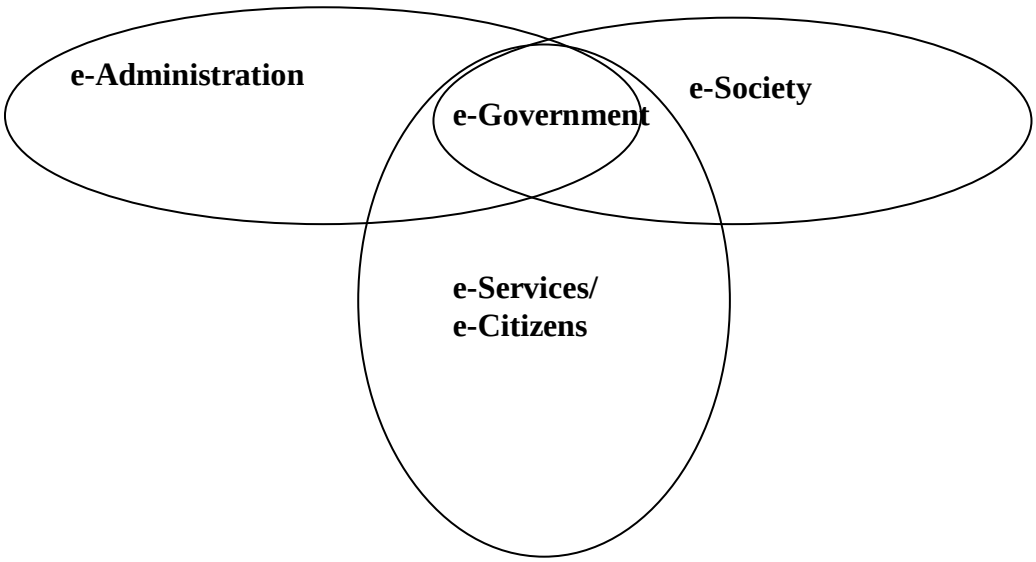


Figure: 2.4 Domains of e-Government (Ndou, 2004)

2.5.3 E-Government in Bangladesh: Its Impact on Improving Transparency and Openness

To establish a citizen-centred government the concept of e-Government has emerged rapidly in the developing world. The Bangladesh Government has also concentrated on introducing e-Government as a part of existing governance reform through the introduction of ICT (Sobhan *et al.,* 2004). The role of ICT to strengthen governance mechanism is significant. The effect of ICT on improving transparency through the provision of available information

flow is the main focus of this study. Transparency and access to information is a prerequisite for strengthening governance mechanisms. E-Government with the use of ICT acts as a catalyst in this phenomenon. The malfunctioning public management system can be improved in multiple ways through the increasing use of ICTs.

Studies show that ICT can make public servants responsive and accountable with a free flow of information on policy and administration (Bhatnagar, 2004; Ure & Lovelock, 2002). Provision of information in the Internet restricts manipulation, and thus enhances peoples' trust in government (Tolbert & Mossberger, 2006). Transparency or openness in dealings with a free flow of information to the users can be made easy through ICTs (Sturges, 2004). For instance, when an aggrieved citizen appeals to an authority and how long that authority takes to adjust it can be seen on the screen by anyone. Access to information on land records, land registration, government policies, procedures, and others empowers citizens to ensure accountability of administrators. However, accountability cannot be developed automatically, but can be achieved through provision of information, which is known as transparency. Accountability cannot be imposed by government proclamation. It has to be gradually secured and sustained. It is an outcome of a comprehensive incentives, transparency in government procedures and decision-making, and checks and balances at different strata of government (UNDP, 2010a)

Civil servants can be held accountable if information on income and expenditure is made public. This will also reduce inefficiency and corruption (Jain & Ramani, 2005). E-Government, according to scholars, improves service delivery and restricts corruption as ICT promotes transparency, empowers contestability of public affairs and ensures responsiveness (Cho & Choi, 2004). It reduces discretionary powers of administrators and transaction costs (Cisar, 2003). For instance, the increasing use of smart cards enables citizens to have access to various government services and thus restricts fraud and misuse of public services, thus resulting in increased public confidence in welfare and taxation services (Wescott, 2003).

Heeks (1998) confirms that e-Government can distinctly minimise corruption in the public sector. A study in India has demonstrated that corruption has been reduced to 19 per cent and 38 per cent respectively in certain public sector in Kolkata and Mumbai through introducing e-Government (Bhuiyan, 2009; Kabir, 2008) in 2000. In Bangladesh it remains to be observed that, for computerisation of railway reservation system, black-marketeers

impact of middlemen can largely be minimised. The middle-men in citizen-government interface can be removed which will in turn help in curbing corruption (Kabir, 2008).

Against this backdrop, ICTs seem to have enormous potential to achieve good governance objectives in developing countries (Kalsi, Kiran, & Vaidya, 2009; Okot-Uma, 2000). Government organisations introduced e-Government as a tool for facilitating financial reform, transparency, anti-corruption, empowerment and poverty alleviation (Jane & Robin, 1999). Nevertheless, the potential has not yet been achieved so far. The prospect and potential of e-Government must be contemplated to establish its large economic and social benefits in developing worlds. The development of e-Government should be coupled with the appropriate mix of good governance agenda and adapted to respective institutional contexts (Dada, 2006a).

E-Government implies a new perspective of governance through using sophisticated ICT in public policy processes and interacting with citizens and delivering services (Ghere & Young, 1998). The justification of this preference for e-Government is that e-Government can lower costs and time in delivering services, promote citizens' access to information, improve transparency, openness and public accountability and streamline democracy (Heeks, 2001b; Norris, 2001). Many developing countries have taken initiatives for implementing e-Government, some of which are successful (Basu, 2004; Saxena, 2005). This has resulted in improved government performance, better service delivery, and success in addressing many socio-economic, political and administrative malfunctions. The cases of OPEN and SMART have been illustrated (in Chapter 2) to help know the usefulness of introducing e-Government to attain development goals. How e-Government can bring about the desired results in curbing corruption is depicted in these two cases. These cases have been able to increase transparency by providing quality information about government functioning by using technologies like the Internet. Experiences gained from the cases have great value to help reorganise the Bangladesh public management in parallel with the e-Government mandate. Referring to the Indian experience, Pathak and Prasad (2006) infer that e-Government can help tackling corruption and bringing social harmony.

The underlying research question arising from these positive and negative aspects on e-Government is how such a new scope of governance has affected the issue of transparency and openness in the government system in Bangladesh. This dimension is critical, as it does matter whether e-Government is able to improve transparency and openness based on

accountability, equality and fairness. Unlike developed societies, Bangladesh is one of the poorest nations in the world with numerous problems of poverty, inequality and external dependence, which act as main obstacles to the effectiveness of e-Government in ensuring equal public access to state institutions and requiring political and public officials to be responsive and accountable (Hasan, 2003; Hoque, 2010). However, before investigating the impacts of e-Government on the issue of transparency and openness in the government, the next section concentrates on an analysis of the major policies, initiatives and institutions related to e-Government in the country concerned.

E-readiness must be there in developing countries for the new concept to succeed (As-Saber *et al.*, 2007). Improving the infrastructural deficiencies may reduce the obstacles to e-Government. The priority, therefore, is to build e-readiness in some key areas: awareness and commitment at a high level; development of a national strategy; availability of funds to support e-Government initiatives; setting-up of key e-Government institutions to plan and facilitate e-Government projects; enactment of new laws and regulation for enabling the process; strengthening operational capacities to implement pilot projects in the area of human capacity, technology and data systems and setting-up of e-Government pilot projects that focus on 'net-worked Government'; and, most important, the attitude of the civil servants towards e-Government (Imran, 2005).

Hossain (2005) is concerned with the introduction of e-Government in the developing world which sounds 'ambitious' and a major daunting task. Hossain (2005, p.3) critically points out that 'practically e-Government remains a paradox between myth and reality in most developing countries'. Given the accepted principles of right and wrong, the development challenges of the existing world and the difference between haves and have nots offer an ethical view to the matter. Thus an in-depth analysis should be made to justify the prospects of citizen-cantred e-Government in developing countries.

Heeks (2000) is also critical to state that e-Government has little relevance to a developing nation, where it is difficult to satisfy the basic economic needs albeit all potential benefits. Heeks (2003b) cautions that the extent of failure of e-Government initiatives in developing countries is extremely high due to ineffective cost management and design-context reality. Further, political and bureaucratic inertia is another hindrance to achieving the mission. Rice (2003) cautions that, in spite of the effect of globalisation and initiatives at local and international levels, the LDCs are struggling to keep pace with the ICT development of

developed countries. The diffusion of technology is quite slow in many LDCs. Only a few are trying to make it over to transition economies and are moving forward, while many are falling behind, mostly placed in sub-Saharan Africa and part of South Asia.

2.5.4 The Challenges of Shifting to Integrated Services

In the middle of the 1990s governments has started shaping their visions for applying the Internet and new ICTs to make a more efficient public sector than before. However, in practice it has become far more difficult than most people imagined. The challenges of transforming government (to online) are complex, with organisational, legal, administrative, social and political forces as obstacles in the way. It is implied that in order to make e-Government successful a massive effort to change management is essential. Nevertheless, governments across the globe are facing many challenges to fulfil these tasks considering the extent and intricacy of their structures and the bulk of information they need to manage. Many service delivery organisations are highly developed in integrating services online. However, it is indeed difficult to improve program integration across organisations to another stage (Halligan & Moore, 2004). A survey in a recent Australian e-Government project (AGIMO and IPAA, 2004) indicates the necessity for improving citizen participation through customer-focused ways; integration of programs through technological, organisational and cultural aspects of cross-governmental challenges to attain better integration; connected governance and finally a wider e-Government concept that involves various non-government participants and which focuses the challenges for the complexities of service integration across the organisations (Halligan & Moore, 2004).

2.5.5 Barriers in the Context of Developed Countries

Several barriers are there that the governments need to consider in developing ISD. Barriers to integrated service delivery (ISD) are political and legal, structural, operational/managerial, and cultural (Kernaghan, 2008). The political and legal barriers in the developed countries, although existing in reality, are largely accidental. The integration requires legislation to be revised from time to time. Integration also requires legislation to allow sharing personal information in government departments. It requires political will to revise legislative review schedules.

Structural barriers are not very common in the public services in developed nations. Most organisations are structured for administrative ease. However, in terms of delivery of service, product and customer demand appear to take precedence over process and thus require structural adjustment to transform the delivery of services in government. Operational and managerial issues are as important as structural issues. The operational category involves the measurement of work done, which largely depends on management endeavour. In today's integrated world, impact of the combination of a number of functions is equally important with assessment of the impact of these functions. The next barrier is cultural. ISD breaks down the traditional norms of an organisation. Since managers have limited control over the result of change, they may find it difficult to share the objectives and measurements. Next, managers may find it hard to see beyond the boundaries, so a lack of vision will remain there (Margetts & Dunleavy, 2002; Teicher, Alam, Gramberg, & Keddie, 2008).

The major problem now is that systems in different agencies are not necessarily consistent or compatible. Interoperability can resolve this problem. Interoperability as a system works with other systems without requiring customers' special efforts. Agencies must have their own interoperability framework based on a standard approach and compatible with other standards developed for the world wide web (Rimmer, 2001). Thus, by means of e-Government, service delivery agencies are implementing their integrated programs online. However, variations remain in the existing infrastructure, which need significant investment.

Emerging Challenges: The following are the potential challenges in integrated e-Government projects in the developed nations.

Transformation: Transformation portrays the evolution of e-Government with the increasing maturity of ICT. The first stage of this is a web presence that continues up to three levels before the fourth stage of service transformation (Accenture, 2004). The first three stages are about automation, which involves computerisation of existing processes. All these activities exist within a ministry or a single government agency. Transformation is important and is central in ISD. It focuses on devolution of responsibility to the head of the department with agency accountability. It is critical for further significant achievement in public service delivery. Governments across the globe must have the right policies to maintain this transformation. Governments also need to address the consequences of

changes, not only in economic terms but also with respect to security, access and equity issues associated with new technologies.

Channels: ISD is known as the logical objective of e-Government (Kernaghan, 2008). It has three basic elements: it is integrated, and it needs to do with services and with delivery (Halligan & Moore, 2004). The challenge for citizens is that government agencies do not always align their views of what is meant by a single requirement. With regard to 'delivery', a channel is a way to deliver a service to the citizens. The meaning of 'channel' is changing with new insights and comprises a complex technology and practices.

Value Networks: Value network implies greater flexibility and reliability in fulfilling changing demands. In order to integrate all levels of government and other agencies, organisations need to provide services through a consistent and coherent infrastructure (CSC, 1998).

Other Challenges/Barriers

Apart from ISD, there are other challenges including cross-jurisdictional issues concerning the construction of supra-governmental organisations (Turner, 2004). Then the issues of accountability and product ownership appear (AGIMO and IPAA, 2004; Grant, 2004).

2.5.6 Developed *Vs.* Developing Nations

Table 2.4 Differences between Developed and Developing Nations

	Developed Countries	Developing Countries
History and Culture	• Government and economy developed immediately after independence • Growth of economy 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 optimally; low standard of living • Relatively short history of democracy and less transparent government policy and rule
Technical Staff	• Has 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 development	• Does not have 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	• **Poor** 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-process	• Low Internet access, and citizens are reluctant to trust online services; few citizens have skills to operate computers • Relatively less experienced in democratic system and less active participation in governmental policy 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

Source: (Chen, Chen, Huang, & Ching, 2006)

Despite the worldwide spread of e-Government and the claims of its benefits, it is still under scrutiny. The benefits are likely to be affected for many technological and organisational reasons in both industrialised and developing countries (Heeks, 2003b; Wescott, 2001). Multifaceted integrated systems with common inter-organisational IT strategies or linked with joint information solutions among heterogeneous organisations encounter difficulties with information, technical, human, management, process, cultural, structural, strategic and political factors in each organisation (Heeks & Bhatnagar, 1999).

History and Culture: History and culture are different between developed and developing countries. Developed countries are mostly self-reliant and are known more for their sound economic growth. On the other hand, many of the developing countries have become freed from their long colonial regime and still do not have a strong government structure. Culture is also important between these two societies. Political instability is a common feature in developing countries, which weakens their economy and government structure.

Across the globe the accomplishment of e-Government is constrained by the following factors. Public sector reform or new public management concepts in developed countries, such as the UK and the USA, are intrinsic, i.e. internally driven. In many developing countries, it is however, extrinsic which is externally driven, for instance, by the World Bank and other development partners (McGill, 1997). Although there is economic and financial restructuring in developing countries, like India, most of them are very bureaucratised and centralised (Saxena, 1996).

Another difference between developed and developing countries is the availability of ICT infrastructure, which was triggered by the availability of Internet technology. This prompted the citizens in developed countries like the USA, Canada, the UK and Australia to access government services from far away with lower costs. In contrast, ICT infrastructure, and the use of ICT are very weak and low in developing countries (Bhatnagar & Bjorn-Andersen, 1990; Yong & Koon, 2003). As a consequence, e-Government in developing countries is meant for automating the internal functions (Saxena, 2005). Hence, e-Government adoption in many developing countries seems to be a high-priced infrastructural change since they have no vigorous plan to shift from paper-based systems to fully Internet-based systems.

One of the major elements for creating a congenial environment for e-Government is to have a strong economy (Rimmer, 2007). As an example Rimmer (2007) cites Australia's

macro-economic settings, with its relatively high growth, low inflation and interest rate share, which are favourable for investment that leads to flourishing innovation. Further, Kirkman *et al.* (2002) mention about four major issues of e-Government implementation (designed by the Center for International Development at Harvard University). Developed countries have the capacity to undergo all these processes while implementing e-Government. These are known as National e-Government Infrastructure (NeI) factors. NeI Factor 1: Network access comprising infrastructure development, resources and IT support, and use of Internet; NeI Factor 2: Network learning; NeI Factor 3: Network economy; NeI Factor 4: Network policy. On the contrary, e-Government implications for developing countries differ from those of developed ones as described below.

E-Government practices in developing countries primarily focus on transparency and preventing corruption (Bardhan, 1997; Kumar & Best, 2006). Here lies the main difference between developed and developing countries (Grönlund, Andersson, & Hedström, 2005). In developing countries, e-readiness must be there in terms of awareness and commitment at a high level for the required infrastructure, availability of funds, enactment of new laws, development of a national strategy, setting-up key e-Government institutions; and most important the attitude of the civil servants towards e-Government (As-Saber, Hossain, & Srivasta, 2007; Bhatnagar, 2004).

Heeks (2003b) views that e-readiness and minimisation of design-reality gaps are the key challenges for e-Government implementation. E-Government has little relevance for a developing country where it is very hard to satisfy the basic economic needs of the general people. Further, political and bureaucratic inertia is another hindrance in achieving the mission. Moreover, there are issues of digital divide and interoperability of systems. The absence of sufficient readiness creates a gap between those with and those without technical skills. The digital divide creates more divisions within the structured, hierarchical, administrative and political structure (Teicher *et al.*, 2008). Rice (2003) cautions that despite all initiatives throughout the world, the digital divide in the LDCs seems to be widening, which in fact are falling behind the growing ICT pursuit of developed/OECD countries.

In developing countries, most of the e-Government strategies and their implementation are based on theories and experiences of developed countries (Huang, D'Ambra, & Bhalla, 2002). According to Sharma (2002) the challenge many developing commonwealth

countries face is that they do not possess either the advanced industries or the financial back-up to follow their fellow members in the more developed countries.

The creation of supply before demand is another crucial phenomenon especially in developing countries. E-Government projects in developing countries are mainly donor-driven. A common donor approach usually is not free from flaws – it cannot take everything into account properly, provides an impaired solution and cannot achieve the desired goal eventually. When a stakeholder has direct access to government transactions, it tends to remove human intermediaries, which may cause some business obligation (i.e. exploring additional information), to citizen-clients. Further, this may also create a need to design a more flexible structure and process, and increased coordination between governments, businesses and citizens (Aichholzer & Schmutzer, 2000; Allen, Julliet, Paquet, & Roy, 2001). It is because of this increasingly sophisticated fabric of government-stakeholder relations in the governance system that Pardo (2000) noted the importance of identifying stakeholders and incorporating their needs in e-Government initiatives in developing countries. Thus the accomplishment of e-Government in developing nations often faces variety of challenges (Backus, 2001; Heeks, 2001b; Yigitcanlar, Baum, & Stimson, 2003). Overall, these challenges have been categorised into four categories: institutional, resource-related, accessibility and legal (Rashid & Rahman, 2010). Each of these categories is briefly discussed in the following sub-sections.

Institutional

Institutional factors including political commitment, administrative leadership and organisational structure are considered critical for e-Government implementation (Coursey & Norris, 2008). Political commitment is the most important for any reform to materialise in developing nations in particular (CEG, 2001; Mahmood, 2004; OECD, 2003a). The top level managers within a department are the main driving force (Singh, 2003). It is important that they must have sound knowledge and understanding of the scope of e-Government. While political commitment is the milestone of any change, administrative leadership with effective management process is crucial.

Resource

Technical, financial and human resources are critical. Inter organisational integrated projects often lack financial and man power supports (Edmiston, 2003; Norris, Fletcher, & Holden, 2001). Further, the lack of IT skills is identified as a major constraint (Heeks, 1999;

Moon, 2002). In Bangladesh, institutional support to develop IT skill and expertise is lacking. Hence many e-Government projects suffer from the absence of skilled people (Morshed, 2007; Taifur & Chowdhury, 2003). Technical capability refers to hardware, software and expertise required for implementing projects. E-initiatives require investments for securing hardware, software and expertise. Bonham *et al*. (2001) and Bourn (2002) consider technical infrastructure as critical to provide electronic services. In addition**,** ICT infrastructure and ICT use in developing nations are very weak and low (Bhatnagar & Bjorn-Anderson 1990; Yong & Koon, 2003). The absence of technical infrastructure planning and suboptimal use of available infrastructure make it even worse.

Accessibility

In developing countries e-readiness must be there to introduce the new concept (As-Saber *et al.*, 2007; Bhatnagar, 2004; Dada, 2006b). Access-related issues determine education and basic technical knowledge, awareness and purchasing capacity. ICT (e-mail and the Internet) is still considered to be something meant for the elites in the society. The majority of the people are ignorant about the impacts ICT in their lives. Fors and Moreno (2002) consider that, in addition to literacy, technical skills, computer literacy and language skills are necessary for the effective use of ICT (Cecchini & Raina, 2004; Hossain, 2005). The affordability of the users needs to be considered. The digital divide may hinder willingness to use the technology (Thomas & Streib, 2003).

Legal aspects

For the adoption of e-Government, a sound legal or policy guideline is essential, indicating the accessibility of information and other issues like risk-taking, trust development, and inter-organisational knowledge-sharing (Lane & Buchanan, 1998). The absence of legislation hampers a congenial environment for knowledge sharing. In the absence of such legislation, oganisations will not be able to maintain the issues of public access, privacy, security and confidentiality to control the dissemination of information into legal forms (Dawes & Pardo, 2002; Edmiston, 2003). Transparency and accountability ought to be strengthened by means of laws, legislation, rules and policy (Dalal, 2007). Regulatory provisions are often in place in developing countries to control information flow and to maintain confidentiality. Kubicek (2004) cautions that in order to realise the goal of transparency and openness, the risk of breaking citizens' privacy may arise from ethical and legal perspectives.

Table 2.5 delineates the fundamentals of e-Government and allied issues. It exemplifies the significance of the modern technological advancement of e-Government. The table also offers glimpses of the tools, techniques and roles of the ICTs in public-sector management.

Table 2.5 Summary of Research Concerning e-Government

Author	Title	Concept/Empirical Support	Implications
Fountain, 2001	Building the Virtual State: Information Technology and Institutional Change	E-initiatives restructure bureaucracy and influence the perception of politics and the norms of the state. In the transformation process, changes occur in structure, process, work practices and organisation cultures involved in this process. E-Government projects require extensive partnership and coordination among different departments, which in fact implies the 'transformation' of the modern state.	Partnership or collaboration between government bodies and private entities becomes essential in crafting reforms and expediting the implementation process. Stakeholders' active participation is important. Public-private partnership is the key to the success of automation of Chittagong Custom House (CCH). The PPP will eventually result in entrepreneurship and innovation through optimum use of government resources and improved service delivery to citizens.
Ritcher, Cornford, & McLoughlin, 2004	The citizen as talk, as text and as technology: CRM and e-Government	E-Government essentially involves transformational change at the organisational level. It brings a significant shift in the nature of the relationship between government and its citizens. Citizens-as-customers have significant implications for the traditional relationship through the diffusion of ICTs and realignment of these two. The adoption of e-Government in the public sector culminates in organisational change.	E-Government is not just computerising the existing processes and inefficiencies. The creation of new processes in CCH and other government departments and relationship with the citizens/businesses need to be considered. It is expected that the application of ICTs in CCH and other public agencies will help exceed simply a focus on efficiency and effectiveness over time. ICT can also empower citizens by providing available interactive access to and use of information.
Dunleavy *et al.*, 2006	Digital Era Governance: IT Corporations, the State, and e-Government	One major effect of e-Government is the impact on society. The internet forces the public service to operate in a new network model, which can have a profound impact on the quality and quantity of relationships between government and citizens.	In CCH automation, the technology is customised according to the requirement and the environment of CCH. The use of IT in CCH transforms the objective of that technology and tries to adjust it to CCH environment. This will enable public officials in CCH to identify the barriers both from supply and demand sides and cater the design to those demands. Automation in CCH and other departments strengthens the delivery of public services in a new network model that can have a profound impact on the quality and quantity of relationships with their stakeholders. This is very important for the government in an era of growing disenchantment with the public policy process.

Author	Title	Concept/Empirical Support	Implications
Heeks, 2000	Failure, Success and Improvisation of Information Systems Projects in Developing Countries.	Mostly e-Government signifies a broad project of technology transfer, adopting designs from one context to another. In such circumstances the reality of local perspectives in the developing country may not have been reflected in the original design and a large gap between the context of design and the context of deployment may take place. E-readiness and minimisation of design-reality gaps are the key challenges for e-Government implementation in developing countries. There are issues of digital divide and interoperability of systems. Due to a gap between those who are capable of having Internet access and those who are not is an impeding factor for the success of e-Government.	The implementation of e-Government is in a preliminary stage in Bangladesh. The lack of e-readiness must be considered in relation to its success or failure. A large gap may exist between the project design and public sector reality that could be a serious threat. As a developing country, Bangladesh needs to seek necessary advice from the developed nations; however, the design must conform to its own context. If the public-sector agencies endeavour to follow the design with values and knowledge totally different from their national context, that would obviously have a negative impact and lead to failure of the projects. Design-reality gap could be a menace if the civil servants do not serve their national interest.
Wescott, 2001	E-government in the Asia Pacific region.	Asia-Pacific governments are slow in adopting ICT for several reasons. 'There is lack of ICT professionals in government, a weak legal framework on information, digital signatures, intellectual property protection, e-commerce and security.' Lack of funds is not a key barrier to e-Government pursuits. By redeploying their services through emerging communication media recent IT-driven advancements in civil administration are not merely cosmetic changes. Rather, they represent a paradigmatic shift in basic government functioning as public services are redesigned to steer away from conventional bookkeeping functions.	The accomplishment of e-Government in this context often faces a number of challenges and is constrained by some factors. A number of barriers exist in public sector agencies that inhibit the extent of benefits and success of e-Government. Absence of managerial acumen and technical know-how to analyse the cost-benefit aspect and return on investment to assess the feasibility of a project is hampering the nation's e-Government objectives. In order to achieve the goal of transparency and openness by means of e-Government, the risk of breaking citizens' privacy may arise from ethical and legal perspectives.
Bhatnagar, 2004	E-Government: From Vision to Implementation- A	E-Government can be an undefeatable tool of corrupt practices if there is no transparency and accountability and the	Since e-Government is still in its infancy in the departments concerned, there was in fact no concrete evidence of reduction in corruption through automation in Bangladesh. However, it

Author	Title	Concept/Empirical Support	Implications
	Practical Guide with Case Studies	benign concept of e-Governance is used as a façade to misappropriate public money by acting in paper only. There is a big gap between what must be done and what is actually done. Thus, there is a dire necessity of making the government and the persons manning various departments accountable and make their functioning transparent and fair. One of the tools that can be used to bring that result is the use of an appropriate ICT Act along with e-Governance.	is perceived that e-Government has the potential to reduce corruption by means of increasing transparency and accountability in the system. E-Government with the use of ICT deserves the attention of the government as it acts as a tool to improve the quality of government services. It can increase the provision of information in public agencies. E-Government activities in various public agencies have significant impact on improving transparency, and pave the way for openness and accountability in government system. Besides, it is widely believed that e-Government helps in reducing corruption. Through introducing e-Government, public management system can be institutionalised to reduce the scope for corruption.

2.5.7 Major e-Government Theories

Theoretical Underpinnings

As a relatively new concept, the domain of e-Government lacks a well-developed theoretical foundation. One strategy for coping with theoretical immaturity is to import and adapt theories from other, more mature fields. Therefore, it needs to accommodate theories from other, more established fields, e.g. Bhatnagar's theory, Fountain's theory, the theory of IT Governance by Weill and Ross etc. The extant literature on governance is constantly coping with the changing environment and the varying needs of citizens and other stakeholders. All these theories talk about the emergence of e-Government, its development and mitigating various kinds of expectations of its stakeholders. A combination of these theories helped explain the e-Government phenomenon in Bangladesh.

1.Bhatnagar's Theory

E-Government facilitates governments to render delivery of services to the citizens efficient services in a convenient manner in that it improves transparency, eases more revenue collection for the government. For gaining these goals Bhatnagar (2004) indentifies three main ways as critical factors: these are desire to reform the public sector, obtaining information and communications technology (ICT) infrastructure, and organisational ability to accept the change. In other words, the public sector must have the intention to bring about the change for betterment of the people's sector, ICT infrastructure change and, last of all, the institutional capacity to adopt the change for improvement. Professor Subhash Bhatnagar who devoted himself to mainstreaming e-Government in several capacities, had focused on the use of ICTs to provide key national priorities including reduction in corruption and poverty alleviation. His experience and knowledge in this field offer practical guidelines to provide conceptual and empirical basis for exploring the potential of e-Government. The findings of Bhatnagar may be relevant as a policy guideline for Bangladesh, which is at the preliminary stage of ICT development. At the preliminary stage of ICT development, a determination and political commitment from the upper echelons of the executive is inevitable in Bangladesh. In that case the ICT functions become more convenient, which allows the people to be more responsive, committed, reverberant and vibrant. This fact was revealed to this researcher during interviews. The IT people in many organisations become more articulate and ardent to perform their functions with zeal and enthusiasm if there is political desire and profound

commitment by the political personalities, so the IT people work with much more diligence and sincerity to please their superiors.

There have been some illustrations in Bhatnagar's theory that are worth imitation for Bangladesh in the socio-economic context because some are being replicated in the Ministry of Land through the Directorate of Land Records and Survey. The Ministry has undertaken some projects to modernise land and survey records although the replication is still in the initial stage because maintenance of land records is very difficult, cumbersome, complex and a bit complicated, which entails careful attention in maintaining the *Khatian* (Plot number) in age-old British survey records involving litigation in the High Courts and Appellate Division (the highest court in the country, whose verdict is final).

Bhatnagar's arguments are noteworthy, practical and more realistic. The case studies are useful for future projects; the publication needs more positive and negative points from the experience of past projects because developing countries like Bangladesh have much to learn from both failures and successes and cases in between existing in the Indian sub-continent in almost the same level of socio-economic and political development as an adjacent country. Bangladesh has also some cultural affinity with India and can share the Indian experiences with a similar degree of intensity and importance. The success stories are important but the semi-success or non-success stories (in the Indian experience) are even more significant in that Bangladesh can learn lessons from the reasons and causes behind the failed cases, why these have been unsuccessful and who is responsible. Is it negligence of the executors or any other intrinsic factors that account for the failure?

In general, a project is undertaken for its success and not failure. An intensive study will reveal the main reasons for the unsuccessful cases. Bangladesh cannot afford to spend money on projects that ultimately end in failure. *Bhoomi*, *SMART etc.* have been tremendously successful in the Indian socio-economic, cultural and political context because the land owners have benefited immensely in terms of saving time, reducing costs, avoiding hassle and harassment, and overall the entire process has saved people from intense corruption. People now can have their DCR (duplicate carbon receipt) from individually operated *kiosks* within a much shorter time than previously. A well-developed security system has evolved with signature validation proof.

In sum, Bhatnagar (2004) tells about the emergence of e-Government in developing countries as an enabling tool to introduce transparency, increase efficiency and overall make public sector reform easier. According to Bhatnagar (2004), three factors are critical for success in e-Government implementation: willingness or commitment to reform, availability of ICT infrastructure, and the institutional capacity to manage change. Bhatnagar convinced the developing countries to adopt e-Government to address their social and economic development challenges. From their success, Bhatnagar's theory offers practical guidelines on selection of application areas, project design, and strategy and implementation pattern. Analysis of these cases provides useful insights and learning about the emerging trend of e-Government in the developing nations and provides directions to tackle the challenges in implementation. It mentions the critical success factors for adoption of e-Government, which will lead to the governance reform of these nations. Apart from technology, it highlights many different perspectives. Although every nation has its unique nature, these lessons can be shaped in many creative ways according to respective needs.

2.Fountain's Theory: Organisation and Technology

The technology enactment framework is an analytical guide to explore and examine the information-based change in governments (Fountain, 2006). This framework is illustrated to express the distinctive roles played by key actors in technology enactment. The essence of this theory is that technology enactment needs the considerable knowledge and skill of the actors to construct networked governance systems. As an analytical framework, technology enactment emphasises the processes of how ICTs can be used by institutional actors, i.e. public servants. This enactment means the use of IT in an organisation transforms the interim objective of that technology and tries to adjust it to the organisational form (Bretschneider, 2003).

According to Fountain (2007), an institutional perspective is a challenge to focus on structure, politics and policy in the studies of e-Government. It also focuses on the roles and relationships of formal and informal institutions. Fountain (2007, p. 1) has indicated that "(f)ormal institutions (include) laws, regulations, budget processes, and other governmental procedures". These are critical for legitimisation of the use of ICT. Informal institutions involve networks, norms and trust, which are also significant in this regard. The main challenge of the adoption of e-Government lies in the issues of liberty, participation and

other main themes of democracy. Fountain (2001, p. 12) composes her analysis within a theory of 'enacted technology' in which "reciprocal effects between technology and institutions are not sequential and direct but complex and highly interdependent, forming a new kind of virtual politics. When different logics intersect or conflict, the results are unpredictable".

In total, an institutional perspective of e-Government stresses the internal workings-the infrastructure and capacity of the nation. It draws out the role of the widely shared professional behaviour of public servants working within institutionalised roles and settings. The study of e-Government through an institutional perspective provides the scope to observe the interaction of stable practices and traditions with technological innovations. Fountain contends that the effect of e-Government initiatives is not to sweep away bureaucracy but to restructure it. Initiatives need to be integrated to let the citizens notice a positive difference in a complex iterative process (Fountain, 2001). There must be an analysis of need and new means of inter departmental collaboration.

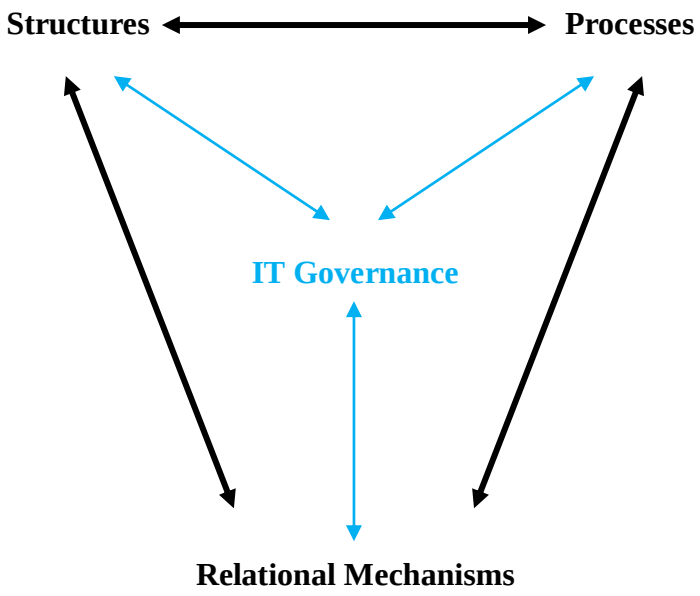
Fountain reckons two main issues in e-Government to consider. The first one is top-down hierarchy and the second one is the integration of the program (Smith, 2007). The main theme of her theory is that it seeks progress on the first agenda. However, it also recognises expansion to a future agenda. By the term enacted technology Fountain (2001) tries to relate it with other theories for example, neo-institutionalist theory. Her conviction is that these theories may also be changed or influenced by technology. Thus she considers that there is scope for reform of neo-institutionalist approaches. To know IT and government Fountain has successfully examined institutional theories from a social science perspective. However, she is also being criticised for not considering her predecessors who worked on organisations and technology. Fountain does not recognise the extensive social science literature on IT and government (Norris, 2003). For instance, the 'Management of Information Systems' explicitly discusses several perspectives of the dominant theory, socio-technical systems theory, with the framework for the study of computing in government organisations (Kraemer, Dutton, & Northrop, 1981). For instance, some indicate 'enacted technology' as common wisdom (Garson, 2003, p. 426). Some critics view that Fountain's framework may help to 'map how organisational change occurs over time without resorting to many of the linear progression myths that have bedeviled some of the over-hyped accounts of e-Government to date' (Chadwick, 2003, p. 443). Based on this

critical analysis, Fountain's theory contributes to exploring the challenges when technology is embedded with bureaucratic complexity and a broader scope for work.

3.Weill's and Ross's Theory: IT Governance

According to Weill and Ross (2004) top-performing enterprises succeed in obtaining value from IT through implementing effective IT governance, which is the most crucial aspect in creating value from IT. It implies specifying decision rights and accountabilities for IT decisions. The term governance may be employed to express the management and control of IT services. The main feature of Weill's and Ross's analysis is based on case analysis of different government or not-for-profit organisations, and strengthened by major similarity with government operations.

The concept of IT governance came from two sources. First, motivation comes from organisations endowed with stock-market premiums and excellent corporate governance. A similar premium for excellent IT governance is also considered to be existent in this regard. Second, it is assumed that strong financial governance in most organisations may provide a basis for IT governance. According to Peterson (2003), IT governance can be set up in the public sector by using a combination of processes, structures and relational mechanisms. Figure 2.5 demonstrates how these components link up to create an IT governance model. Each feature is crucial for effective IT governance (Van Grembergen, De Haes, & Guldentops, 2004; Weill & Woodham, 2002).



Source: (Campbell, McDonald, & Sethibe, 2009)
Figure 2.5: Main Features of an IT Governance Framework

Weill and Ross (2004, pp. 14-18) said, "good IT governance pays off; IT is expensive; IT is pervasive; new IT governance is critical to organisational learning about IT value; IT value depends on more than good technology; senior management has limited attention span; and leading enterprises govern IT differently". The objective of IT governance is to line up business and information technology strategies. Organisations practise IT governance to ensure efficiency, decreased costs and increased control of IT infrastructures (Wessels & Loggerrenberg, 2006). It is assumed that IT governance will improve organisational accountability, which, in turn, will result in a return on investments. However, while literature promotes IT governance, practitioners' perspectives on IT governance might not always agree.

In sum, it can be asserted that the most effective way to manage e-Government is likely to be based on carefully balanced federal models (Ross & Weill, 2002; Smith & Teicher, 2006). It is evident in some developing countries that good governance accelerated by e-Government cannot be sustained if a centrally designed model is absent there. Department-specific models weaken the potential of both e-Government and good governance. Although all organisations have their own IT governance mechanisms, the difference is that organisations with effective governance have planned a set of IT mechanisms (for instance,

committees, budgeting processes, IT organisational structure etc.) consistent with the organisation's mission, strategy, values, norms and culture.

2.6 Impact of e-Government on Improving Transparency and Reducing Corruption

In order to provide efficient online delivery of services through e-Government, rules and procedures should be standardised. This will minimise the discretion that prevents public officials from practising irrational activities (Bhatnagar, 2004).

2.6.1. Models of e-Government Linking Transparency

Governments across the continents are trying to provide online transactions with the public or business to introduce transparency in the system and reveal the occurrence of corrupt behaviour. Brisbane City Council in Australia, OPEN in Seoul, South Korea, and SMART in Andhra Pradesh, India are examples of how e-Government can improve transparency and openness as well as reduce the scope for corruption in the systems.

1.Brisbane City Council

Brisbane is the third largest city in Australia. It is the biggest local government in Australia, providing services to a population of 860, 000. Brisbane City Council[3] is very proactive in implementing e-Government. Brisbane City Council is chosen to demonstrate the council's mission to connect people through the Internet for offering information and services (Brisbane City Council, 2001). Brisbane City Council ensures the citizens an adequate opportunity to subscribe to transparency when transparency implies openness and accountability. The websites offer enough opportunity for comment and discussion. The recent launch of the council's portal, ourbrisbane.com (http://www.ourbrisbane.com) shows that the council's mission is not only concerning technology or information and services, but also on connecting people to each other, citizens' raising their voices, and getting the value from the council (Brisbane City Council, 2001).

The following are in the initial release of the portal.
Business information and tools to facilitate businesses from start to end. It is a destination of choice for Brisbane's businesses and communities.

[3] (http://www.ourbrisbane.com)

Transport – information on bus, train and ferry routes, zones and timetables, journey planner, traffic jam maps etc.

About Brisbane – lifestyle, culture, values, history, heritage, economic aspects.

Chat – communicating with groups to share interests.

News – international, national, Brisbane/Queensland, finance, sport and entertainment

Council online services – e-tendering, dog registration, utilities, fines.

Entertainment – festivals and events, entertainment news, cinema movie schedules, television guides etc.

Employment – job search, recruiter profiles, company profiles.

Weather – Brisbane, south-east coast, warnings and alerts.

Sport – national competition sports news/live scores and results, fixtures, profiles and links.

Government information links are education and learning, and tourist information. "Ourbrisbane" is a combination of strategies, including a communities' online strategy. The Carole Park Community Centre is an example of this. Carole Park is a low-income area of Brisbane. It is under-serviced and characterised by high unemployment and low educational standards. The centre earns funds for purchasing computers and providing Internet training on site. A librarian helps in this project once a week. It is being practised as a benchmark for different other communities to pursue.

E-government strategy includes the development of e-Governance as a two-stage process. The first stage entails council-customer interactions almost 100 per cent online (Odendaal, 2003). The second stage encompasses government online transactions, e.g. procuring a new property, creating a new business, among all three tiers of government (federal, state and local). The objectives of this Internet strategy are to provide access to people to council information online so that individuals and businesses do not need to visit the council for information. They have access to council services and lodgment of applications online. It also integrates council online service delivery with other governments and industries. Most of the literature emphasises the experience of developed countries where ICT is extensively used for their capacity-building and resource development. Yet, it is evident that these models can also be applied in some developing countries. India is often represented as one of the leading countries succeeding in ICT. In addition, there is much evidence in developed nations that may offer direction and guidance for developing cities.

2.Online Procedures Enhancement for Civil Applications (OPEN), Seoul Municipality, South Korea

The OPEN system of Seoul municipality symbolises the existence of transparent decision-making and its effect on corruption. The system provides different municipal licences through online monitoring of individual applications. OPEN was developed as one of the aspects of a *complex anticorruption strategy* based on preventive and punitive measures, transparency of administration and public-private partnership established before computerisation (TI, 2003). According to Shardrach (2002), OPEN is evidence of tackling corruption through e-Government and focuses on the potential and pitfalls in designing e-Government applications highlighting the objectives of both transparency and curbing corruption.

In the 1990s corruption devastated Seoul when the scope of bureaucracy widened there and municipal regulations became manyfold. Then it was decided to root out corruption through preventive and punitive measures. Simultaneously, improved transparency in the system and strong public-private partnerships were perceived to be the best ways to prevent the extent of corruption. Among others, the introduction of e-Government was one of the steps. Others included simplifying regulations and engaging citizens in anti-corruption activities (Bhatnagar, 2003a). In order to reduce the possibility of any wrongdoing, the old system that was practised for a long time was repealed. There is no single authority to deal with all these permits and approvals in one area. Instead, public officials are authorised daily to deal with these in various places. Deployment of the Internet in administrative dealings in Seoul offers more transparency, which squeezes the scopes for public officials to monopolise access to information and accept irregular money from the public (Cisar, 2003). Providing access to information to citizens, fairness and objectivity is maintained in the city administration and hence removes public distrust (Iqbal & Seo, 2008).

OPEN indicates as it opens the administration to the public. The portal offers different components of the anti-corruption drive, demonstrates an anti-corruption index on five services considered as most susceptible, provides public information on rules, practices and allows synchronised monitoring of application procedures for permits and licences. To widen the scope, the system was extended to access to mobile telephone as well.

If we consider the result of OPEN we may describe its implication or the critical success factor of its achievement. It exemplifies the role of IT to increase administrative

transparency in the local government system. In this OPEN system, the progress of every application submitted to the city administration can be monitored online. Citizens are provided with latest information on the progress of their application and the name of the person involved with reviewing their applications, approximate time of approval, or explanations for any disapproval etc. (Cisar, 2003). Factors responsible for successful implementation are, first, strong leadership commitment by the city government as well as the mayor and, second, greater citizen participation. The second factor is the two-way communication between citizens and the Seoul metropolitan government through ICT, and the Internet in particular. Sabatier and Mazmanian (1980) suggest that problems regarding policy matter can be resolved by selecting and improving the right technologies. A third factor includes the active participation of the citizens within the system. It transforms the old system of bureaucratic, top-down administrative norms to a citizen-oriented culture. Citizens as customers are given much more attention than in the traditional system. Transparency is the main driving force here. It is improved in the city's administration by minimising unexpected delays and unfairness. A change of citizens' attitudes towards administrative services will invariably cause reform in the administrative services (Kim & Cho, 2005). The statistics in the following paragraph shows the reduction in corruption through OPEN (Choi & Ahn, 2001).

According to Kim, Kim and Lee (2009), statistics reveal that, after its introduction, OPEN has been able to increase the service level of public officials. Half (of 1947 public officials surveyed) agreed that OPEN enables them to increase their work speed. Besides, 68 per cent (of 500 citizens surveyed) acknowledged their faster service through OPEN. They also indicated the effect of e-Governance in reducing corruption in different sectors, for example, 29.8 per cent in housing and construction, 9.9 per cent in city planning and 17 per cent in construction. Korea has gained its 'developed' image by replacing the 'developing' one by changing their economy in the last forty years (Iqbal & Seo, 2008). In a survey by Cho and Choi (2004), 84.3 per cent of respondents viewed that OPEN for civil applications had made the city administration more transparent, and 72.3 per cent commented that they were happy with the administration.

Finally, it may be summed up with Bhatnagar's (2004) view that the main theme of Seoul's anti-corruption drive is not IT, but rather it is the simplification of processes and regulations, business process re-engineering, transparency in procedures and active communication with citizens. To make the anticorruption efforts successful, attention

should be given to the structural factors causing corruption instead of looking at individual corrupt practices.

3.SMART: How and Why Andhra Pradesh is Reducing Corruption with e-Government

In today's changed global context, e-Government replaces the traditional role of governance based on institutional procedures, rules and regulations. For instance, Andhra Pradesh (AP) is one of the first states in India to herald the possibilities e-Government holds for better administration. Indeed, the vision of the administration's reform efforts is summarised in its own acronym SMART: A Simple, Moral, Accountable, Responsive and Transparent government. It is the marriage between structure and procedure in governance, which is then combined with technology (Devi, 2006).

Before the introduction of SMART, manual file processing involved many steps and was a long-winded affair. A decision involving a couple of officials going through the files and making comments took long. In fact, file movement was dependent on the whims and fancies of the staff concerned. Citizens used to offer 'speed money' in order to seek any service from the departments. There was no discipline in file maintenance. Files were often open in indiscriminate ways. There was no intra-departmental coordination, no sharing of information. Further, there was duplication of files, which resulted in different and wrong decisions for similar issues.

In 2001, the Government of Andhra Pradesh (GoAP) introduced an electronic innovation in administrative reforms for efficient file management through the adoption of a paperless office concept. The objectives were to lower the processing time, improve quality of policy decisions and minimise corruption (Bhatnagar, 2004). It is important that the state's experience corroborates that technology is relatively less critical in this process. The diffusion of IT in government needs to be considered more as a massive change-management practice rather than offering mere technological solutions to problems. The human and organisational factors are, therefore, more important than technical issues (Sudan, 2000). The dream of Andhra Pradesh[4] to become a knowledge-based society offers a useful case study of the strategic use of IT in leapfrogging development. The stakeholders

[4] http://www.andhrapradesh.com/

and the potential users were engaged right from the beginning of the project. Transparency was also maintained in all aspects of the project.

The state government has implemented several applications in various departments as part of its SMART government. Among others, computerisation of asset sale registration under the CARD (Computerised Administration in Registration Department) project is an important initiative. It reduces the time for registration of the sales from ten days to less than an hour. A pilot project TWINS (Twin Cities Integrated Network Services) connects nineteen services of six departments into one-stop provision of utility bill/tax payments, issuance of certificates, and information delivery. In FAST (Fully Automated System for Transport) project services, for example, issuance of driving licence, and motor registration, are being automated through connecting and integrating different offices within the state.

In SMART government, on receipt of a document, a file number is secured through scanning the document and emailed to the concerned officer. Everything is done electronically, which ensures checks and balances and restricts negativism and resistance to change. The Smartgov project has not only increased efficiency in the delivery of services but also improved the quality of decision-making besides curbing corruption (Monga, 2008). In order to combat corruption the Andhra Pradesh government has initiated a project through the implementation of the National Rural Employment Guarantee Scheme. In the layout, the web-based software is constructed in such a way that makes it very difficult for those with vested interests to interrupt it (Mahmood, 2004). Nowadays citizens can get certificates and documents or register sales of fixed property through the Internet. They can also pay utility bills and taxes over the Internet. After launching the program, the services that would normally take months or even years to complete without a bribe, now they take minutes over the Internet. Most importantly, the citizens of AP are free from the curse of having to give bribes for these services. People having no access to computers can now have access to many computer centres all over the state. It can be inferred at this point, without detailed studies, the time and money required for government transactions have decreased significantly and the scope for corruption declined gradually (Bhatnagar, 2004).

Though it is not practicable to remove corruption overnight, the objective of this project was to reduce corruption in the process of getting jobs to people who really need them. By means of SMART, e-Government may change from a kind of mechanical governance into humane governance (Devi, 2006). Thus the successful introduction of IT into government

necessitates attitudinal and mindset changes by the leaders of the nation (Mahmood, 2004). It also shows that it is little of an issue of technology than a matter of managing change within the organisation, which is, of course, very difficult to achieve considering all its complexities and rigidities.

2.6.2 Brisbane V. Seoul and Andhra Pradesh: Similarities, Differences and Lessons

Some notable issues emerge while comparing the e-Government experiences of these three cities.

ICT in Enhancing Transparent Local Government

Brisbane City Council's e-Government guarantees stakeholder involvement in the process. Ourbrisbane.com is considered the key corporate priority for developing Brisbane as a smart city. Unlike OPEN and SMART, the council's e-Government is not primarily focused on reducing corruption, but rather it considers reduction of inconvenience in delivery of services. It might be because of the fact that transparency is not a major concern in this context when transparency is considered very important for reducing corruption. Public management and delivery of public services are more efficient in Brisbane City Council compared with those of Seoul and AP. It is pertinent to mention here that Brisbane City Council is located in Australia, a developed nation and member state of the OECD while both OPEN and SMART represent situations in developing countries. Brisbane City Council is connected through an integrated network, which makes transactions easier by the use of modern technology.

However, if transparency implies openness and accountability, the projects guarantee that the citizens as customers are offered adequate opportunity to subscribe to it. The websites offer enough opportunity for comment and discussion. Thus, interaction and feedback (for those who have the opportunity to use a computer) are evident. The Brisbane Council website is well structured and is also quite transparent. However, it is not always distinct from the interface by which one contribute to council processes, but cannot necessarily make sure about who goes through it, who acts on it, where the information goes etc. On the contrary, the OPEN and SMART official websites, give a clear idea of council structures, and provides the opportunity to get council official e-mail addresses etc.

In Terms of the Policy and International Perspective for ICT and Local Governance

Obviously, for these three cities, the country backgrounds are not similar. However, the system of strategic planning signifies the cities' approach to becoming smart. The international trends in local government indicate a need for transparency, openness, customer focus and citizen participation (Stoker, 2002). Focusing on networks and relationship between city governments and other stages of government, public-private-partnership was evident from these cases. The adoption of ICTs in these cases depends on the readiness of resources, capacity, and institutional willingness. The management of information becomes difficult because of the lack of such resources. Donor governments consider computers as an instrument to accomplish data management to assist in delivery of services (Cain, 1996). The affiliation between ICT and local governments is contextual and is fixed by policy initiatives. As suggested by Borja and Castells (1996), this interrelationship is maintained by technological, cultural, economic and institutional factors.

Brisbane is more precise in creating itself as a smart city internationally and in developing itself as a 'smart and prosperous' city, and it maintains IT industry networks (Brisbane City Council, 2001). The strategic direction is straightforward, authorised and well funded. Economically the city is sound and can implement this vision. On the contrary, in regards to Andhra Pradesh's high unemployment rate necessitates the need for job creation. ICT infrastructure is required to expedite local investment and small industry development. Hence, it is necessary to draw investment that may become an enabling tool to create new ICT-linked industries.

If transparency implies openness and accountability, all the three e-Government initiatives seem committed to providing its citizens with the optimum opportunity to gain access to council structures. Websites in these cities offer feedback and interaction. In comparison to other sites, Brisbane's e-Governance activities are fixed on ourbrisbane.com, with visible ink. The demonstration of these cases, particularly OPEN and SMART, is proof of the efficacy of e-Government in controlling corruption in those systems. They have attempted to improve the level of transparency by providing information to the citizens according to their demand. It is evident that corruption thrives in the lack of transparency in government machinery (Pathak & Prasad, 2006). Further, the provision of quality information increases the extent of transparency. With the help of e-Government, the anticorruption programs were made successful by simplification of laws, legislations and practices, process re-

engineering, transparency in the systems, and active interaction with the citizens. It is pertinent to mention that commitment from the top was critical for the success of the systems (Bhatnagar, 2004; Mahmood, 2004; Singh, 2003).

ICT and Networking

The review of literature and these three case studies reveal the key of networking system. First, institutional integration is the main for network advancement. The cases demonstrate that synergy appears from public-private partnerships and from networks between different organisations to offer training and integrating with central and state governments for creating one-stop service payments and registration online. Hence, the comparison between Brisbane, OPEN and SMART e-Government experiences demonstrate that ICTs not only strengthen governance practices but also offer a huge prospect for growth and development. It reveals that ICT developments in local government depend on the municipality's organisational culture, its goals, objectives and strategic vision (Odendaal, 2003). With regard to SMART, a project in a developing country (India), socio-economic factors need to be considered along with technological imperatives as IT does not necessarily mean e-Government. Adam (1996) advocates for collaboration, networking and coordination. Thus the future of these projects is closely associated with their larger organisational and socio-economic goals and objectives.

2.7 Summary of Chapter 2

The chapter has discussed the theoretical underpinnings of governance, transparency, corruption and e-Government. The responsive governance model and Jane Fountain's theory of e-Government seem to have significant impact on introducing e-Government in this context. In most developing countries, Bangladesh in particular, public sector reform, however, was not successful in achieving the desired outcomes due to several factors underlying the failure of policies, mainly the lack of good governance, stakeholder participation, and ownership of the reform policies by the national leaders.

This chapter has discussed the significance of various key themes of governance, good governance, transparency, corruption and e-Government. It has also developed a link between these issues and has argued that these are mutually reinforcing. Governance is not just newly defined a process, it is something to have or feel a desire for. We have had government, governance and democracy with us for a long time. If we add "e" to these

words we may change the underlying meaning of this and can think differently with a new dimension (Bhatnagar, 2004). Good governance, on the other hand, is vital for effectively accomplishing various development programs. As we move towards the 21st century global changes in information flow, technology, economy and education are forcing governments across the globe to redefine their roles and their relationship with citizens and the private sector. We need to consider new ways to govern and discover new dimensions for people and administrators, the nation, the market, civil society, and the world (Hasan, 2003).

Next, transparency is essential for ensuring effective governance in government machineries. It is not sufficient to realise the significance of transparency, it is also important to find ways to increase the provision of it. The effect of transparency on the governance of an organisation must be clearly demonstrated. Simultaneously, the factors inhibiting the provision of transparency should also be made clear. Although corruption exists in all societies, it has a particularly pernicious effect on less developed countries (Iqbal, 2009b). Corruption nullifies the bond between citizens and government officials which has serious consequences for effective government (Pillay, 2004). Hence, corruption in developing countries merits investigation.

This chapter has discussed how governments in most developed countries and many of the developing countries are taking advantage of the tremendous potential of IT in making the government more efficient and accessible to the citizens. A country's social, political and economic composition correlates closely with its e-Government program development. There are exceptions, however, as evidenced by several developing and transitioning economies. Key factors such as the political will and leaders' commitment, the status of a country's telecommunications infrastructure, the strength of its human capital, and shifting administrative priorities influence how decision makers, policy planners, and public-sector managers elect to approach, develop and implement e-Government programs.

The next chapter provides an overview of these key themes, the existing governance scenario, the prevalence of corruption, and initiatives of the government to address the malfunctioning of the governance mechanism through ICT-based e-Government in Bangladesh.

Chapter 3. E-Government: A Bangladesh Perspective

3.1 Introduction

The aim of this chapter is to provide an overview of the present e-Government scenario in Bangladesh. This chapter highlights the contribution of e-Government to the issues of transparency and corruption in the public sector in Bangladesh. Section 3.2 describes the role of e-Government and analyses the background to the introduction of e-Government in the existing public management; to explain the overall development of e-Government, Section 3.3 describes the status of ICT and national initiatives taken so far and Section 3.4 describes selected literature on the challenges and factors preventing the success of e-Government in Bangladesh.

To describe the profile of the country, it may be mentioned here that Bangladesh is a South Asian developing country which got independence from Pakistan in 1971. Bangladesh is strategically located as virtually a bridge between South and South East Asia. It is surrounded by India on the east, west and north, and by the Bay of Bengal and a small border area with Myanmar on the south. Bangladesh is a geographically small country of an area of 147, 570 sq. km with a large population of about 144 million people (ITU, 2006; World Bank, 2007). The economy of the country is mainly agrarian and considered as a low income category wherein the per capita income is $ US 482 per annum while the per capita GDP (gross domestic product) is $US 456 (Ministry of Finance, 2006a) with an adult literacy rate of 52.5 per cent (UNDP, 2007a). Bangladesh has completed 37 years as an independent country and has been striving for emancipation from poverty. It comprises six divisions, 64 districts, 507 police stations/upazilas, and about 86,000 villages. The headquarters of the six divisions are regulated by city corporations (a specialised local government). Long colonial exploitation has immensely eroded Bangladesh's past affluence and wealth. Bangladesh is the repository of a rich cultural heritage and tradition. However, independence of the country in 1971 opened new glimpses of prospects and opportunities.

Administrative Map of Bangladesh

Source: United Nations 2004

Figure 3.1 The Location of Bangladesh in South Asia

As one of the densely populated countries of South Asia, the governance practice of Bangladesh has been formed by its most eventful political history, and in the pursuit of transparency, a hide-and-seek relationship remains there between information required and information offered, with people affected by bureaucratic complexity and obsolete procedures (Namita, 2010).

South Asian political history has featured coups and counter coups, including in Bangladesh. The political history of South Asia demonstrates that democracy could not be secured in most nations in the region. In Bangladesh, a country belonging to this region, mass upsurge and political demonstration, and social agitation was there to hold the governments accountable. For example, this led to the sanction of the Right to Information Act in 2008 in Bangladesh. The GOB set up a number of websites in 2003 to provide a more reliable information flow from public agencies to citizens (eGovernment for Development, 2008).

Bangladesh is observing some major changes, with many challenges, successes and, reasonably, failures. There is a mandate of a Digital Bangladesh, the government's special emphasis on ICT. In fact, Bangladesh's 'Vision 2021'[5] envisages a 'Digital Bangladesh', which highlights participation, transparency, and accountability. The government already came up with a revised National ICT Policy in 2009 to adopt e-Government to achieve greater transparency in government operations (MOSICT, 2009). It is argued that public agencies with a high interface with the citizens and also known to be relatively corrupt are in need of the adoption of e-Government practices to reduce corruption (Bhatnagar, 2003a; MOSICT, 2009).

For majority of people, particularly in rural areas, the government seems to be in an abstract existence in which the spirit of good governance is lacking. The prolonged colonial history followed by a disputed political past has impaired the country's transparency campaign. The campaign for transparency in Bangladesh began much earlier than the advent of the Internet even before the UNDP's Public Administration Sector Study in 1993, followed by the World Bank's Government that Works in 1996 and the Four Secretaries Report in 1996. The civil society organisations were vociferous about removing governmental opacity before all these initiatives had been taken. Among others, technological advancement also offered the people techniques, tools and drive, to induce the governments to be more transparent and accountable. At the moment, connecting citizens to various government departments through e-Government is a new drive in the governance mechanism. Technology has definitely offered a momentum to the transparency initiatives, and has given a dominant means in the hands of citizens. It is pertinent to consider whether these

[5] http://www.cpd bangladesh.org/Policy%20Brief/sub%20folders/downloads/Vision_2021_English.pdf

efforts lead to any significant changes and whether they are able to ensure improved transparency and accountability as an outcome of these activities.

Nevertheless, there are also some positive achievements. In the recent past, private operators have initiated the operation in the mobile telephone sector. In the mean time, the fixed telephone sector has been liberalised, which has also created the opportunity for the entrance of private operators. Internet service providers (ISP) have also become evident and contribute to a highly competitive environment. Bangladesh has a network of fibre optic cable and has already linked with the global information superhighway. Further, the Bangladesh Telecommunication Regulatory Commission (BTRC), a regulatory agency, has been set up to boost up liberalisation, competition and efficiency in the telecommunication sector (Sobhan *et al.*, 2004). E-Government has huge prospects in this country, the merit of which largely depends on the establishment of accessible ICT infrastructure to provide online services. With the initiatives taken so far, Bangladesh is steadily progressing towards the path of developing e-Government services across the country.

3.2 The Role of e-Government in the Public Management of Bangladesh

Bangladesh encounters a multiple form of governance challenges, including corruption, malfunctioning public management, and lack of transparency and accountability in government decision-making and delivery of services. All these challenges in the existing governance system lead to an increasing demand for objective reform (Sobhan *et al.*, 2004; UNDP, 2009).

For five consecutive years, Bangladesh ranked the highest position in the list of countries in the perception of corruption based on the Corruption Perception Index (CPI) of Transparency International (2001-2005). TIB (2010) strongly considers that people in general are not corrupt in Bangladesh, however, they are the victims of corrupt practices. The results of the survey caution that there is a need for pragmatic reform. This situation has led the government to extend the adoption of ICT in public administration and broaden the flow of information with a view to prevent corruption. It is hoped that e-Government may offer critical benefits, for instance improved planning and monitoring techniques and efficient administration and provision of quality services, and more significantly, it can provide transparency, which is crucial to combat corruption (Cho & Choi, 2004). However, leadership, will power and authority are essential in this context for changes to occur.

Bangladesh has serious problems with the anti-corruption and governance framework, with a significant gap between existing laws and their enforcement (Reporter, 2008). The Reporter (2008) mentions 'Government accountability (executive, legislative, judicial) and the civil service are rated as "very weak". Freedom of information is very limited and political financing is effectively unregulated'. The report also finds anti-corruption law 'very strong'; anti-corruption agency 'strong'; rule of law 'weak' and law enforcement 'very weak'.

In tune with this, Jamil (2002) states that the existing governance scenario of Bangladesh is not up to the optimum level, and inefficiency in the bureaucracy is commonly visible. This concerns both the public sector and its development partners. The World Bank in its survey in 1996 revealed that the government is absorbed with process (i.e. more concerned with rules and processes), too centralised, too discretionary, unaccountable and unresponsive. The report, 'Government that works', concluded inter alia that 'the days of a secretive and self-serving bureaucracy should be just an unpleasant memory. In the reformed system, the people of Bangladesh would have free and open contact with their government (World Bank, 1996, p.141). They would participate in its plans, measure its effectiveness, and hold it to account for its failures'. Development partners and aid agencies are more concerned about the lack of accountability among the aid recipients. As one of the major aid recipients, Bangladesh must fix governance problems immediately. It needs to streamline public management systems to restrict discretion in decision-making. The state of good governance relies on having in place transparent mechanisms that hold the government accountable to the public to ensure equitable treatment for all citizens.

E-Government is taken up by many developed nations for efficient and good governance (OECD, 2003a; Robins & Burn, 2001). E-Government must hold the utmost preference for a developing country to improve transparency in governance. This chapter describes the prospects of e-Government in Bangladesh. By improving government processes and connecting citizens, ICT can play a major role in achieving good governance that is efficient and effective (Heeks, 2001b).

In Bangladesh, service delivery in the public sector has not been satisfactory. The experience of speed money and corruption has become one of the major issues in administration (TIB, 2008). Nothing moves without speed money in public offices, which compels people to pay bribes to get services (licences, certificates, approvals for building

plans, registration of properties and admission to hospitals). Studies (Ciborra, 2005; Tolbert & Mossberger, 2006) reveal that successful implementation of e-Government is related to reducing the cost of doing business due to process automation, and improving efficiency and transparency in the delivery of public services. With these circumstances, ICT could be applied as an enabling tool to address the problems related to service delivery (IICD, 2001; Streib & Navarro, 2006).

Over and again, Bangladesh faces a number of development challenges including control of corruption in the public affairs of the government. The term corruption is not new to Bangladesh. Corruption is the mirror image of poor governance and the root cause of moral degradation in the society (Pillay, 2004). Corruption is perceived as 'a way of life' among the general mass in Bangladesh (Zafarullah & Siddiquee, 2001). A survey carried out in 75 industrial and developing countries asked executives how common irregular payments or bribes were for import and export permits in their countries. It was found that Bangladesh had the most common irregular payments and bribes out of all countries, meaning it was ranked as the most corrupt country in the world, compare to China at 38th and India at 58th (Mahmood, 2004). Corruption undermines the contract between citizens and public officials which has serious implications for effective government. Hence, corruption in Bangladesh merits investigation.

The existing state of corruption in Bangladesh depends on its bureaucratic culture, political consequence, and social tradition, among which organisational weakness is the main cause of this acute problem. The motivational drive of public officials to work effectively has been weakened by several factors, e.g. the decreasing rate of salaries in the public sector and promotion without concern for merit and performance (Basu, 2006). In developing countries, often the salaries and incentives of government officials are not realistic and commensurate with the performance. Overall, the main reasons for corruption in the country are entrepreneurial politics, defective administrative arrangements, bureaucratization, excessive discretion, and outdated laws (Pillay, 2004).

Hence, for the elimination of corruption from the society a consensus and nationwide reform is crucial. Linkages between e-Government and corruption deterrence has to be explored in this context. The role of ICT should be exploited to be used for reform. CEG (2001) suggests that public officials need to accept e-Government as a means to transform government and connect it with the citizens. It then reiterates that e-Government to be

effective must be inherent in the mind-set of political leaders, administrators and employees in general. Therefore, for any reform to materialise, political commitment is the most crucial preliminary step (Mahmood, 2004). Elimination of corruption should not be a reform effort that is only ideologically motivated. Heeks (1999) has also indicated this and few other factors that led to far-reaching reform initiatives: a sense of crisis, a changed ideology, and the political resolve to accomplish reform. It may be inferred here that reform will not succeed well in the absence of any of these.

Information dissemination increases transparency and empowers citizens to ensure accountability and prevent the administration from engaging in wrong practices (Shim & Eom, 2009). In many developing countries, including Bangladesh, government rules and regulations are archaic, often too vague, and complex (ADB, 2009; Zafarullah, 1998). They seem to be difficult to comprehend not only to the public but also to the employees who execute them. Weak implementation of laws and regulations worsen the situation, which results in breaking of rules and corrupt practices. Such violations are acute when administrators enjoy absolute discretion. In fact, administrative delays and corruption are due to complex and non-transparent administrative procedures (Anderson, 2009; Sobhan *et al.*, 2004).

Weak governance is the cause of substandard delivery of service and excessive regulation, which hampers progress of development and social welfare. Eventually, public service matters cannot be separated from the matters of political economy (Mahmood, 2004; UNDP, 2010b). Thus a high-level political and administrative commitment is crucial for transforming the public services.

Table 3.1 UN e-Government Readiness for Southern Asia

Country	2008 Index	2005 Index	2008 Ranking	2005 Ranking
Maldives	0.4491	0.4321	95	77
Sri Lanka	0.4244	0.3950	101	94
Iran (Islamic Rep. of)	0.4067	0.3813	108	98
India	0.3814	0.4001	113	87
Pakistan	0.3160	0.2836	131	136
Bhutan	0.3074	0.2941	134	130
Bangladesh	0.2936	0.1762	142	162
Nepal	0.2725	0.3021	150	126
Afghanistan	0.2048	0.1490	167	168
Region	0.3395	0.3126		
World	0.4514	0.4267		

In 2007, in terms of ICT infrastructure, the World Bank ranked Bangladesh 92nd among 132 nations and last among five nations in South Asia. With regard to e-services adoption index, Bangladesh is also ranked 123rd and 5th in South Asia (BEI, 2010). Although it remained in a backward position among the South Asian countries, Bangladesh has been adopting rapidly in e-Government. Based on the UN E-Government Readiness Report 2008, the average e-Government index of Bangladesh within the Southern Asia was 0.2936, which is higher than the index of 2005. It indicates Bangladesh has improved on its web measurement in the enhanced and interactive stages. Although most other nations (including India and Sri Lanka) in the area have dropped in the rankings, Bangladesh was able to move forward twenty steps between 2005 and 2008.

Bangladesh's Readiness Index value of 0.29 was not that far after India (0.38), while it still remained distant from the regional leader, the Maldives (0.45). Table 3.1 shows that the position of Bangladesh is higher than Nepal (0.2725) and Afghanistan (0.2048). It means, Bangladesh was still behind all neighbours except Nepal, Myanmar and Afghanistan. Table 3.2 indicates some technologies, telephone lines, personal computer penetration, and number of Internet users in six developing countries including Bangladesh. It seems that developing countries are not uniform in terms of availability and use of technology.

Table 3.2 Information and Communication Technology Scenario in Six Developing Countries

	India	Bangladesh	Thailand	Malaysia	China	Philippines
Fixed lines and mobile telephones (per 1000 people)	35.5	5.0	142.6	412.3	177.6	124.4
Personal computers (per 1000 people)	4.5	1.5	24.3	103.1	15.9	19.3
Internet users	5.0 million	100,000	2.3 million	3.7 million	22.5 million	2.0 million

Source: (Basu, 2004)

The Working Group on e-Government in the Developing World has indicated several categories of goals to be achieved through e-Government, which is to fulfil the broader social goals that are more than mere efficiency of government processes but are that of overall reform and development (Fang, 2002). It is expected that these challenges can be overcome through the introduction of e-Government in the public sector in Bangladesh (Rahman, 2007). The issue is discussed here in some detail.

3.3 Progression of e-Government in Bangladesh

At the moment, Bangladesh is confronting a number of factors necessary for e-Government implementation. The government continues to struggle in its effort to provide information on government functionalities online. Since 1990, the government had taken many steps towards introducing e-Government. The focus had been primarily on developing ICT infrastructure for offering public services. However, with few exceptions, most of these projects could not go further because of the absence of long-term vision and many other problems. In the course of time, the government changed its modus operandi and initiated strategies to face different issues. Steps had been taken to initiate several e-service projects (BEI, 2010), but many of those, for various reasons, had little outcomes. The absence of interoperability and integration among those services were most significant. However, the

existing government seems to be committed and acting positively towards the future of e-Government.

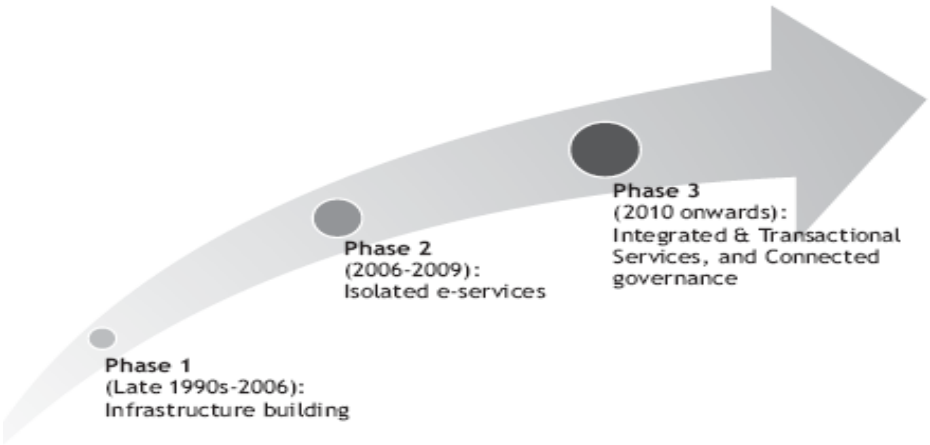


Figure 3.2 Evolution of e-Government in Bangladesh

Adapted from BEI (2010)

Late 1990s to 2006: Setting the Stage

After the mid-1990s, the first initiative was taken to computerise the railway ticketing system (BEI, 2010; The Respondent 6, 2008). Rajshahi City Corporation undertook the 'e-birth registration' project in 2001, which has made significant progress so far (Akhter, Onishi, & Kidokoro, 2007; Heeks, 2003a; The Respondent 4, 2008). Another successful project was the automation of the Bangladesh Bureau of Educational Information and Statistics (BANBEIS), which involves GIS mapping of itemised information for schools and information on logistics, so that teachers greatly increased their efficiency in education programming (Sobhan *et al.*, 2004). Basically, these projects involved the process of automation, i.e. automation of their internal functions. However, the basic objective of the organisations was not to empower citizens through access to available information and quality services.

This infrastructure development and process automation continued for a longer period with the creation of the Support to ICT (SICT) Task Force in 2003 (Taifur, 2006a), a government-funded entity that is an implementation wing of the National ICT Task Force under the Planning Commission (BEI, 2010). SICT initiated a total of thirty-eight projects,

around 63 per cent of which initially emphasised infrastructure development and internal automation, and has accomplished around thirty-four projects so far (BEI, 2010). Another public agency, the Bangladesh Computer Council (BCC), offered major support in terms of infrastructure development, technical support and capacity building for several e-Government projects.

After the Prime Minister declared ICT as a 'thrust sector' (BCS, 2006), the first National ICT Policy, a cornerstone for e-Government development, was approved in 2002. It is true that quite a big number projects initiated by the SICT or the concerned ministries in this time could not continue finally. In mid-2008, a review committee constituted by the interim government observed that among 103 policy directives of 2002, only 8 were fully achieved, 61 were partially achieved and 34 remained untouched (BEI, 2010). Because of the following factors these projects could not be sustained. Albeit ICT was given top priority from the government, reflected by the formation of SICT under the guidance of the head of the government, e-Government was not essentially considered as the principal national development concern. Although success was there at the beginning of many initiatives in their pilot stages, they could not continue because of a shortage of demand and interest among those concerned (BEI, 2010). The automation project of Sher-e-Bangla Nagar telephone exchange can be cited in this regard. Despite showing successful results at the beginning, the services were not continued following the pilot phase (BEI, 2010). Further, many government websites were not updated regularly since their inception, and thus failed to fulfil the main objective of information portals. The necessary government evaluations and performance assessments to resolve these are almost nil. Most of the projects had infrastructure development mainly focused on procuring hardware and establishing connectivity, but these were not essentially focused on strengthening governance.

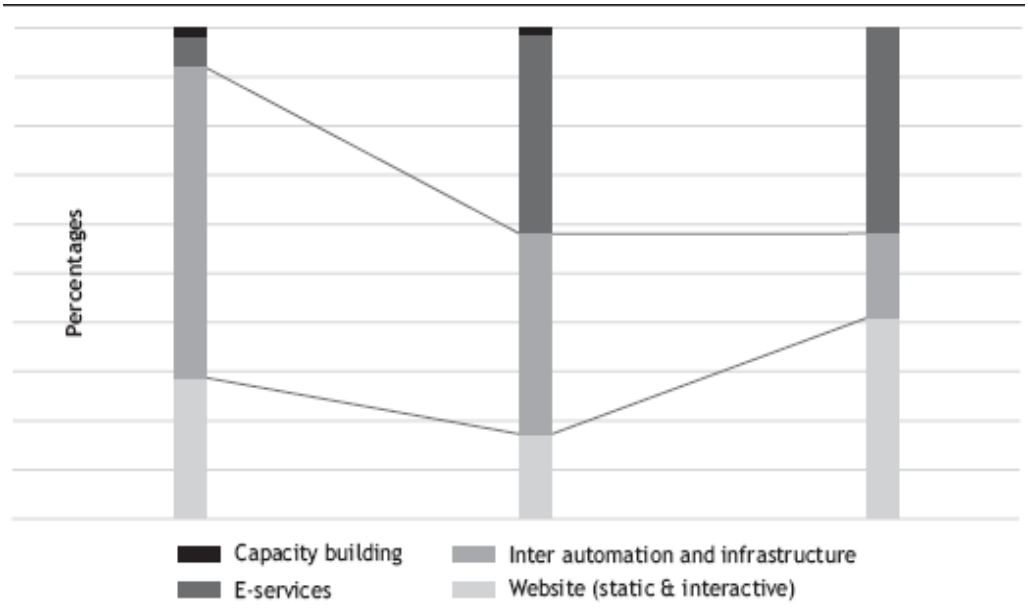
2006 to 2009: Isolated e-services

Lately, since the tenure of the interim (caretaker) government, e-Government initiatives are steadily progressing. The top-down approach to planning and implementing was progressively switched over to a more participatory approach among the public agencies. While success needs widespread change management, it was increasingly recognised that, lack of internal demand and ownership built through strategic planning, success with these projects could not be attained. Access to Information (A2I) Program at the Prime Minister's

Office (PMO) is significantly contributing to this shift. With assistance from the UNDP, the program began in 2006 to facilitate the e-Government Cell at the PMO. It continued to organise training and awareness programs for the policy makers and other civil servants. In June 2008, a series of workshops was organised, leading to 53 e-Citizen services being accomplished by the secretaries of different ministries and divisions. After that, 64 e-Citizen services were isolated by district commissioners (DCs) for implementation. A2I projects can be seen in A2I Program website[6] (BEI, 2010).

Besides, a number of initiatives are also being implemented through several divisions and ministries which demonstrate a significant rise in e-Government demand by the government. It is hoped that this demand will continue more with new projects, e.g. the Digital Innovation Fair[7], which recommended that ministries and departments display their e-Government initiatives and e-services. This is expected to build awareness and competition among ministries and government agencies. The transition from infrastructure development to e-citizen services is shown in the chart below (BEI, 2010), which is a classification of the key objectives of e-Government initiatives at different periods (SICT projects, 53 'quick win' projects identified by secretaries in the A2I workshop, and the initiatives exhibited at the Digital Innovation Fair in March 2010).

[6] http://www.pmo.gov.bd/a2i/index.php?option=com_content&task=view&id=398&Itemid=436



Source: BEI (2010)

Figure 3.3 Distribution of projects with respect to primary objective, from SICT to Innovation Fair

Only 6 per cent (absolute number 3) of SICT projects were generally for offering e-services, the ratio among the Quick Wins increased to 40 per cent and a larger proportion among the projects showed at the March 2010 Digital Innovation Fair. Infrastructural developments (both hard and soft) are the central of SICT initiatives, however, these hold a comparatively small part of new projects (BEI, 2010). SICT or A2I however, were not that much involved in this regard. The Innovation Fair was to display e-services more than internal automation projects, this chart is just suggesting the basic trend.

2010 and further

Of late, the advancement of e-Government highlights its gradual progression to the next step, from isolated e-services to more integrated e-services. The existing government came in power with the mandate of creating a 'Digital Bangladesh, and is keeping constant attention to this so far. This has culminated in a political atmosphere appropriate for e-Government development. A new phenomenon was the Digital Innovation Fair, organised in collaboration with the A2I program at the PMO, took this initiative and displayed different ongoing projects adopted by the ministries. It enables creating a competitive

environment among public organisations and for the general public to observe the services being offered by the government, hence creating awareness and demand for such services (BEI, 2010). In addition to the political leadership and commitment important for successful implementation of e-Government, a number of other factors have come out lately:

a) The planning and development of the 'quick win' projects have precipitated to a perception of the vision of e-Government within public administration.

b) A more organised policy and regulatory framework, created through the formulation of the revised ICT Policy 2009 and the *ICT Act 2009*, are expected to carry out e-Government implementation (BEI, 2010; Taifur, 2006a).

c) A number of public agencies in Bangladesh aim at providing services which is the interface between government and citizens (G2C), government and business enterprises (G2B), inter-agency relationships (G2G) in an appropriate way, and intra-government, which aims at leveraging ICT to minimise costs and improve quality of administration and management within public organisations (Islam & Ahmed, 2007; Karim, 2009b).

d) New prospects for e-commerce development: The Bangladesh Bank has adopted several projects to initiate electronic e-payment gateway, essential for e-commerce in this context (BEI, 2010; The Respondent 9, 2010). Grameen Phone, however, has implemented a new e-payment system called 'MobiTaka', which is in the meantime adopted by Bangladesh Railway for payment of intercity train tickets through mobile phone technology (Chowdhury, 2010; The Respondent 7, 2008). This ensures speeding up the vast area of e-commerce, and boosting private-sector involvement. Most ministries have taken projects for internal process automation and infrastructure-building initiatives. All these have been performed for integrating the front-end services with computerised back-end processes, through comprehensive planning, and increasing the efficiency of e-services (BEI, 2010).

e) The extent of private-sector initiatives is also going through a paradigm shift, from vendor-based approaches to PPP, e.g. the Customs House automation project which enables the private IT sector to widen their business capacity in automating public services for making them more accessible. The government is supporting the private sector to become part of implementing other initiatives (BEI, 2010; The Respondent 10, 2009).

f) The government has adopted a policy document to focus on the quick priorities for Digital Bangladesh which will stress the strategic approach and timeframe for e-Government for the next several years.

3.4 Status of ICTs and National Initiatives

The information technology (IT) scenario in Bangladesh is not at par with that in developed countries. However, in the last decade ICT investment by governments in developing countries has witnessed a dramatic increase. Bangladesh has also considered ICT as an important device for an economic renaissance. Although inundated with corruption, division and tension in political power, and inept bureaucratic systems, Bangladesh as a developing economy has been striving to strengthen its existing governance standard (Jamil, 2002). One of the significant objectives of e-Government implementation is to have a better association and transparency between the government and its stakeholders (MOSICT, 2006). Although a lack of positive action at the preliminary stage kept Bangladesh in a backward position, the government's attitude towards IT is now positive enough. The existence of Bangladesh is becoming more distinct on the world ICT map in the last decade (IDRC, 2007). The government and the private sector are increasingly using ICTs to advance national economic growth and development. In spite of all these efforts and enthusiasm, the advancement of e-Government in Bangladesh is less than satisfactory. Bangladesh is still lagging behind in creating a citizen-focused, transparent and efficient e-Government.

However, the initiatives taken by the government to develop IT infrastructure are encouraging. The government appears to be committed to developing the ICT sector, which is reflected in many government strategies, policies and initiatives. The government's persuasion in the introduction of e-Government is the reflection of its commitment. However, e-Government has vast potential and initiatives taken so far are just a beginning, so the government needs to go much further. The government has already started its move by upgrading core infrastructure and expediting the diffusion of ICT, which results into growth of technology and connectivity. Bangladesh is trying hard to improve this situation and it has changed significantly in IT-related development (Islam & Rahman, 2006).

3.4.1 Key Institutions Engaging in ICTs

Nation ICT Task Force

ICTs have been used in Bangladesh since the 1960s and increased with the establishment of the Bangladesh Computer Council (BCC) in 1986 (Karim, 2009a; UNDP & A21, 2010). One of the most significant efforts in ICT development was initiated in 1997. A committee was constituted to assess the prospect of an export-based software industry in Bangladesh. The committee presented its report, with the formation of the ICT Task force chaired by the Prime Minister in 2000. The National ICT Task Force has decided to capitalise some pilot projects. It recommended that ministries and other public agencies be automated through using ICT-based technologies (UNDP, 2004). According to these decisions of the ICT Task Force, the following pilot projects have been implemented (Islam & Rahman, 2006):

- Ministry of Expatriate Welfare and Employment Opportunities established interactive website for job search and other information for the benefit of the expatriates.
- BTTB (Bangladesh Telephone and Telegraph Board) established interactive website for downloadable and submittable forms, web-based complaints and grievances, bill payment information, etc.
- 'Support to ICT' project of the Planning Division implemented digitisation of useful land-related information, for example land records, maps, documents etc. under Ministry of Land.

E-Government programs have been backed up by the Prime Minister's office (PMO), which has the mandate to lead the whole gamut of Digital Bangladesh as well as e-Government efforts. This apex national body was supposed to guide the updating, implementing and monitoring the ICT policy as to make best use of ICT, which in fact could not perform its functions properly.

E-Governance Cell

In 2006, an e-Governance cell was established in the PMO. A mid-level government official will function as the ICT focal point to coordinate the management of e-Governance functions in the ministry.

Access to Information (A2I) Program

The Access to Information (A2I) Program is a follow-up initiative in the PMO, began in 2007 with the aim of developing ICT for quality service delivery and strengthening users' capacity to encourage the use of ICTs in development. This project is getting assistance from the UNDP. A2I began action research to explore the prospect of ICT use in various social sectors, e.g. agriculture, education, health, etc.

Support to ICT Task Force

As the first leading public-sector project to boost ICT for development, 'Support to ICT Task Force' (SICT)[8] was created in 2002 to facilitate the ICT Task Force to implement the projects. The project began its operation from 2003, is mainly pursuing e-Government and is being carried out by the Planning Commission under the Ministry of Planning. First, six divisional HQ, the PMO and several ministries, such as Land, Health, Home Affairs, Information, Labour, Expatriate Welfare, Foreign Affairs and Planning have been selected to implement certain essential online services (i.e. e-mail, file tracking, document sharing, Internet access) to visualise part of a whole e-Government scenario. The project aims at developing a communication network consistent with its efficiency and security. It was constituted to implement the Task Force's decisions. However, the Task Force could not show its vigour in the ICT revolution in the country and thus the SICT could not accrue much benefit from the Task Force. It in fact remains as the implementation arm of the Task Force.

Ministry of Science and Information and Communication Technology (MOSICT)

The government agency entrusted with the responsibility of developing the ICT sector is the Ministry of Science and Information and Communication Technology. With a view to affirming the significance of this sector, the Prime Minister declared it a "thrust sector" (BCS, 2006). In line with this declaration, the Ministry of Science and Technology was reorganised as the Ministry of Science and Information and Communication Technology in 2001. It is the government entity responsible for mainstreaming ICTs for overall socio-economic development through research, development and extension. To become a model e-Government ministry, its primary objective is to develop ICT, human resources and

[8] www.sictgov.org

software export. It develops ICT policies and drives ICT-related laws. The ministry also expedites the computerisation of government agencies and educational institutes.

Bangladesh Computer Council (BCC)

BCC is the key institute for boosting the nationwide ICT developments under the MOSICT. It is the main institution to streamline and strengthen the adoption of information technology. BCC encourages the application of ICT in all sectors of the economy, and provides advisory services to government departments regarding ICTs. It advises security measures to be adopted for using ICT, and has been devising right policies and putting them into action. Computer-related training is important among the activities of BCC. It also collaborates with government, private and foreign entities for achieving national ICT objectives. The MOSICT and BCC have developed the National e-Government Strategy and ICT Roadmap/Action Plan.

The Ministry of Post and Telecommunications is involved in building and maintaining telecommunication infrastructure.

3.4.2 Development of an Effective Regulatory Regime

Unfold the telecom sector for private investment: The Telecom Policy 1998 suggested the formation of the Bangladesh Telecom Regulatory Commission (BTRC). Considering the technological development and service parameters, the *Bangladesh Telecommunication Act 2001* was approved. To liberalise the telecom sector, the BTRC was set up as an independent regulatory commission by this Act in 2002 (Sobhan *et al.*, 2004). It provides scope for private investment in the telecom sector and especially in the ICT sector. BTRC is responsible for licencing and controlling telecom service providers (Islam & Rahman, 2006).

Low Cost for Voice and Data Service Access

For both domestic and business sectors, Bangladesh offers one of the cheapest access fees for broadband access in South and South East Asia, which will have a long-term effect in ICT-based infrastructure development and information services.

Proactive Telecom Operators and NGOs

Bangladesh has attained almost 100 per cent tele-coverage mainly because of the competitive market environment in the mobile telephone industry (UNDP & A21, 2010). The private sector is also very active in awareness-building and encouraging access to information by creating a network of tele-centres throughout the country. After the new democratic government came in power in 2009, Bangladesh has envisaged Digital Bangladesh by 2021, which emerged as part of the Charter for Change in the context of ICT development in Bangladesh. It aims to use IT for management, administration and governance to ensure transparency, accountability and responsiveness all over the society.

The vision of Digital Bangladesh as declared by the head of government comprises the following four pillars[9]: (i) developing human resources ready for the 21st century, (ii) connecting citizens in ways most meaningful to them, (iii) taking services to citizens' doorsteps, and (iv) making the private sector and market more productive and competitive through the use of ICTs. 'Leverage information and communication technologies to enhance governance and improve connectivity that allows ICT-based services to be deployed equitably throughout the nation' is one of the six goals of 'Digital Bangladesh'.

Digital Bangladesh encompasses the nation's dream of a socio-economic transformation enabled by ICTs. As a core component of the nation's overall development strategies, Digital Bangladesh has been integrated with the national policy document, e.g. ICT-related and mainstream development-related. The National ICT Policy 2009 also reflects this overarching goal of national development. As a whole, the main theme is to provide a multi-channel access mechanism to connect people and enhance digital inclusion for development (Chowdhury, 2010; Karim, 2009a).

3.4.3 Policy and Legal Context

During the last couple of years, new knowledge of ICT as a means of development has culminated into the development of a number of policy documents of the government. Based on recommendations made in 1997, the National ICT Policy 2002 was formulated. The government, however, could not accomplish the goals articulated for e-Government in the policy. This policy could not progress e-Government from a holistic point of view.

[9] http://variation29.blogspot.com/2010/07/strategic-priorities-of-digital.html

There was lack of coordination to execute the policy agenda within the government. According to that policy, "all ministries, divisions, public agencies and autonomous bodies shall set up websites where all policy documents and information relevant to the public shall be posted as early as possible and regularly updated. There will be a web portal of the Bangladesh Government from which links will be provided to the websites, like e-forms, e-procurement, e-recruitment, e-results etc. Government will introduce and promote ICT based services like G2G (government to government), G2E (government to employee), G2C (government to customer) etc. The MOSICT and BCC will be the focal point for regional and international cooperation in the area of ICT" (BCC, 2002).

The ICT Policy was revised in 2009 with a specific direction, guidelines and time frame indicating most of the agenda of e-Government and Digital Bangladesh. The ICT Policy 2009, the *'Magna Carta'* for 'Digital Bangladesh', was formulated based on stakeholder active participation (ADB, 2010). Government went through a revision of this policy and inferred that the National ICT Policy 2002 "could not reach the professed levels of success due to lack of appropriate plans to achieve the goals set in the policy as well as poor implementation of the underlying actions". As a result, a new policy was proposed incorporating all the components of the National ICT Policy 2002 in a systematic way (Karim, 2009a). New policy directives are there in 2009 Policy with the changing technological development. The main revisions include (1) a policy document with a methodical framework and (2) including planned action items in accordance with policies and strategies. Then 'a short, medium and long-term National ICT Action Plan or Roadmap was made which offers comprehensive action plans for the: (i) use of ICT in Bangladesh's development efforts, and (ii) development of the ICT sector of Bangladesh'. It is hoped that this policy[10] will offer a unique opportunity to bridge the digital and economic divide in Bangladesh. This policy document will guide the development of a nationwide ICT infrastructure for human resources development, e-governance, e-commerce, banking, public utility services and all sorts of online ICT-enabled services (MOSICT, 2008).

Government is doing all these initiatives with the realisation that ICT is powerful. The concepts of e-Governance, e-Government and e-Commerce etc. have been practised in Bangladesh to help government and business improve efficiency in the provision of public

[10] http://www.mosict.gov.bd/index.php?option=com_docman&task=doc_download&gid=310&Itemid=390; http://www.mosict.gov.bd/index.php?option=com_docman&task=cat_view&gid=139&Itemid=390

services in a transparent and accountable manner. Considering the Millennium Development Goals (MDGs) and their target indicators the government has facilitated the situation to enable the ICT sector to expand (BCS, 2006; IDRC, 2007) by:

- **Tax exemption:** Excluding all taxes and levies on computer hardware and software. Exemption has been made in 1998 on import tax and VAT on computer hardware, software and accessories, reducing the price of computers. PC importation increased over 35 per cent in 2000–2005 and the total number of PCs becomes 1.5 million (BCS, 2006; IDRC, 2007). The National Telecommunication Policy 2000 expedites competition with the target of achieving a tele-density of 8.4 per cent in five years. The receipt of electronic documents is accepted for different transactions as a result of enactment of the law in the *IT Act 2006*. The government has revised the *Copyright Act 2000* to develop and safeguard the ICT sector and software products. However, weak implementation of law is a major hindrance to resist software piracy.

- **Legalising VOIP (Voice over Internet Protocol):** VOIP was legalised in 2007. The government is to break the monopoly on fixed lines (BTTB) and introduce the private sector (ISPs) at low cost. It helps minimise the cost of international calls and increase legal calls through the Internet. The VOIP telephony industry is flourishing in Bangladesh, which is popular among both domestic and commercial users.

- **Enacting laws to support ICT:** The *Information Technology (Electronic Transaction) Act (ICT Act 2009)* offers a legal framework that acknowledges digital signatures and other electronic documents and has mechanisms to control cyber crimes, which was absent in existing laws of the land. It was designed on basis of the model law on e-commerce formulated in 1996 by the United Nations Commission on International Trade Law (UNICITRAL).

According to the ICT Policy, there is a web portal of the GOB[11] which offers links to the websites, like e-forms, e-procurement, e-recruitment, e-results etc. At this stage, the official

[11] Bangladesh Government web portal (www.bangladesh.gov.bd), which aims to provide all updated information about government services through a one-stop online portal. This is one of the e-Governance initiatives to bring all government websites and their information under a single roof.

government website, www.bangladeshgov.org, contains links to the President's Office, Prime Minister's Office, eight ministries and fifty-nine agencies.

The policy decision to adopt a citizens' charter all over the government may increase the use of ICT in delivery of public services and information. Yet initiatives taken to adopt this charter and experiences gathered could be useful to materialise the idea of Digital Bangladesh. The *Right to Information Act* has already been approved in 2008. After the approval of the Act, people are being offered the required information regarding development activities, agricultural extension and utilities and information on social development programs like finance, health, education, legal and so on (Khairuzzaman, 2009). However, the Act necessitates legal imperatives to support the overall aspect of Digital Bangladesh. In the meantime, the *ICT Act 2009* has been approved. The provisions for initiating electronic signature and e-commerce are expected to be introduced immediately (The Respondents 9, 2010). A detailed and comprehensive plan is required. At this stage policies are too vague and superficial for the country. Hence, a time-framed and sector-wise plan should quickly follow the policy (Habib, Shah, & Raihan, 2007).

The *Copyright Act* has been revised to integrate intellectual property rights (IPR). The *Copyright (Amendment) Act 2005* has been approved to safeguard IPR together with computer equipment: software, hardware and patents (Islam & Rahman, 2006). The copyright law will attract foreign investors. But the reality is that the law has never been properly executed and hence raises doubts about its ability to resist software piracy (Hoque, 2008).

3.4.4 Technology Infrastructure/Telecommunications

Internet in Bangladesh

In 1996, the government welcomed private entrepreneurs to act as internet service providers (ISPs) using VSATs (very small aperture terminals). The Internet was introduced in Bangladesh with UUCP email in 1993 and IP connectivity in 1996 (BCC & BBS, 1999; Islam & Rahman, 2006). The Bangladesh Telegraph and Telephone Board (BTTB) has already developed a network for high bandwidth Internet connectivity by providing commercial services (Ministry of Finance, 2006b). A nationwide fibre optic backbone and integrated services digital network (ISDN), and a digital data network (DDN) at Dhaka and four cities were also created by BTTB. Through this DDN, international private leased line

circuits (IPLC), National Point to Point High Speed Data Circuits, Local Point to Point High Speed Data Circuits and EI access from public switched telephone networks (PSTN) to ISPs have also been developed by BTTB (Islam & Rahman, 2006).

Optical fibre network

Bangladesh, as the first user of optical fibre network in Asia, created a 1800 km long network for Bangladesh Railway in 1986 (Ministry of Information, 2003). Then BTTB started using it to link Dhaka to Chittagong and by this time completed ten optical fibre backbone connections in Bangladesh (Islam & Rahman, 2006).

Submarine Cable

In the early 1990s, the liberalisation of telecom sector is the outcome of an incredible increase and growth of mobile phone technology in Bangladesh. Currently, the sum of telephone lines is 0.92 million and the sum of mobile phones provided by private operators is about 2 million (Islam & Rahman, 2006). The teledensity is over 34 percent in Bangladesh (Al-mahmood, 2010).

After extending the network (by the telecommunication companies) in the three hill-tract districts of Rangamati, Bandorban and Khagrachori, the telecom coverage in Bangladesh has become 95 per cent. By mid-2006, both fixed and mobile telephone subscribers has attained 12.6 million from only about 1.2 million in 2001. International telecommunication of the country is through satellite, which is comparatively slow in speed and expensive. There is also an advancement in network digitalisation for narrowband service (IDRC, 2007).

Although it has been late, a submarine cable was connected in 2006, which is a milestone in ICT infrastructure development of the nation. Bangladesh has gone through the high speed data communication with the creation of a submarine cable connection (SEA-ME-WE-4). This network consortium will enable Bangladesh to link with South East Asia, the Middle East and Western Europe. The infrastructure established so far, will strengthen ISPs to build high bandwidth connectivity according to the demand. This connection has largely minimised Internet and long-distance telephone calls and raised Internet browsing and data transfer speed (MOSICT, 2008; Taifur & Chowdhury, 2003). However, the broadband dispersion in Bangladesh is still behind other Asian countries, as it is in an early stage

(Islam & Rahman, 2006). Although there has been tremendous advancement in some components of information infrastructure, Bangladesh is still lagging behind in regards to other important components of a national information infrastructure, for example security and privacy of network and information, legal and financial infrastructure, and technology convergence (IDRC, 2007).

3.4.5 Information and Communication Infrastructure

Bangladesh at a glance

GDP per capita	USD 482 (USD 1 = BDT 65)
Key economic sectors	Agriculture, textile and clothing, leather and leather goods, frozen fish, construction, transport, overseas services by temporary migrant workers
Computers per 100 inhabitants	1.2
Fixed-line telephones per 100 inhabitants	2.63
Mobile phone subscribers per 100 inhabitants	2.03 (2004)
Internet users per 100 inhabitants	0.22
Domain names registered under.bd	1500
Internet domestic bandwidth	>122 Mbps
Internet international bandwidth	Current capacity: 10 Gbps Capacity: up to 80 Gbps Current use: 300 Mbps

Sources: (BBS, 2005; IDRC, 2007; ITU, 2006; Mumith, Munir, & Raihan, 2007; UNDP, 2005a)

The government and the UNDP performed a Horizon Scan Study in 2007. It was a baseline survey of existing capacity, needs and requirements for implementing e-Governance in Bangladesh. The study revealed the presence of websites in most of the ministries and

government agencies set up with the necessary computers, printers, scanners and other tools. Many of the departments are Internet connected with broadband or dial-up connections. Some of the ministries have LAN, WAN and MAN connections. There is an e-Governance focal point in all ministries and ongoing training for public officials (UNDP & A21, 2007).

3.4.6 Some Key Success Factors

Despite the fact that there are limited resources and inadequate infrastructure, and large gaps in terms of awareness, accessibility and affordability of different information services, considerable progress has been achieved in Bangladesh to connect the nation. The policy and regulatory frameworks so far developed in Bangladesh are shown in Table 3.3.

Table: 3.3 Policies and Regulatory Environment: Key Milestone

Reform	Date	Comments
Liberalisation of Telecommunication Sector	1990s	• End of monopoly of government-owned BTTB and competition • Telecommunication policy • Unprecedented growth in mobile sector
National Telecommunication Policy	1998	• For creating a regulatory environment to facilitate rapid growth of networks, promoting interoperability, data security and protection of intellectual property rights
National Telecommunication Act	2001	• To opening up an era of liberalisation, competition and unprecedented growth in the sector
National ICT Task Force	2001	• To invest in pilot projects. It recommended • To automate ministries and other government departments through adapting ICT based technologies.
National ICT Policy	2002	• Creation of infrastructure • ICT regulatory framework • Establishment of the software industry
Support to ICT Task Force	2003	• Implementation of e-Government projects
IT Act	2006	• ICT Act has been enacted according to United

Reform	Date	Comments
		Nations Commission on International Trade Law (UNICITRAL) • To create an Electronic Certification Authority to issue licences for verification of electronic signature • Electronic documents to be accepted for different transactions • To develop a suitable climate for e-Commerce, e-Government and to check Internet transactions • To control cyber crimes, and formation of right authorities
ICT in Poverty Reduction Strategy Paper (PRSP)	2005	• ICT is perceived as an important tool for alleviating poverty • HR training on ICT in both villages and cities • Set up of telecentres in various upazilas to offer information on agriculture, food, education, health etc. • Open up VOIP to the private sector at a low cost
e-Governance Cell	2006	• To coordinate e-Governance functions in the ministry
National ICT Road Map/Action Plan	2008	• Developing a framework of the National ICT Road Map • Preparing detailed action plan and programs for ICT road map
Broadband Policy	2007	The purpose of the draft policy is to facilitate the growth of high-speed Internet services at affordable prices
Community Radio	2008	To allow non-profit organisations to conduct community radio stations
Right to Information Act	2008	a) To ensure accountability and transparency for good governance b) All agencies registered according to the law have to offer information related to public interest
Intellectual Property Rights	2000	• Copyright Act 2000 has been enacted to promote IT industries and national economic development • Data security and interoperability will be promoted through establishing encryption standard

Reform	Date	Comments
		and international agreements on interoperability • Bangladesh is a signatory to two significant international copyright agreements including TRIPS
GOB Program on Digital Bangladesh Vision 2021	2009	• To use IT for management, administration and governance to ensure transparency and accountability all over the society.
Revised ICT Policy	2009	• Incorporation of all the components of the National ICT Policy 2002 in a systematic way with the revisions required for developments since 2002. • Also incorporated new policy directions in line with technological development in this area. • As a methodical framework of the policy document. • Incorporating planned action items in accordance with policies and strategies.

Source: MOSICT (2008)

All these initiatives have been taken to enhance tele-density, PC density and Internet density in Bangladesh. The BTTB has initiated the packet switched international calling service, which results in reduced charge of international call. As already mentioned, the GOB has realised the effect of ICT for development and, following the declaration of ICT as the true sector, the government has developed an entrepreneur equity fund worth taka 300 crore (approx. $US 4,565,000) for private financing. Moreover, to enhance more entrepreneurship in ICT the government has also created an ICT incubator. The incubator was initiated in 2002 for establishment of ICT companies (Islam & Rahman, 2006).

3.5 Why is Bangladesh Lagging Behind? Factors Preventing the Effectiveness of e-Government: Bangladesh Reality

3.5.1 Challenges

Although e-Government tends to seem as the panacea for all nature of problems in almost all societies, it is not beyond criticism while some contend that ICT may have established a new form of 'digital divide' in 'information poverty', adapted equal access to public services and impaired accountability and individual privacy (Ghere & Young, 1998). As soon as the vision and priority sectors are fixed, it is essential to appraise the preparedness of the society for e-Government. The success of e-Government depends on an open culture, and readiness and commitment of the administration (Teicher *et al.*, 2008). According to United Nations (2010b), the e-Government ranking of Bangladesh is very low and above only a few smaller or poor nations (World Markets Research Centre, 2001). However, we may assume a country is ready to embrace e-Government at least when it has sound economic back-up, as we know financial constraints are viewed as the major concern in this. It is, therefore, crucial to consider the cost implication of such initiatives. The assessment of the success of e-Government is done so far on basis of other countries' experiences. The cost-benefit analysis has not yet been done to see how beneficial it will be to introduce the concept (Morshed, 2007). E-Government initiatives in this context are hindered by the shortage of managerial wisdom, expertise and technical know-how. Without this expertise, cost-benefit analysis to examine financial viability of a project cannot be performed.

However, as a developing country, if Bangladesh is committed to use its resources economically, funding will not remain as a hindrance. Different development partners, e.g. World Bank, UNDP, DFID, EU and other sources, are constantly supporting the introduction of the concept to improve the governance mechanism (Kabir, 2008). Considering the political turmoil in Bangladesh, it is obvious that public servants' affiliation with party politics restricts the general trust in government. Further, the nature of the relationship between the ruling party and the opposition signifies low-quality political development. The lack of political involvement, however, may hamper the development of e-Government here.

E-Government implementation in Bangladesh is facing challenges in three A's: access, awareness and applications (UNDP & A21, 2007). According to a global IT study conducted by Harvard University, Internet and PC penetration rates in Bangladesh are 0.04

per cent and 0.09 per cent respectively which are very low. Open public places like cyber cafes and kiosks are yet to be established to fulfil the demand and allow Internet access at low cost (Taifur & Chowdhury, 2003). For awareness building, there should be a wider consciousness among the general people about the usefulness of ICTs in their lives. ICT is still considered to be something for the elites in the society. Demand is not growing from the public for service delivery by means of ICTs.

As one of the least developed countries, Bangladesh has a gigantic task to finance capital-intensive efforts such as access backbone and communication infrastructure. Moreover, it is also difficult for the nation to obtain modern ICT tools, which are very costly. The communication challenge is somewhat minimised with the rapid expansion of mobile phones, yet the awareness among general people remains low. In fact, only a few applications are available to address some specific application needs of the civil services and other sectors of the government. Government stakeholders cannot obtain a greater buy-in due to the absence of software applications and relevant digital content (UNDP & A21, 2007). Besides the three major issues, the lack of policy level coordination and the fragmented mandate of various government agencies are other challenges to effective use of ICTs for an improved public management system. Overall, e-Government implementation in Bangladesh is largely affected by the following factors:

Inadequate ICT infrastructure including low teledensity: Inadequacy of ICT infrastructure in Bangladesh is a common problem like other LDCs. However, e-Government triumph depends not only on technology and capacity building, but also on readiness with regard to policy initiatives, infrastructure and skill development, the majority of which are not technological in nature. The scenario is not very promising in this as the digital divide and the lack of readiness create a distance between those with and without technical skills. This creates more divisions within the hierarchical administrative and political arrangement (Teicher *et al.*, 2008). The cost of ICT and Internet access is very expensive in Bangladesh compared with developed countries. The lowest cost to have Internet access in Bangladesh is $US 0.50 per hour through a dial-up system. Installation of necessary telecommunication facilities for ISP companies is also at the elementary stage as the country is yet to be under the full BTTB telecommunication network. A telephone density of 0.50 connections per 100 people is one of the lowest in the world. It is still difficult for the residents to secure telephone connections (Hasan, 2003).

Lack of skilled human resource capacity: Institutional support to develop expertise and skill is lacking. Thus many e-Government projects suffer from the absence of skilled human capital (Morshed, 2007; Taifur & Chowdhury, 2003).

Lack of sustainability of IT systems: E-Government projects are mostly financed by donors from outside sources. If there is any cessation of this flow of funds, the sustainability of the initiatives may be in question (Fors & Moreno, 2002; Kabir, 2008).

Resource/Financial constraint: Due to lack of adequate resources, it is difficult for the country to invest large amounts of money in this. In addition, the absence of managerial acumen and technical know-how to analyse the cost-benefit aspect and return on investment to assess the feasibility of a project is impeding the nation's e-Government objectives. All these are considered as major issues for the advancement and maintenance of systems.

Lack of regulatory/legal framework: The regulatory framework is not adequate to adapt to the increasing needs of the electronic world. The experts in this field believe that an effective regulatory framework for e-Government is crucial for boosting the national ICT sector. The appropriate legal reforms may enable an ICT-friendly environment to support this sector by attracting investment. An e-mail has no official value of recognition in the existing government and legal system. Cyber crime and electronic authentication are not yet covered by any laws. For the appropriate growth of the ICT, e-Government initiatives must have rules and regulations, creating privacy, transparency and accountability laws. Transparency and accountability need to be strengthened in the form of policy and legislation. This is a serious concern in many countries which demands the commitment from the upper-level of government, management and politics to make it happen.

Insufficient power supply across the country: Considering the access to computers to the general masses is a far cry while only 39 per cent of the people have access to electricity (Hasan, 2003). Further, those who have the access also experience power cuts and load shedding. Before a widespread dispersion of ICTs, the issue of power crisis has to be resolved urgently.

Although the submarine cable has been installed with a huge price involvement, it is not properly functioning for many reasons. However, digitalisation of the network for the narrowband service and construction of the DDN are functioning well all over the country. Then at the organisational or ministry level, a very few government agencies have

computers with Internet connections. Even in some departments where computers are available, most are not being used for integrated planning (Taifur & Chowdhury, 2003). The short-sightedness of planners and decision makers results in lack of integration of ICT-based systems into the key business activities of an organisation (Morshed, 2007).

3.5.2 How Effective e-Government is despite all Impediments

Despite all the challenges and impediments, e-Government theories may be applied in developing countries (Backus, 2001). Kabir (2008) is positive towards the prospect who believes that, ICT infrastructure can be developed up to the root level, provided there is a clear vision for e-Government, using limited resources. Albeit the high initial costs to introduce the concept in a developing country like Bangladesh, it will eventually be greatly beneficial as it results in faster economic growth (Asgarkhani, 2005).

Morshed (2007) also believes that e-Government may achieve the expected results in this context after a considerable period of time. If we fail to realise it, frustration may occur, which in turn will cause the loss of resources and motivation among the stakeholders. It is thus necessary to strengthen the capacity of the civil servants to conduct cost-benefit analysis prior to sanctioning the projects. Bangladesh as a developing country, may achieve the level of efficiency in the provision of government service like in developed countries if the government is ready to decentralise and delegate functions and procedures, and if they initiate application of electronic means. This will enable the general people to interact with the government through websites with available forms, rules and regulations, news and other necessary information.

E-Government is no more a matter of choice for Bangladesh when it wishes to reform its governance practices. The main policy issue is not technology, some other imperatives like the effect of political determinants needs to be considered. The most critical is the significance of administrative and political will and commitment from the top. In the absence of this, projects may discontinue prior to fulfilling the desired goals. With regard to government focus, policy process and ICT initiatives, Bangladesh remains in a position which can normally turn into the Information Age (BCC, 2002). There are also indications of government's interest and willingness to take part in e-initiatives (PMO, 2002). It is apparent that the GOB has realised the necessity of the application of ICT which is vital for any positive change (Heeks, 1998).

Technological efficiency and efficacy is not a major issue, what is important is to consider how the users can make best use of it, especially for those living in developing parts of the world. E-Government originates from transnational agencies (donors) to create a government more transparent, but its applicability in terms of appropriate strategies needs to be considered. It cannot function in the absence of practical grass root policies (Hossain, 2005). The government needs to develop strategic partnerships to continue its effort to use ICT for development. Over the recent years, Bangladesh has embarked on adopting ICT for development by means of strategic partnerships. With this end in view, the government adopted some important ICT projects to strengthen and speed up e-Government with the active support of some major donors for example UNDP, World Bank, USAID, KOICA, CIDA, SIDA and so on (Islam & Rahman, 2006). The strategic partnership, however, suffered some setbacks and could not work with as much success as expected. The international organisations are financing the initiatives in banking-sector reform, human-resource development, policy planning, and infrastructure growth and so on. It is often difficult to coordinate these development partners as they are working with different approaches. Further, most of these development partners have their own interests and conditions in approaching the governments in developing countries. Governments must take it into account before making any commitment with them.

The accomplishment of e-Government is limited because of constraints mentioned above, but with sustained efforts these difficulties may be overcome in the long run. Bureaucratic resistance may still be a potential deterrence towards the adoption which may assist in containing divergent arrays of corruption, unless the bureaucratic machinery possesses high standards of ethics and sound morality as well as fairness and patriotism.

3.6 Summary of Chapter 3

This chapter has provided an overview of the existing governance system including the state of corruption and various government initiatives in ICT developments in Bangladesh. Despite the impediments and bottlenecks, the country has made concerted and sustained endeavours to make implementation of e-Government a success. It has a promising IT sector given the extent of interest among the young generation and the potential talent of IT people (Hoque, 2010). Although the weak infrastructure and the constraints of bureaucracy remain as the major concerns, potential for an IT-strong nation still exists which is expected to enable the country to get the benefits very soon.

In the age of digital renaissance, e-Government is growing to be the critical for the national development and plays a dominant role in strengthening transparency and accountability in the government (Islam & Rahman, 2006). Despite a variation in the extent of implementation, such efforts and initiatives have several common desires: all the projects aim at providing the people with more access and facilities to information-related issues and increased service, mainly in the governmental sectors. Yet these efforts have yielded only modest and mediocre results. This is mainly because e-Government implementation endeavours in most cases have been impeded by constraints and challenges. However, the government recently has been trying to locate and identify the places and organisations where it is cumbersome and difficult to get the services. By removing bottlenecks, the government is also trying to solve the problem as soon as possible.

One can hope that the journey on the way to e-Government will persist, and Bangladesh will progressively start getting the advantage from this web-based form of governance. This entails determining the right technology and services that conform to the needs and requirements of the citizens of this country. The government believes that real value can be obtained through the adoption of e-Government, but the need for basic assessments of benefits and costs, risks and opportunities exists. Given the dynamics of e-Government in existence in the developed world now, the prospects of developing countries to attain a desired level of e-Government are tremendous.

Having discussed and reviewed the existing socio-political situation in Bangladesh, the next chapter outlines the conceptual framework to assess governance reforms in the public sector.

Chapter 4. Conceptual Framework

4.1 Introduction

The preceding chapter highlights the theoretical concepts in the literature related to evaluation of e-Government success in a developing country. Chapter 3 provides a review and critical analysis of the existing governance scenario in Bangladesh, the challenges in the process of achieving the objectives of good governance, the need for improvement, a suggested approach for the improvement, and the perceived outcomes of these approaches. Based on this, this chapter presents a conceptual framework on which the effect of ICT-led e-Government application (on transparency and openness) in various public sector agencies will be assessed.

Figure 4.1 indicates the position of Chapter 4 in the overall research design of the thesis.

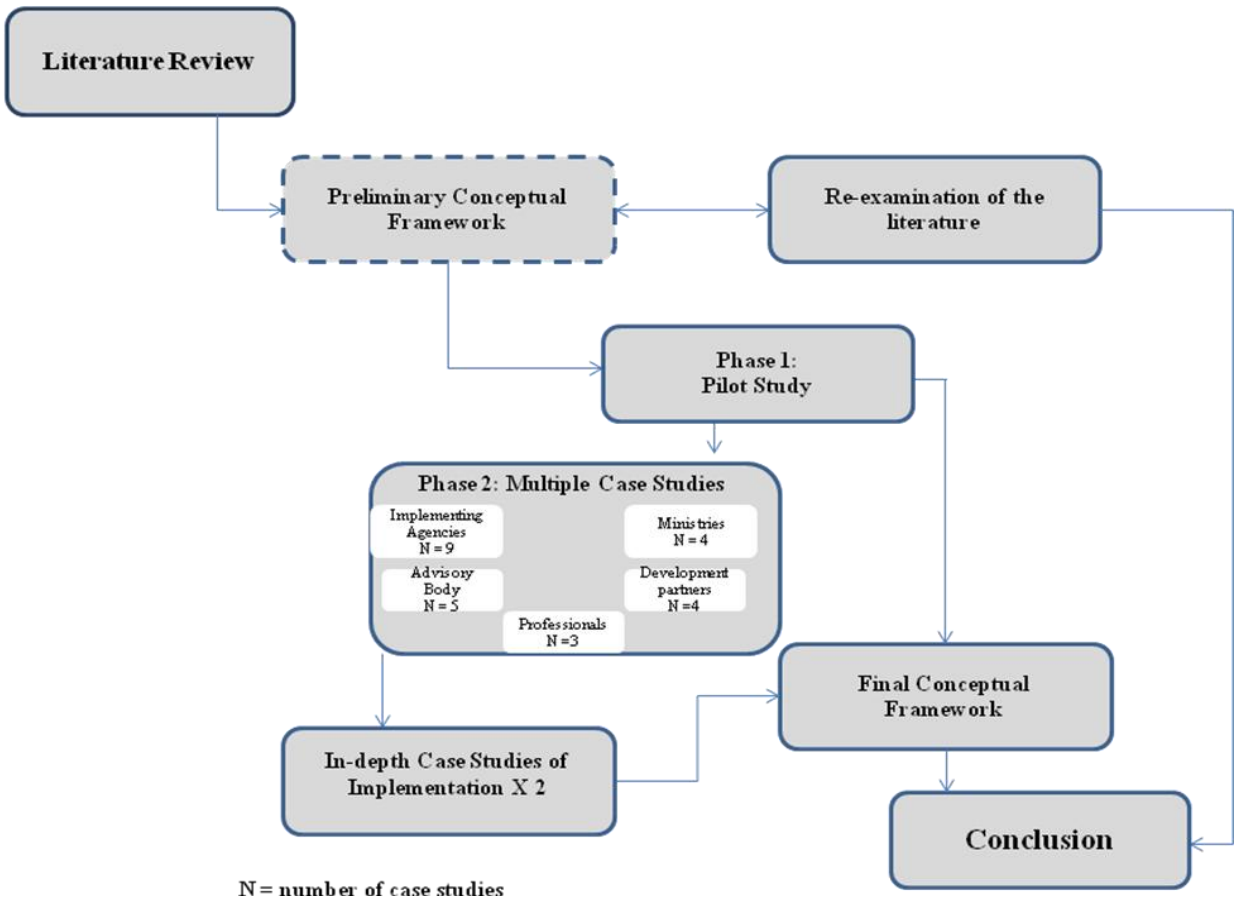


Figure 4.1 Location of Chapter 4 in the Overall Research Design

This chapter also presents the research question based on a review of the extant literature and the conceptual framework. Then the chapter describes the subsidiary research questions designed to substantiate the research question.

4.2 Theoretical Background and Conceptual Framework

The following conceptual framework is developed using key elements of ICTs/e-Government and related terms, including governance and good governance. By developing such a framework, concepts are organised systematically and logically, having all connected in a proper way. This framework links the theoretical models (of e-Government) discussed in Chapter 2, e.g. Fountain's theory, on which the reforms in public management system have taken place and achieved the outcome of reform. The conceptual framework authorises organising ideas in a consistent way to represent a specific phenomenon, i.e. the use of ICT as a tool to promote transparency and openness in the public management in Bangladesh.

It is assumed that if ICTs are taken and followed in government agencies, it will enhance transparency and openness, which will lead to improved efficiency and accountability and broadly to good governance. Based on this assumption and the above discussion, a conceptual framework has been developed (see Figure 4.2).

The framework outlines a number of phases with respect to the research process and its outcomes. It indicates that the lack of transparency and openness could be overcome through the formulation and implementation of e-Government policy initiatives by the use of ICTs. It is argued that proficient use of ICTs within the governance mechanism would increase transparency and openness, which in turn would help establish good governance (Bhatnagar, 2004; Sobhan *et al.*, 2004). The major issues covered in the conceptual framework include (i) problems associated with the lack of transparency and openness in the governance system; (ii) the need for its improvement and (iii) the application of an ICT-enabled e-Government tool to promote transparency and openness, leading to (iv) efficiency, accountability and eventually to (v) better governance.

(i) Problems associated with the lack of transparency and openness, and corruption in the governance system: As mentioned earlier, problems exist in the existing governance practice. Corruption and mismanagement due to the lack of transparency and openness are primarily responsible for these problems. Secrecy and opaqueness in the system prevents the sharing of information. Lack of transparency in public decision making and provision of

quality public services is a big challenge in the governance mechanism (Hasan, 2003; Sobhan *et al.*, 2004).

(ii) Need for improvement: Given the circumstances, there is a need for improving transparency and openness in the public management in this context. There are different ways of achieving these objectives, including the use of traditional administrative methods and the employment of ICTs as a governance tool. ICT may help institutionalise management practices through strengthening information flow in government organisations (Iqbal, 2009b; Sobhan *et al.*, 2004).

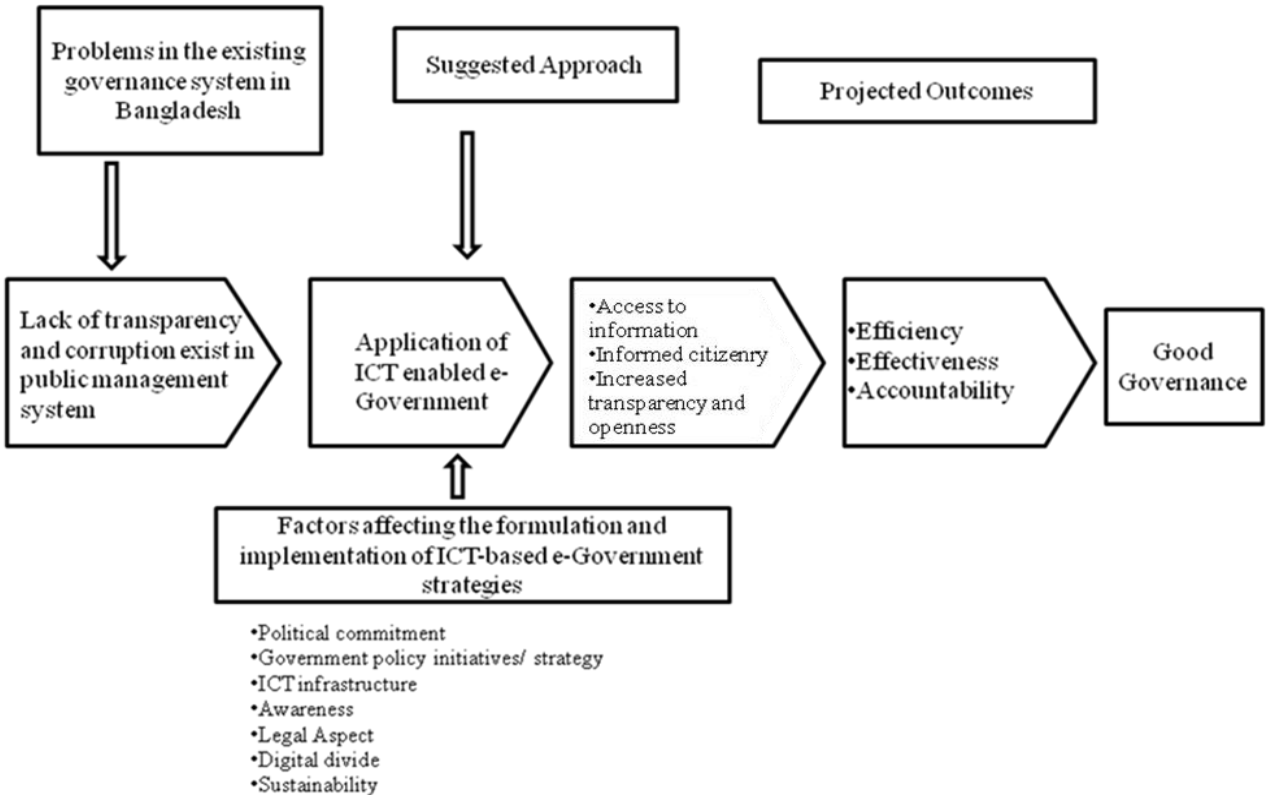


Figure 4.2 Conceptual Framework

(iii) The use of ICT as a tool to improve transparency and openness leading to accountability and good governance: Key factors regarding e-Government implementation may be known as the issues critical for its successful implementation. Such factors may work as the hindrances in the adoption process. Adoption of e-Government often faces many obstacles particularly in developing countries, which have many hurdles to overcome (Yigitcanlar, 2003). Barriers faced in public-sector organisations may restrict the realisation of expected benefits and the adoption of e-Government (Imran, 2006). The government at this stage continues to struggle in its efforts to offer current information on its activities electronically. Although national leaders seem to hold the political will and commitment to adopt ICTs to establish e-Government, still some impediments are there to overcome. Initially, what governments require is to commit to strategies transforming their present governance mechanism. However, significant challenges and opportunities may appear during the execution across the agencies.

As discussed earlier, the traditional government system has become almost obsolete due to its cumbersome and expensive way of governing. Thus governments across the globe have begun to apply ICTs to establish a citizen-focused, more transparent and accountable government system (Metaxiotis & Parras, 2005). However, it is not easy to successfully formulate and implement e-Government strategy and structure. There are many important factors to consider while introducing e-Government, as follows.

- **Political leadership and commitment** is critical for e-Government implementation (Coursey & Norris, 2008; Koh, Ryan, & Prybutok, 2005). This is because of the complexity and magnitude of changes occurs in the organisation during e-Government implementation (Bonham *et al.*, 2001). For any reform to materialise, political commitment is a significant success criterion, in developing nations in particular (Mahmood, 2004; Ndou, 2004). Singh (2003) asserts that the high officials within a department are the main driving force.

- **Government policy initiative:** Strategy for e-Government is a major issue for its adoption (Fletcher, 1999). The governments need to commit to strategies and drivers for e-Government implementation (Working Group on e-Government in the Developing World, 2002). Government lacks a clear ICT policy and e-Government strategy in Bangladesh. The strategies are mostly broad and ambitious in the scope of ICT policy change. They

could not significantly affect this area as they were not delivered properly. Once drivers are known, they can assist in developing action plans. E-Government strategy needs to focus certain objectives and targets with time frame to rationalise expenditure and the degree of its accomplishment (Forman, 2002). It must also focus on the barriers and challenges (Margetts & Dunleavy, 2002). Most important is that the strategy has to be in line with organisation's own strategy, known as strategic alignment (Beaumaster, 2002), which affects the performance of the organisation as a whole (Xia & King, 2002). In fact, an e-Government strategy must develop an action plan together with accountability (Heeks, 2001a), the organisation's structure (Baum & Maio, 2000 ; Snellen, 2001), allocation of resources (Fletcher, 2003), IT policies and practices (Powell & Dent-Micallef, 1999), and leadership (Ramanie, Alam, & Teicher, 2008). The action plan will explore the sources of funds (NSW Audit Office, 2001), and recognise stakeholders (Tennert & Schroeder, 1999) and their roles (Frooman, 1999). Overall, the action plan will endeavour to promote e-Government to create awareness among the stakeholders (Hu, Xiao, Pang, & Xie, 2005).

- **ICT infrastructure:** Inadequacy of ICT infrastructure in Bangladesh is a common problem like other LDCs. It is evident that technology signifies an important factor for e-Government success (Ho, 2002; Kumar & Best, 2006; Layne, 2001). E-initiatives demand investments for securing IS structure, hardware, software and expertise. Bonham *et al.* (2001) and Bourn (2002) highlight technical infrastructure as an important obstacle to offer electronic services. Moreover, ICT infrastructure in developing nations is very weak and the use of ICT is low (Bhatnagar & Bjorn-Andersen, 1990; Yong, 2003).

- **Awareness:** E-Government implementation in Bangladesh is facing challenges in three A's: access, awareness, and applications (UNDP & A21, 2007). Demand is not growing from the public for service delivery by means of ICTs. Most of the people are ignorant about the usefulness of ICTs in their lives because politicians are indifferent about ICTs and do not consider it as a strategic tool.

- **Legal aspect:** The absence of legislation hampers a congenial environment for knowledge sharing. The regulatory framework for e-Government is not adequate. An e-mail has no official recognition in the government and legal system. Cyber crime and electronic authentication are not checked by any laws. Transparency and accountability ought to be strengthened through the formulation of legislation, rules and policy. As-Saber *et al.*

(2007) substantiate this by citing an example of some regulatory provisions (*Official Secrets Act 1923*) in Bangladesh that are likely to obstruct the objectives of improved transparency and openness.

- **Digital divide** among the LDCs appears to be widening despite globalisation, which are failing to keep pace with ICT growth in OECD countries (Rice, 2003). The difference between those who are capable of having Internet access and those who are not is an impeding factor for the success of e-Government. Heeks (2003b) views e-readiness and minimisation of design-reality gaps in developing countries are the key challenges for e-Government.

- **Sustainability** of the initiatives is also a major issue. E-initiatives in Bangladesh are mostly financed by the donors and, in case of any cease of this flow of funds, the sustainability of the projects will be in question (Fors & Moreno, 2002; Kabir, 2008). There is an apprehension or fear that, if the relationship is strained between the donor and the recipient for any reason, continuation of aid for the initiatives may be suspended or totally come to an end or at least minimised to an insufficient level. This may invite suspension of the project in question for no fault of the recipient.

(iv) Perceived outcomes of use of ICTs: With the forward-looking and innovative approach, the ICTs contribute to address the traditional problems of governance (Bhatnagar, 2004). When implemented as part of a larger reform package, this ICT-led governance mechanism could have a thorough impact on improving transparency in the form of information dissemination and openness, government efficiency, accountability and the excellence of public service provisions (Ciborra, 2005; Mclvor *et al.*, 2002; Wescott, 2003). This, in turn, strengthens the democratic institutions of a country and promotes good governance (Fang, 2002; Kim *et al.*, 2005; Vasconcellos & Rua, 2005).

4.3 Research Question

Based on the discussion above, the aim of this research is to address the gap in the literature by investigating the following general research question through an in-depth, qualitative study.

Does e-Government lead to greater transparency in the public management system in Bangladesh?

4.3.1 Subsidiary Research Questions

The implementation of e-Government is a multi-disciplinary approach. In order to address the research question, it is necessary to explain how e-Government employs a wide range of issues, ranging from infrastructural to socio-economic impact, to comprehend and construct key solutions and implement them in a specific context. The following seven subsidiary research questions have been designed to supplement the research question with subsidiary questions that investigate the issues of transparency and openness and which assess the impact of e-Government on these. The subsidiary research questions have substantiated the research question to achieve a further understanding of the adoption of e-Government in Bangladesh.

Since transparency is a relatively new topic, the perception should clearly be defined among all professional backgrounds, levels of literacy and depth of sensitivity. Therefore, it is really important to know what the respondents in respective cases perceive about transparency. Their thought, sensibility and understanding ought to be recorded for critical and thorough analysis. If we know what they understand by transparency, it will address squarely the research question whether or not there is any link between e-Government and transparency and if e-Government can improve transparency in the public management and to what extent. Unless and until transparency is known, we cannot understand whether transparency is improved or not. In this point of view, it is assumed that the following subsidiary research question 1 will generate some further questions to the respondents to let them think and reply to what transparency is meant for.

Subsidiary Research Question 1: What is understood by transparency in Bangladesh?

It is also important to understand the way transparency is improved after the introduction of e-Government. If we know the ways e-Government facilitates people's access to information and public service, we can be in a position to put our views about e-Government's influence on transparency. Then the next subsidiary research question asks how e-Government helps improve transparency. By means of subsidiary research question 1, we know about the definition of transparency. Following that, we try to relate e-Government and transparency and the ways e-Government can improve transparency and to what extent. Since the research question is, "Does e-Government lead to greater

transparency in the public management in Bangladesh?", it is very pertinent to know about how e-Government improves transparency in government machinary.

Further, the question of whether or not the use of ICTs in e-Government in administration improves transparency, and if so, to what extent in Bangladesh in the present public management and political situation? This involves how to measure or how to authenticate. This is an enormous and veritable challenge, as the absence of transparency with a minimum of accountability invites corruption to thrive in a situation of absolute power and unhindered monopoly. Thus, it is expected that the following subsidiary research question 2 will generate the views of the respondents about how they apply e-Government in order to increase transparency.

Subsidiary Research Question 2: How does e-Government improve transparency?

To understand about the effect of e-Government on transparency, it is important to know the pros and cons of the context in which e-Government is implemented. If it becomes apparent that e-Government does not help increase transparency, it will be necessary to explore why. In the same manner, success of e-Government needs to be known as this will help understand how far e-Government is ensuring an increase in transparency. Although the following subsidiary research question is not directly contributing to address the research question, it will provide some background information and contextual understanding about the overall aspects of e-Government in Bangladesh. Thus, after introducing e-Government in various public agencies, the next relevant question will be about its success and failures. This subsidiary research question 3 will allow the respondents to discuss the adoption of e-Government, and whether or not they face any problem and challenge while implementing the process.

In developing countries, e-Government systems are embedded in a fabric of relations in a particular socio-economic context, while the design and implementation requires an understanding of this context (De, 2005; Heeks, 2005a). Failure of an e-Government project in a developing country signifies the importance of investigating the causes of success and the failure. Thus it is important to investigate the causes for success or the failure in projects implemented in similar settings. Some projects in Bangladesh under some ministries, for instance M/O Religious Affairs, M/O Communications, M/O Education, M/O Finance and M/O Local Government and Rural Development, achieved a reasonable amount of

successes (Heeks, 2003a; Sobhan *et al.,* 2004) based on trying to match the project with the reality on the ground. In fact, these are successful projects that selected the low-end route. Rather than going for high-end solutions like web-based design or remote access, these projects attempted to get stakeholders' active participation to provide an e-Government solution for various services provided by the authorities (Akhter *et al.,* 2007). This study will investigate some of these initiatives to find out reasons behind their successes and failures in increasing transparency in the system. Further, since developing countries often borrow the concepts from developed nations, it is important to know if e-Government models basically designed for western context are suitable for this context. A careful examination of e-Government design mismatch and its consequence is expected to provide a clear idea whether the design mismatch does hamper the purpose of the project.

Thus, if the question is posed to the respondents about their success and failure, some insights on the implementation process will be obtained. In addition, the following subsidiary research question has also been designed to know about the design context of e-Government and its applicability in Bangladesh. In order to know how e-Government improves transparency, we must know the factors critical for its success and failure, design and architecture and if it is suitable to this environment when imported from the western country while 'design fallacy' becomes an issue concerning the developing country context. According to Heeks (2005a), most e-Government technologies are designed and developed in a context different from those where deployment and adoption takes place. Heeks termed this as 'carrier of context' as done by designers based on assumptions on the context of use.

From the respondents' view, it will enable the researcher to know if there is any serious hindrance due to design mismatch in the implementation process. If a mismatch or the existence of a problem of this nature is investigated, data can be elicited from the respondents about how they think they can resolve the issue. The opinion received from the respondents will be tallied with the actual situation on the ground and that may be referred to the policy makers for their solution to the problem. To address these issues, the subsidiary research question 3 has been developed in the following manner.

Subsidiary research question 3: What constitutes success in the implementation of e-Government? What is failure? Does e-Government design mismatch hinder the implementation process and, if so, how?

E-Government helps disintermediation. If disintermediation helps improve transparency, we may conclude that e-Government ultimately results in increased transparency in the public administration. Therefore, it is important to have an insight into what extent disintermediation can help increase transparency. Thus the role of disintermediation in increasing transparency needs to be explored. As there are many issues to be considered for designing and implementing the process, including disintermediation of government procedures, the impact of social and political factors, e-Government entails disintermediation to the extent that provision of information is concerned, we need to know whether disintermediation can improve transparency. The following subsidiary research question 4 will address the research question in this manner:

Subsidiary research question 4: Does disintermediation improve the extent of transparency?

This subsidiary research question will investigate how different departments perform the implementation initiatives. In order to know if e-Government can introduce transparency, the underlying causes of variations (in results) in different organisations should also be known. Variations manifest dissimilarities according to the direction of the change being undertaken among departments. The variations in results also originate from the manner decisions are made while implementing the concept in different organisations. Thus the following subsidiary research question 5 will redress the research question.

Subsidiary research question 5: What variations in e-Government (results) are found in practice and what effects do these variations have, and why?

Further, in order to address the research question, we also need to know the role of the National ICT Task Force, the apex body of ICT/e-Government initiatives in Bangladesh. The researcher believes that role of the ICTs and how they are used in e-Government implementation is important to address the research question. Whether the Task Force delegates its roles or the departments under investigation have their autonomy will be explored. Thus, the following subsidiary research question 6 is related to address the research question.

Subsidiary research question 6. What role does ICT Task Force play in implementing e-Government? Are government departments authorised by the Task Force or they have their autonomy to implement the system?

It is necessary to know whether there is any impact of e-Government on corruption. It is important to understand if corruption is hindered after the introduction of e-Government in these agencies. If the study can explore e-Government's effect on improving transparency through access to information and public service, it may also be able to know e-Government's influence on corruption. Then the next subsidiary research question asks whether or not e-Government helps reduce corruption. The following subsidiary research question 7 will generate the views of the respondents about e-Government's impact on reduction in corruption.

Subsidiary research question 7: Does e-Government reduce corruption?

4.4 Summary of Chapter 4

The previous chapter (Chapter 3) has delineated the public-sector reform initiatives and how these affect efficient delivery of public services to citizens in Bangladesh. The chapter has also offered a review of existing literature on the prospects of ICT development and the introduction of e-Government in the public domain. There is in fact no study available on the effect of e-Government on improving efficiency and transparency in the public sector in Bangladesh. Finally, based on that discussion, a conceptual framework has been developed in this chapter to evaluate the performance of ICT-based e-Government initiatives in different public-sector agencies. Then based on the review of extant literature and the conceptual framework, one research question and seven subsidiary research questions have also been designed in this chapter.

The next chapter discusses the justifications and contexts about the selection of the research design and methodology applied in this study. Then the chapter includes an outline of the key characteristics of qualitative research and how these relate to the research question of the study. It explains the rationale for selecting the case-study, the research method and the data collection technique.

Chapter 5. Research Method

5.1 Introduction

The previous chapter (Chapter 4) presents a conceptual framework on which the effect e-Government on transparency and openness in various public agencies in Bangladesh is assessed. The purpose of this chapter is to introduce and justify the research design and methodology of the study. First, in Section 5.2 the proposed qualitative research method is described and justified. Then the chapter discusses the research paradigm in which this research fits. This section includes an overview of the key characteristics of qualitative research and how these relate to the research questions. The research design is then presented in Section 5.3 with an explanation of the unit of analysis and how the cases were selected. Section 5.5 provides an insight into the different data sources used. This is followed by Section 5.6, which explains how the data were coded and analysed. Finally, Section 5.7 discusses how this study has maintained rigour and objectivity in conducting the analysis and presenting the findings.

5.2 Justification of the Research Method and Paradigm

This research proposes a qualitative study. The research question, outlined in the previous chapter (Chapter 4), is as follows:

Does e-Government lead to greater transparency in public management in Bangladesh?

This research question was developed following a review of extant literature and it is stressed that the nature of the research is exploratory. Consistent with the purpose of the research, it takes a qualitative approach, which allows an open and flexible investigation that has the aim of developing new insights into assessing the impact of e-Government on transparency and openness issues. A qualitative research method provides the opportunity to observe a phenomenon directly and may create a first-hand experience to explain (why and how) a scenario.

Other researchers (Feagin & Sjoberg, 1991; Stake, 2005) have emphasised that the most distinctive characteristic of qualitative inquiry is its emphasis on interpretation and draw the following distinctions between qualitative and quantitative emphases.

- Securing the individual's perspective

The researchers of both qualitative and quantitative studies deal with the insight and perception of an individual. However, researchers of qualitative studies believe they can go close to the individual's point of view by means of thorough examination and observation. Advocates of qualitative research further contend that quantitative researchers hardly comprehend the subject's viewpoint as they depend on more distant, inferential and empirical evidence.

- Obtaining rich descriptions

Qualitative researchers rely on well descriptions of the societal world, which are valuable, whereas quantitative investigators, with their etic (behaviour, belief of an observer), nomothetic (legislative) commitments, are less involved with such aspects.

- The case-study method provides detailed explanations that survey methods overlook and it also offers the prospect of new insights into the relationships between different variables (Eisenhardt, 1989; Glaser & Strauss, 1967; Yin, 1989).

Denzin and Lincoln (1998) and Stake (2005) further explain a difference between the two methods as the searching for causes (in qualitative) rather than happenings (in quantitative), and emphasise that quantitative researchers seek explanation and control, whereas qualitative researchers look for understanding of complex interrelationships. This makes qualitative research a particularly attractive for the current research as the primary and subsidiary research questions seek to describe the relationship between an organisation's state of e-Government implementation and its impact on transparency, openness and corruption. The research questions require organisations to explain their e-Government strategy, and how these strategies influence devising managerial interventions in e-Government-led anti-corruption initiatives. It is a complex phenomenon and difficult to understand the intricacies of the organisations' situation without being directly in contact with the respondents. The result of this on-going contact provides the 'rich descriptions' essential for an analysis of the research questions.

According to Denzin and Lincoln (1998), qualitative research focuses on process and meanings that are not thoroughly examined or considered with regard to extent of quantity, strength, or frequency. Similarly, Stake (2005) further explains that qualitative research tries to establish an empathic understanding for the reader through description and conveying to the reader what experience itself would convey. Researchers have claimed that qualitative

research focuses a reality in a social context and highlights the relationship between the researcher, what is investigated and the situational constraint that shape an inquiry (Denzin & Lincoln, 1998; Feagin & Sjoberg, 1991; Tellis, 1997).

The descriptive nature of this study expands rather than narrows the issue under investigation. This study endeavours not only justifying the truth but also getting the overall meaning and knowing of the study. This study is expected to add to the body of existing knowledge on the overall ICT/e-Government development of the nation. Since qualitative research is designed on experiential aspect and since this study intends to present a background to explain the related episodes, it takes a qualitative approach. This study needs richness and depth of investigation and explanation, which can only be obtained through qualitative research. Further, qualitative study needs no minimum number of cases, or randomly selected cases, and is thus chosen for this study (Yin, 1994). This study focuses on gathering information that has practical and functional values. In such circumstances, only qualitative study can provide more individual knowledge and perception and the findings can offer valuable knowledge to society (Stake, 2005; Yin, 1994).

The state of e-Government and its effect on transparency and openness described in the previous chapters is used as a basis for rationalising a multiple case-study approach. E-Government in the Bangladesh has recently been introduced. Various public agencies have started to implement e-Government projects, ranging from basic computerisation to sophisticated information systems. It is adopted in various government agencies as a test version of the e-Government application, which is the basis for the selection of the case-study organisations.

In order to obtain the answers to the above research question, this research incorporates a case-study design, which is a multi-organisational study, and the methods and procedures constitute a descriptive research. Further, the case-study design is used to assess identified cases of e-Government in a systematic and in-depth fashion to gain an understanding of e-Government practices in various government agencies in Bangladesh. According to Yin (2003), a case study refers to an empirical investigation that examines a contemporary phenomenon with its real-life context, particularly when the borders between phenomenon and context are not clear. This approach yields a rich detail of activities not available through questionnaires (Eisenhardt, 1989; Larsson, 1993). It is a method based primarily on

interviews. However, multiple sources of evidence are employed simultaneously (Yin, 1989).

The qualitative case-study researcher tries to facilitate the reader's understanding. Stake (2005) argues that subsidiary research questions and objective statements sharpen the focus, minimising interest in the situation and circumstances. Yin (2003) acknowledges the case study is not simply a data collection tactic nor merely a design feature, but a comprehensive research strategy. Patton (1990) refers to these as the major three components of qualitative inquiry and contends that depth and detail of qualitative methods typically derive from case studies. Qualitative methods, according to Strauss and Corbin (1998), are generally used to investigate and understand a phenomenon about which little is yet known. Case studies may also be considered as the underpinning of qualitative research.

According to Gummenson (2000), the importance of case studies stem from their ability to generate a holistic understanding of the topic. The detailed observations entailed in the case-study method enable the study of many different aspects, which are then examined in relation to each other. This description is apt for the current research, which seeks an understanding of the factors that influence an organisation's management reform through the introduction of e-Government.

In fact, no guidelines are there for the number of cases to be employed in the study. It depends on the researcher to decide about the number of cases to be examined in the research (Romano, 1989). The number of cases requires to be incorporated till 'theoretical saturation' is attained (Eisenhardt, 1989). Further, Lincoln and Guba (1985) suggest cases ought to be incorporated 'to the point of redundancy'. In fact, according to Patton (1990), 'there are no rules' for sample size in a qualitative research. Given the purpose of the study and limited time and financing, the researcher decided nine case studies would be suitable for theoretical saturation and also to the point of redundancy of the study. The researcher believes that the extent of qualitative data can be effectively analysed from these nine case studies. According to Eisenhardt (1989, p. 545):

> *While there is no ideal number of cases, a number between four and ten cases often works well. With fewer than four cases, it is often difficult to generate theory with much complexity, and its empirical grounding is likely to be unconvincing.*

Several case studies were used to enable cross-case analysis for building theory. According to Yin (1994), 'multiple cases' may be termed as 'multiple experiments'. Some other researchers indicate the incongruity of random sampling; for instance, Eisenhardt (1989, p. 537) views that 'random selection of cases is neither necessary, nor even preferable'. Patton (1990) suggests 'purposeful sampling' for selecting cases. Thus in a qualitative research including case-study method, the selection of cases is purposive and entails applying replication logic. As decided, nine organisations were selected, which allowed cross-case analysis and comparison among organisations in individual categories. For each of the nine organisations, the analysis focused on why they had followed their ICTs/e-Government strategy and how delivery of electronic services influenced the choice of strategy. The aim is to ascertain whether e-Government add dynamism in reforming public administration, i.e. whether e-Government assists in improving the level of transparency and openness in different government agencies concerned. The intention is to gain, from a relatively small sample, a large amount of in-depth information about the e-Government practices in various organisations (Denzin & Lincoln, 1998).

Although the research question and subsidiary research questions require specific information from respondents regarding the nature of the organisations' performance on e-Government as an ICT revolution, a semi-structured approach to each interview was adopted. This approach enabled the researcher to gain in-depth views and experiences of knowledgeable individuals involved in e-Government. The researcher developed a list of questions to be covered in the interview, known as 'interview protocol' or 'interview guide'. However, respondents had enough scope to reply. A combination of specific questions with open responses and open-ranging questions were used for all interviews. In other words, the questions did not always follow in toto the way framed in the questionnaire. Some questions asked were not included in the protocol but picked up as mentioned by the interviewer (Miles & Huberman, 1994). However, all the questions in the interview guide were asked in a same manner from respondent to respondent. The semi-structured interviews were flexible wherein the researcher was keen to observe how the respondents understand various issues and events, in other words, what the respondents view as important in explaining and describing events, patterns and forms of behaviour. The researcher was careful about the need of some structure to ensure cross-case analysis (Miles & Huberman, 1994).

The research employs a multiple case-study method. The comparison of similarities and differences across cases allows the researcher to suggest explanations for possible patterns,

trends or linkages. Only a few government agencies in Bangladesh have introduced e-Government to more than basic applications. Overall, the country is still in the first phase of its introduction (As-Saber, Hossain, & Srivasta, 2006; Sobhan *et al.,* 2004). All the projects are undertaken as test cases. Hence, for this study, some e-Government cases have been selected for analysis. The organisations were chosen on the basis of their ICT involvement, specifically developed for the research.

Compared to single-case studies, multiple case studies are appropriate with regard to generalisability, building theory and testing theory (Yin, 1989). Multiple cases allow data from the several cases to be examined in an iterative process, one which always compares theory and case results to seek a close fit between a theory and the findings. A close fit is an essential prerequisite for good theory-building as 'it takes advantage of the new insights possible from the data and yields an empirically valid theory' (Eisenhardt, 1989, p. 541). While Yin (2003) highlights, case studies focus on 'how' or 'why' type questions regarding a contemporary actions and events on which the researcher has limited or no control. Moreover, in a multiple-case study, each case comprises a complete study where facts and information are collected from different sources and inferences are drawn from those facts (Hamel *et al.,* 1993).

According to Feagin and Sjoberg (1991) and Hamel *et al.* (1993), multiple-case studies have distinct advantages in comparison with single-case designs. A multiple-case design pursues a replication instead of sampling logic. Multiple cases reinforce the findings by replicating the pattern-matching, thus strengthen the robustness of the theory. Multiple-case studies are conducted in order to avoid possible single-case bias and to gather better insights about relevant issues. Yin (2003) argues that multiple-case evidence is expected to be more convincing and the study as a whole is esteemed as more vigorous. Each case must be carefully chosen in order to either anticipate similar findings (a factual replication) or create different findings, but for expected reasons (a hypothetical replication) (Yin, 2003). The multiple-case study approach is useful for the current research, in that it allows organisations with different services to be chosen as individual cases for analysis. The literature review delineated that an organisation's e-Government provides better transparency, openness and reduces corruption in government functioning.

Table 5.1 Table of Qualitative Studies on e-Government

Author	Study	Approach
Irani, Z., Love, P.E.D., Elliman, T., Jones, S. & Themistocleous, M.	Evaluating e-government: learning from the experiences of two UK local authorities	Qualitative – multiple case study (2 cases)
Kim, H.J., Pan, G. & Pan, S.L.	Managing IT-enabled transformation in the public sector: A case study on e-government in South Korea	Qualitative – single case study (1 case)
Oxford Internet Institute, University of Oxford	Breaking barriers to eGovernment: Overcoming obstacles to improving European public services Modinis study	Qualitative – multiple case study (5 cases)
Al-Azri, A., Al-Salti, Z. & Al-Karaghouli, W.	The Successful Implementation of E-Government Transformation: A Case Study in Oman	Qualitative – single case study (1 case)
Gupta, M.P. & Jana, D.	E-government evaluation: A framework and case study	Qualitative – single case study (1 case)
Burn, J. & Robins, G.	Moving towards e-government: A case study of organisational change process	Qualitative – single case study (1 case)
Riedl, R., Roithmayr, F. & Achenkenfelder, B.	Using the Structured-case Approach to Build Theory in E-Government	Qualitative – multiple case study (5 cases)
Azab, N.A., Kamel, S. & Dafoulas, G.	A Suggested Framework for Assessing Electronic Government Readiness in Egypt	Qualitative-single case study (1 case)

5.3 Research Design

As Yin (2003, p. 19) views, research design is 'the logic that links the data to be collected (and the conclusions to be drawn) to the initial study'. The research design applied to this study is broadly outlined in two phases, as shown in Figure 5.1. At the inception, a review of extant literature facilitated developing a conceptual framework that interlinked the key constructs of the study, for example drivers and barriers of implementing ICTs/e-Government systems, relationships, processes and the perceived outcomes. The fieldwork

starts with a pilot study that included expert groups. This was followed by a qualitative phase where nine cases in the process of implementing e-Government initiatives were studied.

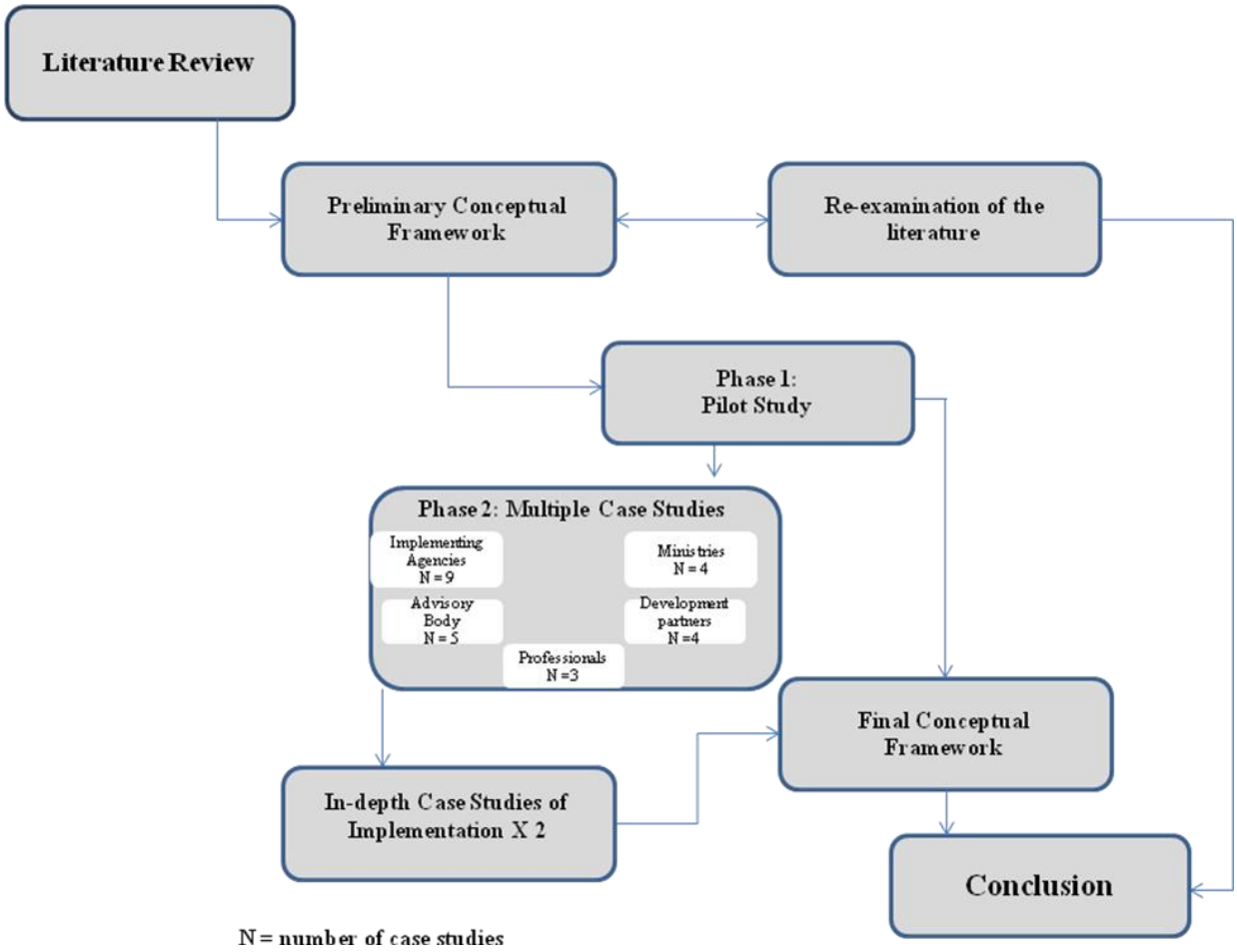


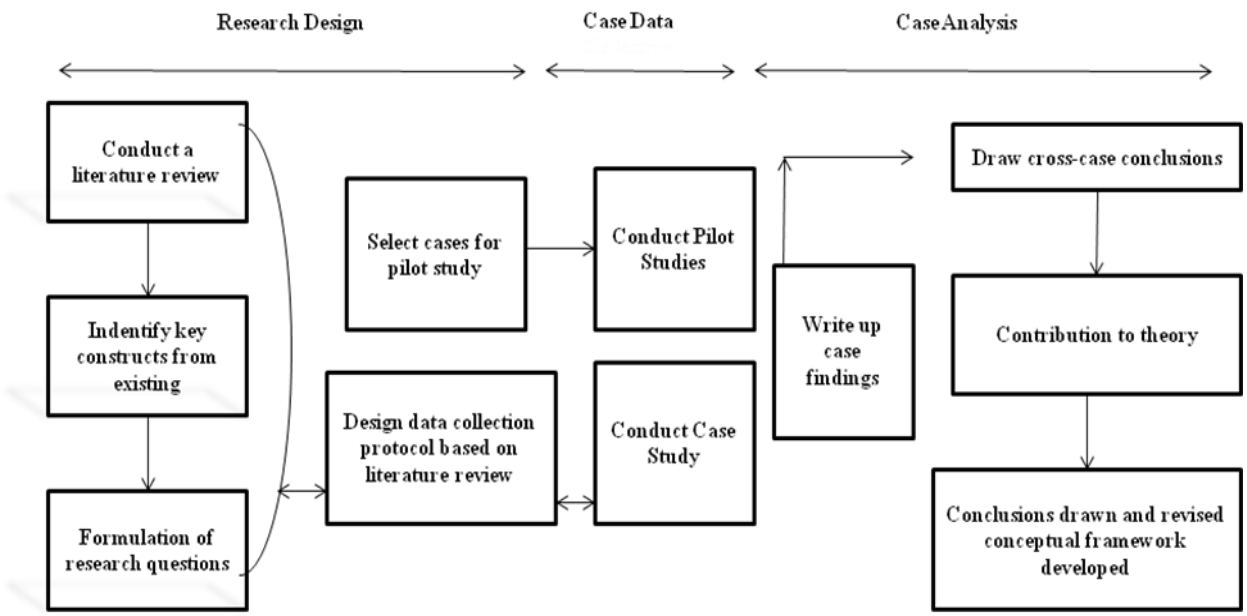
Figure 5.1 Research Design

5.3.1 Unit of analysis

Yin (2003) terms the unit of analysis as to describe what the case actually is. The unit of analysis may be the individual, an organisation or a market (Yin, 2003). Initially, the researcher had to face a series of problems (regarding the unit of analysis) identified by scholars researching e-Government and transparency. According to Yin (2003), the unit of analysis must be directly related to the study's research question. As the research question for this study directly related to e-Government and its effect on transparency and openness in Bangladesh (public-sector agencies), the unit of analysis adopted for this study is the organisational level, because the technological change will become evident through the

effects on transparency and openness in the organisations. Bhatnagar (2004) and Tolbert and Mossberger (2006) call for more research on the topic of e-Government and its effect on transparency and openness that will facilitate: analysing the successes and failures of e-Government in making an open and transparent government in a more unified way; knowing the limitations of e-Government as a tool to promote transparency; and devising managerial interventions that may increase the likelihood of success in e-Government-led initiatives. Researchers hence demand undertaking empirical qualitative studies that take the unit of analysis to a much 'higher' level, for example transparency (Shardrach, 2002; Sturges, 2004), and include more entities (public sector agencies and other stakeholders) assessing the level of transparency as their unit of analysis (Kim & Cho, 2005; Mossberger, 2006).

Considering this fact, this study differentiates itself from past studies in the literature by the collection of data across different sets of entities (implementing agency, policy maker, advisory body, development partner and professional) to investigate the effect of e-Government on transparency and openness in the focal entity group. In this study, the core of the investigation is the organisations pioneering in e-Government implementation in the public sector. The overall research as shown in Figure 5.2 demonstrates the three key phases of the whole research project.



Adapted from (Yin, 2003)

Figure 5.2 Research Steps

The entire project of the research was undertaken by the following nine steps. These steps are adhered to the research design, data collection and data analysis as shown in Figure 5.2.

1. A comprehensive literature review was conducted to identify the research questions.
2. Document collection and examination. Three cases for piloting were selected.
3. Nine cases, i.e. public-sector agencies pioneering e-Government implementation, and sixteen stakeholder agencies were contacted in order to obtain access to those departments.
4. Resources required for undertaking research, e.g. voice recorder, travel funding and interview venue, were confirmed.
5. Two types of semi-structured questionnaire were designed with both closed and open-ended questions (Appendix A).
6. In-depth interviews were undertaken case by case and based on research questions relating to the effect of e-Government on transparency and openness.
7. Transcription of the interviews from the interview recordings.
8. Within and cross-case analysis were conducted.
9. A final conceptual framework was developed explaining the effect of e-Government towards better governance in the public-sector agencies in Bangladesh.

In connection with the data collection, the research design for this study comprised certain phases. First, the researcher was engaged in acquiring preliminary knowledge of the prospects of e-Government in developing countries. This involved attending ICT/e-Government-related workshops, conferences and steering committee meetings in Dhaka city, the capital of Bangladesh, during October-November 2008. In the second phase, the researcher took four months (October 2008-January 2009) to obtain the data from the cases. The third and final phase was conducted in early 2010 in Dhaka city with follow- up interviews in certain cases. The final phase was important as it revealed some significant advancement in e-Government functions in those organisations. Hence, it provided additional insights into the introduction of the new concept (e-Government) over an extended period of time.

5.3.2 Pilot Study

A pilot study was undertaken to test the interview protocol design and find out areas for improvement. The respondents were selected for their ability to provide insights on e-Government and ICT-related issues. The Bangladesh Computer Council (BCC), an autonomous body for facilitating ICT-related activities in Bangladesh, and the Support to ICT Task Force (SICT), responsible for building a countrywide ICT infra-structure to guarantee access to information, and the Ministry of Science and ICT (MOSICT) were selected for the piloting. A two-hour interview was undertaken with the Project Director, National High-Tech Park, BCC and the Deputy Project Director of SICT. It took one and half hours to discuss the issue with the Secretary of MOSICT. The discussions were based on broad and open questions. According to their suggestions, questionnaires were distributed among certain cases, for example Roads and Highways Department (RHD), Department of Passport and Immigration, Dhaka City Corporation (DCC), National Board of Revenue (NBR) and Board of Investment (BOI). The researcher received some feedback that was very useful for redesigning and improving the interview protocol. In accordance with the characteristics of qualitative research, interview protocols were slightly modified and adjusted based on the feedback to highlight areas of particular importance, and to exclude questions found irrelevant or unproductive for the purpose of the study (Lofland & Lofland, 1984). The respondents found some questions in the protocol were redundant as well as ambiguous. The discussion with BCC, SICT and MOSICT and feedback from those preselected cases provided a basis for redefining the research protocol and research questions.

5.3.3 Selection of Cases

The selection of cases was based on criteria consistent with the research problem (Ghauri, 2004). The selection of the government agencies was based on the capacity to generate information, ensuring that the research objectives and questions are covered and saturation point is reached (Yin, 2003). Cases were selected from across diverse categories of agencies so that there were similarities between the cases for theoretical replication (Yin, 2003) along with differences in the cases to optimise learning (Stake, 1995). The study highlights the successful operation of e-Government in certain cases. Some of them are very advanced whereas others did not progress much in implementing the new concept. Thus cases were selected on the basis of successful and semi-successful criteria. This strengthened the extent

of generalisability from the available data consistent with the observation that a diverse sampling strategy was useful to improve generalisations from the research findings (Gersick, 1988).

The cases were selected to assess the performance of e-Government in the pioneering organisations in a systematic and in-depth fashion. The departments under investigation had been selected for the study because of their citizen interface. Looking at the high level of citizen centricity, it was expected that adoption of e-Government in these departments would have a positive impact to ensure customer satisfaction in their services. The focus of the study is to interview the key people involved in policy making, implementing, and financing various e-Government projects in Bangladesh. Thus key respondents are of two types: implementing agencies and other stakeholders, e.g. representatives from development partners, advisory bodies and selective professionals etc. People who are directly involved in policy formulation and implementation have command of the proposed e-Government in Bangladesh. Apart from this, the stakeholder group has also a significant effect on e-Government in Bangladesh.

The cases for this study were selected according to the suggestions of pioneer case study researchers so that there were similarities amongst cases for theoretical replication (Yin, 2003) along with differences to optimise learning (Stake, 1995). Further, Eisenhardt (1989) recommends that data collection should be continued till a theoretical perspective is achieved. In this study, multiple cases were selected considering each category and to increase external validity or generalise the findings. The research objective was to examine the effect of e-Government on transparency and openness in public-sector organisations in Bangladesh.

To address this objective from the perspective of practical, real-world experience, respondents were chosen on the basis of their capacity to generate information, ensuring that research objectives are met (Yin, 2003). An excellent source of respondents, ranging from mid-level to senior public officials, were chosen who worked closely with broad range of e-Government efforts of the government, including the formulation of e-Government policy and strategy, management of e-Government projects, and development of change management programs. Chief executives, secretaries of ministries as well as officials with responsibility for information systems, policy and planning were chosen for this study. The e-Government reform whatever it does better is not technologically based, is primarily an

issue of political intent and commitment of resources. In order to gain insights into this development, policy makers and senior managers from the government were interviewed.

5.4 Case Descriptions

Nine cases have been described in this thesis that may be seen in Appendix B.

5.5 Data Sources

Interview transcriptions were the primary source of data and information. Relevant official documents such as organisation reports, memos, government statistics, websites and materials and training programs were also thoroughly collected and composed for individual case. This facilitated the tests of convergence and offered data for triangulation (Miles & Huberman, 1994). As the interviews were semi-structured, the funnel technique was applied by asking open-ended questions initially, which then narrowed down to the specifics (Bouchard, 1976) to let the respondents provide information on the implementation and sustainability of various e-Government projects.

In this study data were collected from multiple sources such as interviews, document analysis, site visits and participant observation. According to Johns (2001), methodological context needs to be considered which covers details about how research is accomplished, why certain decisions were made and the practical costs of any intervention. To examine the development of e-Government, the study applied a multi-method approach to data collection and analysis. The methods were literature review and policy review. The study reviews the current national legislation on e-Government in Bangladesh concerning regulation with regard to National ICT Policy, e-Government strategy and vision etc. All these help the reader to know the entire research clearly. How each of these data sources has been used in this study is given below.

5.5.1 Data Collection Techniques

During the process of data collection, information will be gathered from both primary and secondary sources (Figure: 5.3).

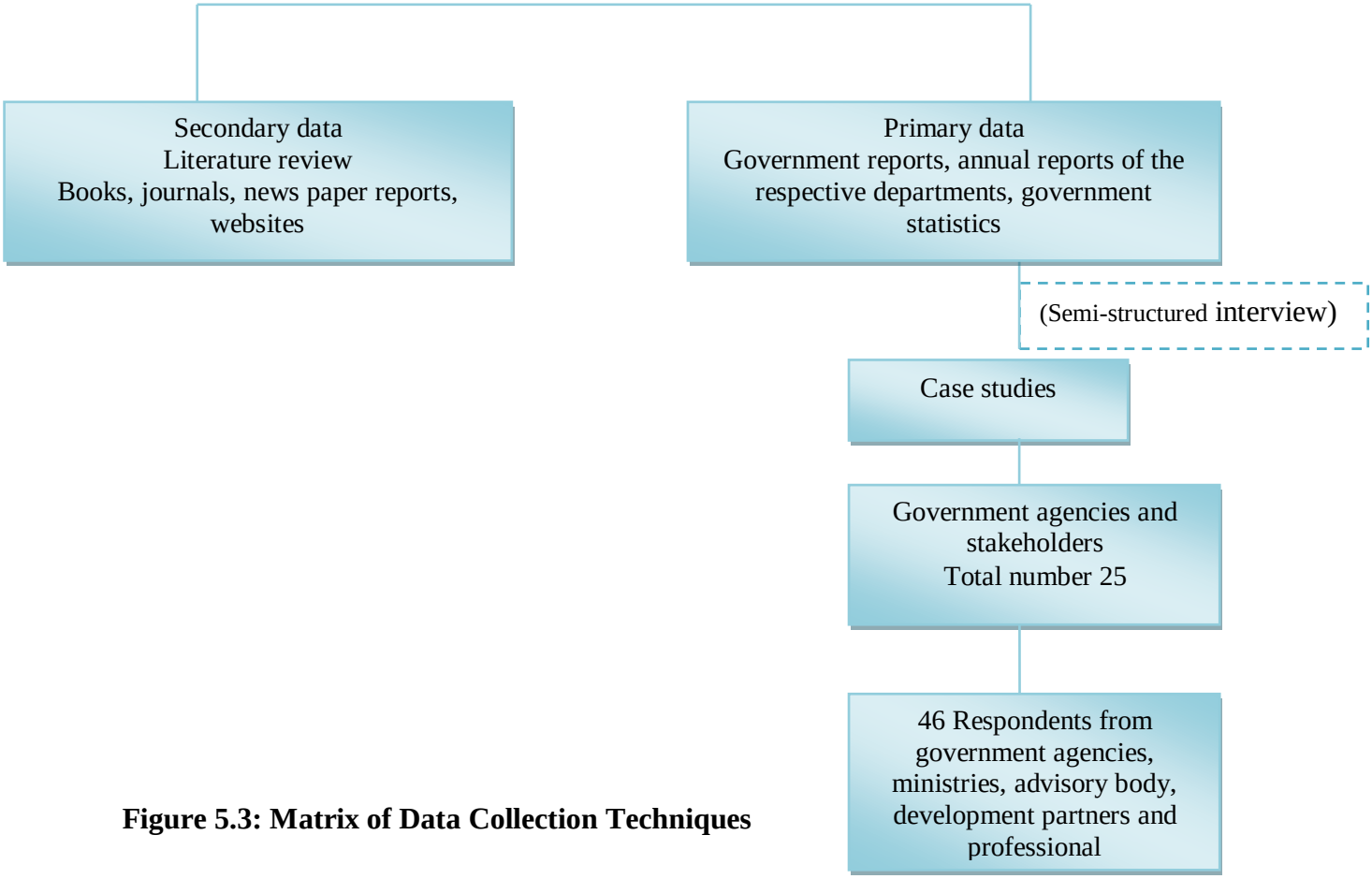


Figure 5.3: Matrix of Data Collection Techniques

5.5.2 Interviews

The principal method of the study was through conducting interviews with key individuals in relevant organisations. A thematic interview protocol was designed for two kinds (implementing agencies and the stakeholders) of interviews, while in every case, respondents were asked to widen the depth, intensity, extent and scope of the discussion. According to Anfara *et al.* (2002, p. 31), the research questions act as the framework or 'scaffolding' for the study and provide the foundation for the analysis of the data. For this, it is expected that researchers need to design interview questions that provide the ingredients for drawing out what really needs to be known. Thus the in-depth interview was considered

as a method for collecting information which puts both emic and etic issues (Anfara *et al.*, 2002) to represent two kinds of data concerning human behaviour. An "emic" issue is generally termed as the insider view while an "etic" issue is the view of the outsider. Emic information is gathered either through elicitation or through observation. Etic information, in contrast, is obtained through elicitation and observation as well. Differences between emic and etic approaches are closely associated with issues of generalization (Berry, 1980; Headland, Pike, & Harris, 1990).

Yin (2003, p. 19) sees interviews as 'guided conversations rather than structured queries'. In the pilot study, the researcher conducted the interviews (with the experts) that were unstructured in order to have narrative focusing on specific research questions. These interviews were organised when the researcher used an interview guide or protocol with open and closed-ended questions. The interviews in the pilot phase facilitated collecting contextual information regarding ICT and e-Government in Bangladesh. In the second phase of the study, semi-structured, in-depth multiple interviews (Yin, 2003) with forty-six respondents were the principal source of data collection, while some voice recordings were made and transcribed by the researcher.

As recommend by Miller and Crabtree (1999, p. 19) a semi-structured interview is:

> *Guided, concentrated, focused, and open ended communication events that are co-created by the investigator and interviewee(s) and occur outside the stream of everyday life.*

The broad research questions were sent in advance to the potential respondents before the interview to enable them to make suggestions on other relevant persons who could be employed to answer specific questions. The interview structure varied among different respondents and thus was modified to consider the respondent's knowledge and expertise in the specific area (Schutt, 2006). There was a unique opportunity to gain objectivity of the study results since the interviews were conducted with multiple respondents. It took into account the subjective biases that are inherent in case-study research when only a single individual is interviewed.

It is also important to mention that the interviews conducted with the organisations representing the provider perspective (implementing agencies) and government regulatory agencies (ministries) followed a more open-ended format. The protocol was somewhat

different with the cases of development partners, advisory bodies and professionals, as some of the questions were not applicable to them. Since many respondents were previously known to the researcher through working in the same service, the discussions were spontaneous, frank and candid. It is up to the researcher to establish a rapport with the respondents to investigate deeper and ask some challenging questions (Knight, Harland, Walker, & Sutton, 2005).

Interview duration was about 60 to 90 minutes, which was adequate to get deeper into each of the research questions. In some cases, where the interview could not be completed within the expected time, more time was allotted to complete the interview in two sessions. It is also pertinent to mention that sometimes the respondents were requested to clarify some points and to provide additional information via email or phone calls. The researcher found them very cooperative in sending the feedback as requested. Thus the interviews were conducted till the saturation point was reached and no fresh themes were emerging (Bewley, 2002; Chambliss & Schutt, 2006). A 'member check' was done where possible as recommended by Gilchrist and Williams (1999) so that, instead of sending the full transcript, a brief summary was sent back to the respondents to check the appropriateness of the information provided by them. In most instances, the informants were consistent with those.

The officials interviewed in the cases were actively involved in e-Government implementation and conversant with ICT-related issues. The interview data were collected from two or three managers within the organisation, or, in some cases, from one senior manager. In each case, an official with detailed and sufficient knowledge of the organisation's activities was interviewed. All the organisations except the Chittagong Customs House (CCH) were located in the capital city Dhaka. The CCH is located in the port city, Chittagong.

Each semi-structured interview was conducted face-to-face at the respondent's workplace. Peterson (2003) recommends this approach to data collection due to their cultural preference for face-to-face contact with the researcher. Some telephone conversations were also made for further clarification, if any, following the face-to-face interview. At the beginning of each interview the researcher introduced herself, gave a description of the research project, the purpose and nature of the study and assured the anonymity of the respondent. Some of the interviews were audio-recorded with the permission of the respondents and

supplemented by observational notes. It was also observed that the respondents freely expressed their views without the microphone, i.e., when their voices were not recorded. Schmitt and Klimoski (1991, p. 145) view that the awareness of being recorded usually creates a mindset that everything uttered is 'for the record' and may have inhibiting effects. The assurance by the researcher of their anonymity and confidentiality further inspired them to present their opinions spontaneously.

In addition to the case interviews, in-depth face-to-face interviews were conducted with other stakeholders. Perry (1998) states that 'context' interviewees provide valuable insights to data collection and assist with data triangulation. Context interviewees include policy makers, advisory bodies, development partners and other professionals. This study interviewed key informants of the Secretary of the M/O Science and ICT, M/O Communications, M/O Local Government and Rural Division, and representatives from the UNDP Bangladesh, World Bank, Asian Development Bank, Asia Foundation, Transparency International and Anti-Corruption Commission. For full description of respondents and the interview schedule, refer to Table 5.2. Insights drawn from these interviews were valuable for understanding the prospect of e-Government implementation in the public sector in Bangladesh. In particular, the scope, limitation, success and failure of the implementation process were discussed in detail and added more insights for triangulation of the research question: Does e-Government lead to increased transparency in public management in Bangladesh?

Table 5.2 summarises the information regarding the interview data collected.

Table 5.2 Summary of Interview Data Collected

Code Name	Name	Designation of Respondent	Location of Interview	Face-to-Face or Telephone	Number of Hours
Implementing Agencies					
Case A	Passport and Immigration Department	Director General, Assistant Director	Dhaka, Bangladesh	Face-to-Face and telephone	2 hrs
Case B	Chittagong Custom House (CCH)	Joint Commissioner (Automation)	Dhaka and Chittagong, Bangladesh	Face-to-Face and Telephone	2 hrs
Case C	Dhaka Water and Sewerage Authority (DWASA)	Senior System Analyst	Dhaka	Face-to-Face and Telephone	1.5 hrs
Case D	Local Government and Engineering Department (LGED)	Chief Engineer, Assistant Engineer	Dhaka	Face-to-Face and Telephone	2 hrs
Case E	Roads and Highways Department (RHD)	Chief Engineer, Programmer/System Analyst	Dhaka	Face-to-Face and Telephone	2 hrs
Case F	Dhaka City Corporation (DCC)	Chief Executive Officer, System Analyst	Dhaka	Face-to-Face and Telephone	2 hrs
Case G	Bangladesh Railway (BR)	Director General, Chief Signal and Telecommunication Engineer, Deputy Director	Dhaka	Face-to-Face and Telephone	2 hrs
Case H	Board of Investment (BOI)	Executive Chairman, IT Consultant	Dhaka	Face-to-Face and Telephone	2 hrs

Code Name	Name	Designation of Respondent	Location of Interview	Face-to-Face or Telephone	Number of Hours
Case I	Bangladesh Police	Inspector General of Police, Additional Inspector General of Police	Dhaka	Face-to-Face and Telephone	2 hrs
Stakeholders/Ministries					
Case J	Ministry of Science and Information and Communication Technology (MOSICT)	Secretary	Dhaka	Face-to-Face	1.5 hrs
Case K	Ministry of Local Government and Rural Development	Secretary, Joint Secretary, Deputy Secretary	Dhaka	Face-to-Face	2 hrs
Case L	Ministry of Communications	Secretary	Dhaka	Face-to-Face	1 hr
Case M	National Board of Revenue	Chairman	Dhaka	Face-to-Face	2 hr
Advisory bodies					
Case N	Bangladesh Computer Council	Executive Director, Project Director, National Hi-Tech. Park and EMTAP-ICT Project	Dhaka	Face-to-Face	2hrs
Case O	National ICT Task Force	Member	Dhaka	Face-to-Face	1 hr
Case P	Support to ICT Task Force	Deputy Project Director	Dhaka	Face-to-Face and telephone	1.5 hrs
Case W	Access to Information Programme (A2I), Prime Minister's Office	National Project Director,	Dhaka	Face-to-Face	2 hrs

Code Name	Name	Designation of Respondent	Location of Interview	Face-to-Face or Telephone	Number of Hours
Case X	Bangladesh Bank	Governor, Executive Director	Dhaka	Face-to-Face	2 hrs
Professional groups					
Case Q	Anti-Corruption Commission, Bangladesh	Chairman, Director General, Assistant Director	Dhaka	Face-to-Face	2.5 hrs
Case R	Transparency International, Bangladesh	Executive Director	Dhaka	Face-to-Face	1 hr
Case Y	Bangladesh Enterprise Institute (BEI)	President, Research Assistant	Dhaka	Face-to-Face	1.5 hrs
Development partners					
Case S	World Bank, Bangladesh	Economist	Dhaka	Face-to-Face	1 hr
Case T	UNDP, Bangladesh	Assistant Country Director	Dhaka	Face-to-Face	1 hr
Case U	Asia Foundation, Bangladesh	Program Advisor	Dhaka	Face-to-Face	1 hr
Case V	Asian Development Bank, Bangladesh Resident Mission	Head, Governance	Dhaka	Face-to-Face	1 hr

The study was conducted through a combination of research techniques, including face-to-face interviews, telephone discussion, on-site visits, participant observation with relevant officials and experts. Primary data were collected through in-depth semi-structured interviews with senior management (Hoskisson, Eden, & Wright, 2000) in various (nine) government agencies and sixteen stakeholder agencies in Bangladesh. People associated with the adoption of e-Government were interviewed from each department. A total of forty-six semi-structured interviews were carried out with forty-six officials who have somehow direct or indirect relationship with ICT/e-Government policy formulation or the political arena of Bangladesh: eighteen respondents from implementing agencies, eight respondents from ministries, ten representatives from advisory bodies, four representatives from major development partners and six respondents from professional groups actively involved in e-Government implementation and public-sector reform.

The protocol included questions designed from existing studies (Meyer, 2002; Peng, 2001). The researcher gave thoughtful consideration to the types of questions that were asked and avoided questions that might lead the respondents to give a particular answer (Yin, 2003). The interviews followed the interview protocols based on a 'schedule' or 'guide' to questions (Appendix A). The application of 'interview guides or schedules' have become increasingly common for several reasons. They optimise limited interview time, make interviewing multiple subjects more systematic and comprehensive and help keep interactions focused (Lofland & Lofland, 1984). The questions designed for the interviews originated from the literature review and were both open-ended and closed-ended. The open-ended questions allowed the respondents to express their views on their own way. The interview guides were also used to maintain a higher degree of consistency and hence allowed the collection of useful and comparable data from each interviewee. Thus the use of open-ended semi-structured interviews not only allowed the researcher to probe and explore within the predetermined areas but also allowed the respondents 'to comment on topics that may not have been covered or might have been inadequately covered in the questionnaire' (Sekaran, 1992, p. 204).

Table 5.3 Data Sources Used in Case Study

Type of Organisation	Date of Visit	Respondents	Data Sources
Implementing Agencies			
Case A	14 October 2008	Director General Assistant Director (Passport)	Interviews Office visit Website Material Government Documents Reports
Case B	3 January 2009	Joint Commissioner (Automation), Chittagong Customs House (CCH)	Interviews Office visit Website Material Government Documents Annual Report
Case C	23 October 2008	Senior System Analyst Dhaka Water and Sewerage Authority (DWASA)	Interviews Office visit Website Material Government Documents Annual Report
Case D	3 November 2008	Chief Engineer, Assistant Engineer Local Government and Engineering Department (LGED)	Interviews Office visit Website Material Government Documents Annual Report
Case E	15 October 2008	Chief Engineer, Programmer/System Analyst Roads and Highways Department (RHD)	Interviews Office visit Website Material Government Documents Reports
Case F	15 October 2008	Chief Executive Officer, System Analyst Dhaka City Corporation (DCC)	Interviews Office visit Website Material Government Documents Annual Report
Case G	15 October 2008	Director General, Director, Chief Signal and Telecommunication Engineer, Bangladesh Railway (BR)	Interviews Office visit Website Material Government Documents Annual Report
Case H	5 November 2008	Executive Chairman, IT Consultant, Board of Investment (BOI)	Interviews Office visit Website Material Government Documents Annual Report
Case I	11November 2008	Inspector General of Police, Additional Inspector General of Police, Bangladesh Police	Interviews Office visit Website Material Government Documents Reports

Type of Organisation	Date of Visit	Respondents	Data Sources
Stakeholders/Ministries			
Case J	6 November 2008 15 January 2010	Secretary, Ministry of Science and Information and Communication Technology, MOSICT	Interviews Office visit Website Material Government Documents Reports
Case K	15 October 2008	Secretary, Joint Secretary, Deputy Secretary Ministry of Local Government and Rural Development, M/O LGRD	Interviews Office visit Website Material Government Documents Reports
Case L	25 October 2008	Secretary Ministry of Communications	Interviews Office visit Website Material Government Documents Reports
Case M	6 January 2009 11 January 2010	Chairman, National Board of Revenue (NBR)	Interviews Office visit Website Material Government Documents Reports
Stakeholders/Advisory bodies			
Case N	14 October 2008	Executive Director, Project Director, Bangladesh Computer Council (BCC)	Interviews Office visit Website Material Government Documents Reports
Case O	24 January 2010	Member National ICT Task Force	Interviews Office visit Website Material Government Documents Reports
Case P	24 November 2008	Deputy Project Director Support to ICT Taskforce (SICT)	Interviews Office visit Website Material Government Documents Reports
Case W	3 November 2008 20 January 2010	National Project Director Access to Information Programme (A21)	Interviews Office visit Website Material Government Documents Reports
Case X		Bangladesh Bank	Interviews Office visit Website Material Annual Report
Stakeholders/Development partners			
Case S	12 December	Economist, World Bank, Bangladesh	Interviews Website Material

Type of Organisation	Date of Visit	Respondents	Data Sources
			Reports
Cast T	26 October 2008	Assistant Country Director, UNDP, Bangladesh	Interviews Website Material Reports
Case U	3 November 2008	Program Advisor Asia Foundation, Bangladesh	Interviews Website Material Reports
Case V	16 October 2008	Head, Governance Asian Development Bank, Bangladesh Resident Mission	Interviews Website Material Reports
Stakeholders/Professionals			
Case Q	15 October 2008	Director General Assistant Director, Anti Corruption Commission, Bangladesh (ACCB)	Interviews Website Material Government Documents Reports
Case R	26 November 2008	Executive Director Transparency International, Bangladesh (TIB)	Interviews Website Material Reports
Case Y	15 January 2010	President, Research Assistant Bangladesh Enterprise Institute (BEI)	Interviews Website Material Annual Report

5.5.2.1 Transcription

During transcribing the interviews attempts were made to use verbatim descriptions provided by the respondents and the researcher's field notes. Respondents' validation or member checks were made where the respondents were shown in the interview transcripts. Member checks are the most critical technique for establishing credibility (Lincoln & Guba, 1985). The purpose of this technique of increasing validity is to let the respondents corroborate or disapprove of the interpretations made by the researcher. However, only forty per cent of respondents' validation was performed due to limitation of time. According to Stake (1995), the strength of performing transcription by the researcher is that it facilitates the researcher to speculate on the content as well as the context of the interview and draw meaningful conclusions. Sometimes the researcher was also keen to secure certain nuances in the respondents for example any emotion, confidence, hesitation, pauses, fear, restriction etc. during responding to sensitive questions. This enabled the analysis process to begin somewhat informally before the transcripts were exported to N-Vivo for coding and analysing. It is also pertinent to mention that the interviews were transcribed immediately after they were conducted, which in fact increased the richness of the data.

5.5.3 Participant Observation

Participant observation is a very useful technique in which the researcher can participate in the actions and events being studied. This technique may also be applied in studies of organisations. The researcher has devoted a substantial amount of time in the field for observing and communicating with professionals and practitioners. Thus studying and observing the interaction in different organisations in the area of public-sector management has the extra benefit of adding a deeper understanding to the incidents under investigation. During observation, the researcher gathers data through participation in the daily activities in various public-sector organisations (Mac an Ghaill, 1996). According to (Becker, 1997, p. 625), 'the approach is close to everyday interaction, involving conversations to discover participants' interpretations of situations they are involved in'. In observation, the associates are inspired to express their experience to define the developments of the new concept. In this phenomenon, a comprehensive picture evolves out of the study as expressed in a group of participants' perspectives (Burgess, 1984; Geertz, 1973). Participants' observations can be performed through different methods based on a participant-observer role. According to McCall and Simmons (1969, p. 1):

participant observation is not a single method but rather a characteristic style of research which makes use of a number of methods and techniques-observation, informant interviewing, document analysis, respondent interviewing and participation with self-analysis.

By this method, the researcher studied the setting through her own participation and, as participant observer; the researcher became a part of the group and was engaged in experiencing what the group was experiencing. Sometimes, the researcher as participant conducted informal interviews while observing and recording. The extent of participation depends on the study and the expected outcomes. Introducing e-Government in public-sector organisations is a very recent phenomenon in this context. The government first formulated the National ICT Policy 2002, which in fact could not bring the desired outcome. Hence, the government decided to revise the policy and formed a steering committee to do it. The steering committee has undergone a series of meetings to revise the policy through stakeholders' active participation.

The researcher took the role of a participant observer while attending the steering committee meeting for the draft policy and some monthly coordination meetings of M/O Science and ICT in late 2008. The participant observation process takes the researcher to accept a role within the social situation she studies. The researcher participates in this as a member of the group while observing it. The researcher's presence in these meetings provided the access to documents e.g. the draft National ICT Policy 2008, the proceedings of meetings, the progress of the agenda of respective ministries, project plans etc. Attending these meetings was very important for the researcher to know about the level of e-Government adoption by the government and to identify the problems and challenges in this process. The interaction among different stakeholders provided valuable insights about the whole gamut of ICT and e-Government development.

The researcher took field notes during these meetings for use as an account of the reaction among different stakeholders to e-Government implementation in Bangladesh. These field notes were later incorporated into the N-Vivo file to substantiate the data collected from other sources and, hence, facilitating data triangulation. The importance of these field notes was significant during the analysis process as decisions and ideas from different stakeholders were discussed in the meetings. It may be mentioned here that participation in these meetings may have been time consuming (Bogdewic, 1999) but it provided the

researcher with a real-life situation to investigate the underlying phenomenon of e-Government adoption across the public sector in Bangladesh.

The group was observed in its 'natural setting', where data could also be openly recorded. This process helped in developing an understanding of the overall situations. The researcher took the following roles during participant observation (Hammersley & Atkinson, 2004, p. 93):

- Participant as observer where she/he exposes herself as researcher and participates in the group activities (Schutt, 2006).
- Observer as participant where the researcher can take a more active role by interacting with the group members but not discloses her identity.

In fact, participant observation is a straightforward approach by immersing the researcher in the subject being studied, the researcher being expected to have understanding better than other techniques. The problem may be the bias of the researcher as an active participant. Overall, it offers new insights in the research process. It has some significance in social life, but care must be taken in terms of its interpretation.

5.5.4 Document Analysis

Various official documents such as annual reports, IT literature, department websites, press reports, conference proceedings and other official documents were sourced in order to triangulate the data (Yin, 2003). This information was gathered directly from the departments, accessed from publicly available information via their websites or obtained from officials concerned. Yin (2003) states that the analysis of these documents offered a valid source to corroborate and substantiate the evidence and information gathered from sources, for instance interviews, participant observation and site visits. They also facilitated recognising important stakeholders in the ICT sector such as government agencies, donors, ICT industry associations, entrepreneurs etc. However, it is worth mentioning that e-Government adoption in this context is in a nascent stage. The government is seriously trying to develop the IT sector as it has the mandate to make a ‘Digital Bangladesh’, which is designed to featuring the government’s declared goal of a ‘Digital Bangladesh by 2021’ within 50 years of its independence.

5.5.5 Site Visits

Several visits to public-sector agencies were made after conducting structured interviews with the respondents. During the site visits, interviews, direct observation and document reviews were undertaken. The researcher took the opportunity to observe the implementation of e-Government in the respective environment in various public organisations where the systems are normally used. The researcher tried to visit the IT/MIS departments of the respective cases. What is actually meant by e-Government functions, how do they perform automation, how do they computerise the internal functions, what was the situation before automating the system and other questions were asked to obtain an insight into the overall e-Government functions.

The site visits and observation processes also included asking questions on their use of ICTs in overall functional activities of the organisations. The researcher observed the websites' development, its functional role and how it is performing in each department. By direct observation method, the researcher examined the functional activities of e-Government in real time. Direct observation is said to have high face validity, also termed as external validity. It is also true that people generally perform better under observation because of the attention paid to them. Hence, data collected during direct observation may include objective as well as subjective information as the researcher records the amount of time taken to perform particular activities and also the errors made. Therefore, the researcher tried to allow time for those being observed to become less aware of her presence.

During site visits, the researcher conducted the observation in natural environment settings. The site visits and observation processes also included asking questions on the use of ICTs in overall functional activities of the organisations. Qualitative data can also be collected during a direct observation as direct observation implies sampling behaviours as they naturally occur. Field notes were taken during the visits and supplemented with the data from the interviews in the N-Vivo analysis. Overall, the researcher attempted to focus on the process of performance, i.e. how an individual seems to arrive at a particular function. The emphasis was not merely on occurrence of a behaviour, but rather how that behaviour occurs in context.

5.6 Case Study Analysis

This section elaborates the case study analysis procedures of this study, including the way the data were coded and categorised and the techniques used for data analysis. Qualitative data analysis is one of the difficult attempts because of its iterative nature and diverse combination of different approaches (Crabtree & Miller, 1999; Miles & Huberman, 1994; Yin, 2003).

Multiple data sources used in this research created a rich source of textual information to ease the analysis. The 'text' created from the transcription of the interviews can be analysed through various ways: literally, interpretatively, or reflexively. The reading refers to data reading based on logic and order, i.e. content, structure, style etc. In interpretive reading, the researcher applies her cognitive skills and draw inferences in the text, which is closely related to the philosophical underpinning of this study (Crabtree & Miller, 1999). In reflexive reading, the researcher devoted herself to the text and recognised her role in data interpretation. This study has applied the interpretive analysis technique. It can be explained in a way that initially the researcher did not have a clear conceptualisation of a specific theory to explain the basic phenomenon of the study. Although the literature review highlighted theories, for example theories of Fountain and Weill and Ross, which could be employed as a theoretical base, but it was not clear, so far as the data were analysed, that this study echoed the 'technology enactment' of Fountain (2001) and elements of 'IT governance' suggested by Weill and Ross (2004).

5.6.1 Coding Data

With regard to the number of interviews and the data collected through multiple sources mentioned earlier, N-Vivo was applied for coding and analytic purposes through the editing approach (Crabtree & Miller, 1999). The data was coded through Richards' (2005) guidelines, where the codes were designated for descriptive purposes taking the details of the individual cases, for instance the state of automation, use of Internet, level of transparency, corruption, role of e-Government, and the overall management of the organisation. Demographics of the respondents, i.e. designation of the official interviewed and his/her experience were also recorded. To accurately reflect the unit of analysis, 'attributes' were assigned to each interview, indicating the role of the respondent within the entire public management context. The next step was topic coding, where the codes were assigned to chunks of text broadly under each research question. In this process N-Vivo was

applied to organise data hierarchically and sub-categories were formed against each research question. Finally, conceptual data were created and codes were attributed on the basis of inherent meaning of the text (Richards, 2005).

Table 5.4 Example of Coded Data

Coding Category	Example
Process simplification	*They have simplified the business procedures. Cost of doing business also comes down to a certain level. It also reduces the physical presence of the clients.*
Embryonic stage of implementation	*We are in the initial stage of implementation. It is a continuous process; we have just initiated this. However, we are already experiencing the benefit of automation since the inception of e-Government. Some successes are there, of course. Definitely, e-Government increases the transparency, which may eventually reduce the scope for corruption.*
Disintermediation	*It reduces discretionary authority. If we can reduce human contact, we can increase value judgment and it will be impersonal. Absence of human intermediaries may reduce the scope for corruption. However, it may take time in this context to reduce human contact and depend on full automation. If we really want corruption to be removed, we should create such a management system where people do not need to pursue people to get their service done.*
Access to information introduces transparency in the system	*Provision of information on the website makes the system transparent and increases the ability to track decisions. Transparency in the government signifies the extent of completeness of information. Transparency can be achieved when government decisions and actions are made public.*
No quantitative assessment of corruption	*We do not measure reduction in corruption in the true sense. There are certain indications which may show reduction in corruption in the system. In fact, there is no such evidence to determine it.*
Factors of variation	*A leader is the key person to initiate any change. Adoption of ICT and its success largely depend on the role of the head of the department. Other factors are also involved, but a strong leadership is crucial. If a department is really committed towards achieving its goals and works hard, it will of course succeed eventually.*
Design mismatch	*Design mismatch is not a big issue when other factors are involved in the process. Leadership commitment, sustainability, i.e. effective management and regular monitoring of the project, are very important. We are able to design our own project. Projects can be designed and developed by our experts keeping in view the needs and reality of the context. Initially, we may take outside experience but we must cater our own design*

Coding Category	Example
	according to the needs of the soil.
Role of the National ICT Task Force	*It is the chief ICT policy-making authority of the state. However, the committee needs to be visionary. They could not perform their role as expected. They could have coordinated the whole gamut of e-Government in this context. Other than policy-making they could not prioritise their agenda. Other than policy direction, we do need guidance as well, for example the management issue, how to run and manage a project and other directives. We have projects in isolation in different ministries; there is no coordination.*

The contextual analysis of the text was facilitated by N-Vivo in different ways. It enabled a visual comparison of the same research question by different entities (implementing agencies) and this was facilitated by using the query function and the ease of keeping multiple windows in the program open at the same time. Moreover, it assisted in creating free nodes as well as tree nodes and allocating multiple codes to chunks of text. As the coding progressed and new categories were created, the program allowed existing categories to be combined with the newly created categories. Eventually, it assisted in developing conceptual models that provided excellent visual linkages among different coding categories (Durian, 2002).

5.6.2 Editing Approach

Editing implies comparing the interpretations with the original textual data. This study, as mentioned earlier, is exploratory in nature and data have been analysed in an inductive manner. Editing is suitable for studies with an interpretivist focus for its subjective nature and aim to generate new perceptions (Tharenou, Donohue, & Cooper, 2007). Strauss and Corbin (1998) view the aim of inductive approach is to attain theoretical generalisation from the data. Under the inductive approach, the research begins with observation and in-depth interviews with the respondents, which enables the researcher to design an explanation for the key findings (Schutt, 2006). This has further been elaborated by Miller and Crabtree (1999, p. 20) who also recommend that editing is useful for exploratory study because “the interpreter enters the text much like an editor searching for meaningful segments, cutting and pasting and rearranging until the reduced summary reveals the interpretive truth in the text”. In the editing approach, the researcher starts reading the text and attempts to identify a number of themes, which helps developing categories. After that the researcher ascertains

the link between the categories and gets back to the text for verification. This is continued till all the findings are presented.

Hence data coding has been performed through editing due to less availability of theory development in the discipline and the fragmented nature of literature on the issues of public management (transparency, openness and e-Government). During editing, the researcher examines the issues in the text and attempts to identify its relevance with the research question. Then these are formed into codes or categories which create further abstractions (Crabtree & Miller, 1999). The editing approach then supplemented with thematic analysis and conducting a cross-case analysis for this study (Boyatzis, 1998).

5.6.3 Thematic Analysis

Experts in the field of research method hold the view that exploratory qualitative research with an inductive nature should apply a thematic approach (Boyatzis, 1998; Schutt, 2006) as a technique for data analysis. A theme is basically an outline found in the data and may be used for different purposes ranging from organising to interpreting several aspects of a phenomenon. Thematic analysis can be performed by content analysis to study the underlying aspects of the phenomenon under investigation. Tharenou *et al.* (2007, p. 253) view content analysis as 'a technique that extracts thematic information from qualitative materials'. This study follows an inductive, interpretivist approach to content analysis since its aim is to derive (deduce, infer, reason, gain ground) explanations and theory from the themes identified, as opposed to assessing data against prior theory and formal hypothesis (Tharenou *et al.,* 2007)*)*. The interpretivist research approach is appropriate with subjective understanding, exploration and developing new insights.

5.6.4 Developing Iterative Explanation

The purpose of developing iterative explanation is to analyse the case study by developing an explanation and justification of the case. It is also relevant to explanatory case studies. Explanation building seems to be a result of a number of iterations. This research employed the technique of iterative explanation building in the following ways:

- Research questions were designed regarding the effect of e-Government on transparency and openness in the public sector in Bangladesh.

- Each case was analysed individually for each research question. The findings from the individual cases were compared with each other.
- This may lead to a revision of research questions.
- The researcher compared the findings for a second time.
- This process was repeated as long as needed.

The iterative explanation building occurred between data collection phases one (1) and the follow-up interviews in phase two (2) with selected organisations. During the time, the researcher perused the transcripts and re-examined the literature, which culminated in redefining the interview protocol, research questions, and literature review. The case study data were compared throughout the data analysis period.

5.6.5 Cross-case Analysis

Scholars in the general management agree with the fact that undertaking a cross-case analysis for a multiple case study research increases the generalisability of the findings (Miles & Huberman, 1994; Stake, 2005). Based on these recommendations, the researcher has attempted to conduct a cross-case analysis. As the unit of analysis for this study has been performed at two levels both at the organisational level and the entity level, this assisted in conducting within-case and cross-case analyses. The analysis began by comparing different respondents' perception in some organisations for a specific research question. This study did not obtain any significant differences 'within the cases' in the implementing public agencies, which represented the focal entity in this study.

A cross-case analysis was performed following the within-case analysis. This study applies an embedded design for comparing across cases within a category (Yin, 2003). In doing so, the perspectives of different cases embedded within a specific entity were compared for similarities as well as differences. For example, the cases within G2B category were compared against each other for similar themes relating to the factors critical for the success of e-Government which have largely affected the level of transparency and openness in those organisations. Hence a cross-case analysis (Yin, 2003) was conducted within each category of cases (G2B, G2C, and G2G) to obtain aggregate themes for each research question. The cross-case analysis undertaken enabled identifying specific issues and themes that are significant for public-sector reform. For instance, the cross-case analysis across the cases within the same entity enabled identifying 'leadership commitment' as critical for

successful implementation of e-Government practices in public agencies in Bangladesh. This enabled developing a comprehensive knowledge of the effect of e-Government on introducing transparency and openness in the government system. The research question and the subsidiary research questions in this study have facilitated providing insights into the perspectives and highlighted major issues concerning public-sector management in this context as a whole.

5.7 Reliability and Validity/Assessing the Quality of Rigour of Case Study Research

There are four tests so far to establish the inherent characteristics of an empirical social research. The tests are: construct validity (to prove appropriate operational procedures for the issue under investigation); internal validity (to decide which state leads to other conditions as opposed to counterfeit relationships); external validity (to establish the field wherein the findings can be analytically generalised); and reliability (describing the procedures of the research which can be repeated later in time) (Kidder & Judd, 1985; Yin, 2003). This study addressed each of these criteria as follows.

First, construct validity was addressed by collecting data from multiple sources of evidence. This included interviewing not only case respondents, e.g. the implementer of e-Government, but also policy makers within the field of inquiry, attending e-Government workshops (in Dhaka, Bangladesh), observing meetings conducted by Steering Committee, ministries (in Bangladesh), as well as collating secondary data such as e-Government strategy, Vision, Road Map, action plan, annual reports, IT literature, department websites, press reports, conference proceedings and other official documents. In addition to data collected from the interviews with case respondents, which represent the largest source, the researcher's participation in e-Government-related conferences/workshops and observing experts concerned allowed the researcher to establish rapport, develop networks with respondents and know the context in which the study is organised. Secondary data sources were used to make case descriptions apart from information provided during interviews with the respondents. Secondary data were also used to authorise certain information in the interview transcripts such as some jargon terms and technical information. All these delivered a source of triangulation and verification, improving the accuracy and authenticity of the information reported. Since the questionnaires were designed through a broad literature review, it is expected that each question should have a link with an objective (Kumar, 1996; Zikmund, 2003) and in this respect construct validity examines whether the

questions selected adequately measure the concept (Sekaran, 1992; Zikmund, 2003). Attempts were made to establish construct validity as the questionnaires were designed to cover the meanings included within a concept. For example, when measuring the perception of the stakeholders on public-sector reform performance, all the aspects included within the performance of reforms, e.g. efficiency, transparency, accountability, anti-corruption mechanism etc., have been taken care of. Accordingly, measures of construct validity were also addressed for measuring the perception of ICT infrastructure and public-sector management.

Second, internal validity is performed by prolonged engagement in the field (Lincoln, 2001) and embracing the tools of explanation-building during data analysis (Yin, 2003). As Lincoln and Guba (1985) state, prolonged engagement, persistent observation, member checking and triangulation are some tactics that are used to increase the probability that valid findings will come out in qualitative interviews. By prolonged engagement the authors mean sufficient time to achieve the purpose of learning the culture, testing for misinterpretation occurred by distortions either by oneself or by the respondents, and also building trust.

The researcher collected data over a five months period. The first data were collected in October, 2008 when the researcher went to Dhaka, Bangladesh to perform face-to-face interviews with case respondents, policy makers, advisory bodies, development partners and selected professionals, and participated in conferences and workshops and conducted observations. The researcher then returned to Melbourne, Australia with the first-round data and used this to redefine the research project. By pilot testing and collecting data over a five month period, the researcher was able to verify initial statements by respondents and follow the organisations' adoption of e-Government in the public domain. The interviews were conducted during October 2008 to January 2009, and January 2010. Explanation building is supported by Yin (2003) in order to improve internal validity. As explained under section 5.6.4 on iterative explanation-building, internal validity is increased because of the iterative process that is applied to developing explanations. This was performed through comparing the data among different respondents, comparing other details of the cases against the revision of the data, comparing the revision of the data between two or more cases and continuing this process up to the required level (Yin, 2003). Although the amount of time spent in the field was constrained by time and resources, in this study, the researcher's familiarity with the socio-economic culture and experience of working in the ministries and

public-sector agencies served the purpose of prolonged engagement by providing her with the added advantage of knowing and understanding the context, building trust and rapport.

Third, external validity, which refers to developing analytical (other than statistical) generalisation (Yin, 2003), was applied in two ways. The first involved developing thick descriptions (Geertz, 1973) of each case investigated. Thick description refers to descriptions of behaviour or events that explain not only the behaviour but also the context in which it occurred, so that the behaviour is meaningful to an outsider. With respect to this study, the research findings were placed in context, that being public-sector organisations in a South Asian country like Bangladesh operating within a weak governance system and public-administration malaise (Sobhan *et al.*, 2004; Zafarullah & Haque, 2003). Caution and care have been taken to inform the reader of the appropriate contextual ingredients that help place the findings in context and offer optimum clarity. For example, different human, organisational and technological factors, issues and problems exist in developing countries (Rashid & Rahman, 2010). A large gap exists there among the physical, cultural, economic, legal, and various other aspects. A difference also exists between the technology and the social context (people, culture, politics etc.) in which it functions. All these influence the interpretation of the findings and thus offer transparency to the readers.

Further, the second technique involved purposive sampling which is a method to increasing external validity (Lincoln, 2001). Patton (1990) argues that purposeful sampling, seeking information-rich cases that can be studied in-depth, is a dominant strategy in qualitative research. In this study, qualitative data collection involved five groups: (i) implementing public sector organisations, (ii) ministries, (iii) advisory bodies, (iv) development partners, and (v) selected professionals. In this kind of sampling, subjects (people or cases) are selected on some characteristics basis. With regard to the research problem, this study applied various kinds of sampling techniques, as described by Patton (1990). These were: criterion sampling (selecting cases that satisfy certain sets of initial criteria). The respondents were also selected on the basis of snowball sampling, which is one of the types of purposeful sampling. In this sampling initial respondents were selected by probability samples and additional respondents were interviewed by referral from initial respondents (Zikmund, 2003).

The fourth test supported by Zikmund (2003) views reliability is a measure when similar results are found over time and across situations. In general, reliability is the ‘degree to

which measures are free from error and therefore yield consistent yields' (Zikmund, 2003, p. 300). Broadly defined, reliability and validity look at the quality of the data and appropriateness of the method applied in undertaking a research project. Both reliability and validity affect a satisfactory analysis. Yin (2003) suggests that reliability minimises the mistakes, errors, preconceptions and biases in the research. Addressing the issue of reliability, this study designed an interview protocol in response to the research question (see Appendix A) for both case respondents (implementers)/policy makers and development partners/selected professionals. Then the study compiled a comprehensive audit trail and applied various methods of triangulation. An audit trail means the degree to which a researcher is able to show reliability of the research interpretations. This was attempted by recording and storing some raw data, analysis notes, process notes, personal notes and preliminary development of findings.

Table 5.5 Summary of Validity Tests

Term	Strategy employed
Construct validity	Collected multiple source of data (Yin, 2003)
	Case respondents
	Policy makers
	Advisory bodies
	Development partners
	Selected professionals
	Attendance at international and local conferences, meetings
	Observation of implementers, policy makers, advisory bodies, and development partners at work on site in Dhaka and Chittagong
	Collection of several secondary data sources
Internal validity	Extended involvement in the field (Lincoln, 2001)
	5 month time frame of data collection
	Explanation building (Yin, 2003)
	Iterative research technique to developing insights
	Comparing details against other cases on an ongoing basis
	Revising data as many times as required
External validity	Thick descriptions (Geertz, 1973; Lincoln, 2001)
	The research findings were applied to the context in which the study was set. This put consideration to the physical, cultural, economic, and various other contexts, type and size of the organization.
	Purposive sampling (Lincoln, 2001; Patton, 1990)
	Criterion sampling
	Maximum variation sampling

Term	Strategy employed
Reliability	Interview protocol (Yin, 2003)
	Separate interview for case respondents (implementers)/policy makers and development partners/advisory body/selected professionals
	Audit trail/case study data base (Lincoln & Guba, 1985; Yin, 2003)
	The record of some data collected consisting of raw data, analysis notes, process notes, personal notes and preliminary development information
	Triangulation (Yin, 2003)
	The use of multiple data sources to ensure reliability

Note that in some cases (1 or 2) the respondents viewed opinion as personal, which was not the majority of the cases. In such instances, sometimes what the respondents said might not reflect the organisations they are representing but those are their personal views. However, it has been proved that those personal views of a few respondents were consistent with the existing literature, i.e. the researcher found the literature supporting their views. Personal views do not necessarily have to be quite different from the views of the organisations concerned, and might be consistent with the views of the organisations. Attempts have also been made to correlate the personal views (which is found consistent with the literature) with the views of the organisations.

5.7.1 Triangulation

To reduce the 'subjective bias', triangulation through multiple sources of evidence was employed. Using multiple sources of evidence also helps establish 'reliability' in the research (Yin, 2003). A critical review of secondary data was carried out before collection of primary data to have 'a first-hand account from the inside' (Henn, Weinstein, & Foard, 2006, p. 97). This helped identify relevant issues for investigation during primary data collection. Secondary data also assisted qualitative analysis and triangulation to offset bias (Tharenou *et al.*, 2007). Secondary data were collected from various published materials, websites, government publications, newspaper reports, and other published sources.

Triangulation is the use of various research methods and techniques in the same study with a view to offset the possible bias and sterility of a single-method study (Denzin, 1989). It is the process of validating evidence from different sources of data, individuals, using various

research methods for data collection or using a variety of theoretical perspectives in analysing data. This process supported the researcher to produce a report with optimum credibility and reliability (Cresswell, 2002; Yin, 2003). In this study, triangulation was performed through a combination of archives, interviews and observation of the cases. Among them archival materials have been used in the study of various published materials, e.g. annual reports, policies and other documents of the respective departments. As recommended by Perry (1998), interviews with more than one person were conducted in certain selected cases to strengthen triangulation. In addition, Yin (2003) suggests using multiple sources of data, for example participant observation, interviews, document analysis and site visits. All these sources were used throughout the research process. Therefore, the cases have also been studied through observing the ways of their performing automation and e-Government functions. Direct observation by the researcher enhanced the validity of the research. In addition, the triangulation of different techniques of data collection such as interviews and review of existing literatures also increased the likelihood of validity and are expected to overcome the weakness or intrinsic biases (Lincoln & Guba, 1985; Marshall & Rossman, 1989).

Triangulation is an important way to strengthen a study design. According to Creswell (2002, p. 280):

> *Triangulation is the process of corroborating evidence from different individuals, types of data, or methods of data collection…..this ensures that the study will be accurate because the information is not drawn from a single source, individual, or process of data collection. In this way, it encourages the researcher to develop a report that is both accurate and credible.*

Denzin (1978) identified four basic types of triangulation. This study applied only two: data triangulation (employing diverse data sources) and theory triangulation (employing multiple views to explain a single data). The documents analysed are categorised into five groups: (i) formal documents published by government agencies and available in the public domain, (ii) reports published by ICT industry associations, and (iii) reports published by various donor agencies, (iv) reports by professional organisations, and (v) press releases.

Analysis of documents published by government includes National ICT Policy 2002, 2009, ICT Roadmap, e-Government Strategy, reports published by Bangladesh Computer Council (BCC), Access to Information (A2I) Program, M/O Science and ICT, M/O Communications, LGRD etc. Reports published by ICT industry associations, e.g.

Bangladesh Computer Society (BCS), Bangladesh Enterprise Institute, D.Net, Bangladesh Association of Software and Information Services (BASIS) were also analysed. Reports published by various donors, e.g. UNDP, World Bank, Asia Foundation, ADB, TIB, ACC were found very useful to analyse since these reports demonstrated an evaluation survey of ICT/e-Government development in this context. Important coverage in national daily newspapers, e.g. the *Daily Star, the Daily Ittefaq, Prothom Alo, Financial Express, and New Age* were also consulted and analysed in this process.

The triangulation technique was addressed by Campbell *et al.,* (2009) who considered that each method has its limitations and the combination of multiple methods strengthens a study (Patton 2002). Greene and Caracelli (1997, p. 7) explain the justification for mixed-method inquiry as: 'to understand more fully, to generate deeper and broader insights, to develop important knowledge claims that respect a wider range of interests and perspectives'. Since no method is flawless and has its limitations, the triangulation of data sources helps in neutralizing biases inherent in any single method and to counteract the weakness with the strengths of the other methods (Jick, 1979; Marshall & Rossman, 1989; Patton, 1990).

As the adoption of e-Government is relatively new in the Bangladesh context, given their interrelatedness with the existing governance and public management issues including the National ICT Policy, the main objective of qualitative data collection was to obtain in-depth knowledge and new perspectives on public-sector reforms, and the perception of the stakeholders on their readiness to accept the e-Government online public-service delivery mechanism from the views and insights of the respondents.

5.8 Ethical Considerations

Since the research design for this study included multiple case studies and a variety of data sources was used, it had to go through an ethics review. Ethical considerations, for this descriptive study, referred to the fair treatment of respondents, by discussing issues related to deception, anonymity and confidentiality before the interview. For each respondent, an explanatory statement (Appendix C) that narrated the purpose and process of the in-depth interview, the right to ask questions and withdraw at any time from the topic of the discussion (the interview protocol) was developed. Permission was secured before the interview as to gain consent for voice recording and interviewing. Consistent with the ethics and confidentiality, the research involved only voluntary participation in the interview. With regard to confidentiality, the research allowed anonymous responses (Black, 2002) and

names of the organisation and officials were coded to offset the identification. Doing so would ensure confidentiality in the thesis and future publications as well. Ethics approval was obtained in 2008 from the Standing Committee on Ethics in Research Involving Humans (SCERIH) at Monash University. The approval number is CF08/2278 – 2008001166 (Appendix D). The questionnaires for qualitative study were subject to approval by the SCERIH. Data collected would be stored by the researcher for the mandatory five year period.

5.9 Summary of Chapter 5

This chapter has described in detail the research methods used to answer the research questions. The research is both exploratory and descriptive in nature, and was performed by qualitative study. Denzin and Lincoln (1998) argue that 'qualitative research' highlights an importance on process and meanings that are not thoroughly studied with regard to extent of intensity, or rate of recurrence. Similarly, Stake (2005) further explains that qualitative research tries to establish an empathic understanding for the reader through description and conveying to the reader what experience itself would convey. In order to obtain the answers to the set of above research questions, this research incorporates a case-study design that is a multi-organisational study (Yin, 2003). The data of this research were collected through different sources, for example interviews, participant observations, document analysis and site visits. The triangulation of multiple sources of evidence including qualitative and document analysis was very useful in analysing the complex issues. The analysis was made inductively through the editing approach. The N-Vivo program was applied in the analysis, which was supplemented with techniques, e.g. thematic analysis with a within-case and cross-case analysis. The concomitant procedure was used to provide a comprehensive analysis of the research problem and to assimilate the information in the interpretation of the overall results. The chapter has also explained in detail how the qualitative data were collected and analysed in conjunction with the strengths and limitations and reliability and validity of the approach taken.

Following the discussion about the research method employed for this study, the next chapter analyses the data collected from face-to-face interviews. The next chapter will try to answer the research questions by assimilating the findings of the qualitative study.

Chapter 6. Findings

6.1 Introduction

This chapter presents the findings of data collection and comprehensively addresses the research question and subsidiary research questions. It focuses on the analysis of major findings from the cases that contributes to the effect of e-Government on increasing transparency and openness in the delivery of public services in various government agencies in Bangladesh.

The study attempts to identify the effect and assess the extent of benefit, in the broad spectrum, that an organisation gets out of implementation of ICT based e-Government in dealing with public service delivery. Chapter 2 is based on a survey of relevant literature in both developed and developing countries relating to e-Government dealing with issues concerning whether and how e-Government affect transparency and accountability from a theoretical perspective. The author's study examines the "situation" existing in some major government agencies and reveals the actual extent of e-Government's contribution to such organisations' benefit, its nature, scope and limitations, as well as future possibilities. The theoretical perspective developed and delineated in earlier chapters (2 and 3) by and large appears to be compatible with the interview results except for some instances of variation that will be pointed out as well.

Figure 6.1 indicates the position of Chapter 6 in the overall research design of the thesis.

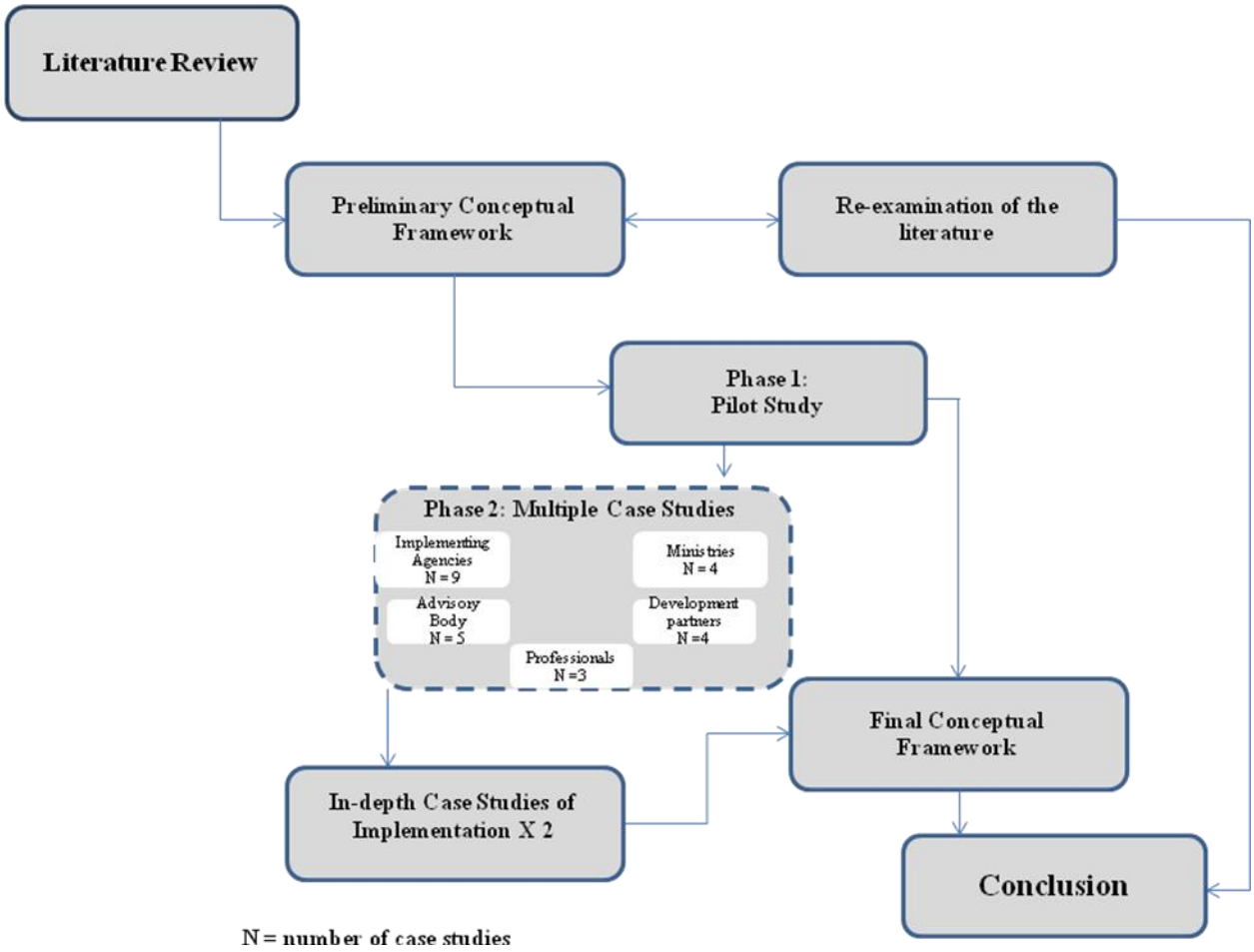


Figure 6.1 Location of Chapter 6 in the Overall Research Design

6.2 Research Question

This chapter discusses the research findings from the research question:

Does e-Government lead to greater transparency in the public management in Bangladesh?

Seven subsidiary research questions (sections 6.2.1 to 6.2.7) have been developed in order to substantiate the research question. This study takes a holistic approach towards the principle of transparency, its definition, and indicators of transparency. Profiles of the nine organisations studied are presented in Appendix B. Details of the respondents across these organisations are presented in Table 5.1. Primary data were collected through in-depth semi-structured interviews with senior management (Hoskisson *et al.*, 2000) in nine government agencies and sixteen stakeholder agencies in Bangladesh. People associated with the

implementation process were interviewed from each department. The number of cases, category, and number of respondents participating in the study are shown in Table 6.1.

Table 6.1 The Case, Category, and Number of Respondents

Cases/Organisations			Respondents	
Name	**Category**	**Number**	**Position**	**Number**
Department of Passport and Immigration, Chittagong Customs House (CCH), Board of Investment (BOI), Bangladesh Police, Local Government and Engineering Department (LGED), Dhaka Water and Sewerage Authority (DWASA), Dhaka City Corporation (DCC), Bangladesh Railway (BR) and Roads and Highways Department (RHD)	Implementing agencies	9	Head of the Institute and mid level officials	18
Ministry of Communications, Ministry of Science and ICT, National board of Revenue, Ministry of Local Government and Rural Development,	Ministries	4	Secretary, Joint Secretary, Deputy Secretary, Chairman	8
World Bank, Bangladesh; United Nations Development Programme (UNDP), Asian Development Bank (ADB), Asia Foundation	Development Partners	4	Assistant Country Director, Executive Director, head: Governance Unit, Economist	4
Anti-corruption Commission, Bangladesh; Transparency International, Bangladesh, Bangladesh Enterprise Institute	Selective Professionals	3	Chairman, Director General, Executive Director, president, Chief Research Associate	6
National ICT Task Force, SICT,	Advisory	5	Member, Project director,	10

BCC, A21, Bangladesh Bank	bodies		executive Chairman, Director, Project Implementation Specialist, Governor, executive Director	
	Total	**25**		**46**

A total of forty-six semi-structured interviews were carried out with forty-six respondents who have somehow a direct or indirect relationship with ICT/e-Government policy formulation or the political arena in Bangladesh. Eighteen respondents from implementing agencies, eight respondents from ministries, ten representatives of advisory bodies, four representatives of major development partners and six respondents from professional groups actively involved in e-Government implementation and public-sector reform were interviewed. The interviews followed the interview protocols that were based on a 'schedule' or guide to questions (Appendix A).

6.2.1 Findings: Subsidiary Research Question 1: What is understood by transparency in the public management in Bangladesh?

Several public sector organisations in Bangladesh have initiated the adoption of e-Government involving basic computerisation and modern information systems for automating the processes of efficient delivery of services. The extent of achievements varies among departments. The departments under investigation are in an early stage of implementation and yet to assess the outcome of these initiatives. However, the respondents are of the opinion that e-Government has the potential for creating the underlying infrastructure for both information and services.

One of the major aspects of the effect of e-Government is its ability to introduce transparency as an important variable. To describe the way of using e-Government for transparency, it is better to start with the definition of transparency in the Bangladesh context. This study attempts to draw the attention of the respondents to the issue of transparency and its enhancement through ICT-led e-Government. Quotes from the data have been provided all through to create vigour to the analysis undertaken.

On the basis of the focus of this study, the findings reveal that there is a convergence on a primary definition that defines transparency as a tool to create a sense of responsibility through increased participation between government and the citizen. This definition may be broad enough to include real transparency in Bangladesh. To fulfil the principle objective of this study, viz. to investigate e-Government's effect on transparency, this section summarises the findings of the study.

The findings reveal that transparency is the access to government information by the citizens. Transparency means informed citizenry. According to most of the respondents, transparency is the availability of information in the website of an organisation and the degree of access to it. The more transparent the website is, the more it is open to citizens to oversee its activities. It shows that, when the rules, procedures and decisions in the government become open, it helps increase the probability of discovery.

Respondent view was sought on what constitutes transparency. It is important to highlight that all of the respondents attempted to define transparency, but topping the list was the perception of 'availability of information in the website', mentioned by thirty-six respondents. Table 6.2 presents different sub-themes within the perception of transparency. The findings reveal three different sub-themes identified under transparency. 'Availability of information in the website' was perceived as transparency by the highest proportion of respondents, followed by 'access to information by the citizens' and 'standardised procedures for delivery of services'. A closer examination reveals that 'access to information by the citizens' and 'standardised procedures for delivery of services' were the other important sub-themes identified by the respondents from the implementing agencies. It is also important to mention that, during the course of interviews, it was possible that a respondent could identify multiple sub-themes. For example, fifteen out of the eighteen respondents who discussed transparency mentioned 'availability of information in the website of an organisation' as an important component of transparency in the public sector.

Table 6.2 Sub-Themes within the Perception of Transparency

Entities	Number of respondents who identified the theme of transparency	Number of respondents who identified sub-themes		
		Availability of information in the website	Access to information by the citizens	Standardised procedures for delivery of services
Ministries=4 (n=8) (n=number of respondents)	8	5	4	3
Implementing agencies=9 (n=18)	18	15	12	11
Advisory body=5 (n=10)	10	8	6	4
Development partners=4 (n=4)	4	3	2	2
Professionals=3 (n=6)	6	5	4	4
	46	36		

The comment below demonstrates the perception of transparency:

Transparency in the government is crucial for good governance. If the citizens are more informed about the decision, they can play a proactive role in interacting with the government. Hence, transparency practices can act as a watchdog to scrutinise public functions and e-Government may act as a means to achieve it. E-Government is a mechanism for opening up the government and enabling public access to information (Chairman, Case M).

In addition, the Joint Commissioner (Automation) in Case B, Chittagong Customs House (CCH), defines transparency as the use of ICTs like the Internet to display information and services to citizens and business communities. Information is published on the website for citizens to get access to it for different services like customs clearance, tax-return filing, licence renewal etc. He then adds that, for a transparent government, rules and procedures need to be standardised and open. The respondent believes this might lower the discretion and scope for any arbitrary action by the public officials and suggests that e-Government can be applied for simplification of rules and re-engineering business practices. The connotation of transparency as standardisation of rules and practices is evident in his statement below:

Provision of information on the website can make the system transparent and increases accountability and ability to trace decisions. Transparency requires rules and procedures to be standardised and open. Systems for tracking the application status for

different kinds of licenses, permits on the web may improve transparency and accountability. While there is no quick remedy for all controversies in organisations, transparency in the government signifies the extent of completeness of information. Transparency is critical to safeguard citizen access to information and services (Joint Commissioner, Case B)

Transparency and access to information are recognised by Transparency International, Bangladesh (TIB), which advocates transparency for a democratic society. It endorses the necessity of information, transparency and openness and views them as the basic principles of democracy. TIB observes that the right to access to information is a prerequisite for good governance, in which e-Government's role is critical. A public management perspective of e-Government will focus on ensuring transparency in public administration. Hence, it implies the interrelationship between increased transparency and accountability where e-Government has definitely something to offer. The respondent from TIB highlights citizen participation in democratic decision-making and argues that the provision of public services should be transformed in this context through process re-engineering. The Executive Director in Case R views transparency as:

A central theme of e-Government, which can be defined by conceptualising the delivery of services, and which involves reducing direct contact between service provider and service seeker. Transparency can be achieved when government decisions and actions are made public. Online provision of information, online submission and tracking of application, lodging of complaints etc. save time, cost and increase accountability and responsiveness of the government. By using a mix of campaigning on transparency and orientation of more citizen-centred services and educating citizens about their rights, citizens become empowered and less likely to avoid public officials' illegal demands. However, the path is not straightforward; it depends on the environment to direct the technology to be used to its fullest potential. ICT may not automatically ensure transparency unless accompanied by changes in the administrative processes.

Although the comment was made by the Executive Director of the TIB, it actually articulated the view of most of the respondents. This quote exemplifies significance of two issues. First, it articulates the role of e-Government to introduce transparency. Second, it also highlights that electronic devices will not be able to lead to an end unless supported by other institutional means in terms of employee morale and satisfaction. Last but not the least, the Economist in Case S says:

Transparency and openness is the major tenet of democratic government and is central to the transformation of government service. With regard to delivery of service, the importance of transparency signifies the need to build trust in government and the citizens

they serve. Apart from delivering service, e-Government has other concerns for improving governance. Transparency and openness is one of those facets of e-Government which follows good governance. E-Government contributes to introduce transparency through publishing information. Information is one of the most effective tools to exercise citizens' right to public service.

Overall, the respondents view transparency as informed citizenry. A better informed citizenry is crucial for a democratic society. This citizenry can hold the government accountable and responsive to their needs and expectations.

Summary of Findings on Subsidiary Research Question 1

Public sector agencies in Bangladesh view transparency as the availability of information in the website regarding government functions and delivery of services. Findings reveal that transparency is a tool to create a sense of responsibility among the government officials. Transparency offers the opportunity for citizens to directly participate in democratic decision-making. Respondents view that transparency in the form of right and access to information is essential for good governance. However, transparency does not only imply the web presence of information, it also signifies its access to the general public. Thus transparency connotes both the availability of and access to information to the people.

6.2.2 Findings: Subsidiary Research Question 2: How does e-Government improve transparency?

Various public agencies are initiating e-Government through automating traditional complex practices and communicating with their clients by electronic means. Most agencies fall into the first or second phase in the evolution of e-Government. They have developed their websites and provide information therein, which is the first step of e-Government adoption. The application may not be viewed as true e–Government since some part of the service delivery is not electronic. Computerisation does not take place in the whole system, but is only partially done. In fact, fully fledged online service delivery has not yet completed as processing of payment is not electronic. The self-service delivery model has not yet been established and applications that need interdepartmental coordination are still not online.

However, some of the applications have attributed a number of benefits to the stakeholders. The cases are studied to highlight the problems with previous manual methods and

implementation challenges they are facing now with the new systems. It is perceptible that the new approaches have increased efficiency, transparency, reduced delivery time, increased revenue and others. A number of benefits are achieved in regard to reduced time, hassle and cost.

E-Government in these organisations may be classified into different models depending on the nature of businesses. Among these are government to citizen (G2C), government to government (G2G), government to business (G2B). Computerisation of office management (personnel, accounting, payroll, office manuals and procedures) expedites faster and accurate processing of the internal functions, with lower costs. In the G2C model, the government communicates with the people to provide information and different services. Information on various public services is published on the web and citizen can have access to information regarding many aspects of their lives. People may download government rules and regulations, a number of application forms for different services, for example, tax returns and renewal of licences. Some government agencies also offer services through Internet portals. In the G2B model, government communicates with private and business groups to provide information and services (online custom clearance). In this model, e-Government interacts between government and business agencies (G2B) in more efficient, transparent and inexpensive ways. In the G2G model, different departments are connected through networks (e-administration, e-police) within the government to create synergies for better coordination and faster communication, thus reducing the cost. Findings reveal that e-Government can bring transparency in government functionalities. This section summarises the findings of the employment of e-Government in improving transparency in the system.

In general, the respondents view that the deployment of the Internet in the administrative set up facilitates enhanced transparency and openness, which may lower the discretion of public officials in public organisations like Passport and Immigration, Roads and Highways, Dhaka Water and Sewerage Authority (DWASA), Chittagong Customs House (CCH), Dhaka City Corporation (DCC), Board of Investment (BOI), Bangladesh Railway (BR) and others to access information and services by the people. There are various functions for which people interact with public departments. For example, collecting information on government rules and procedures, government forms, applying for permits and licences, and obtaining legal documents. Before computerisation took place, citizens/businesses had to go several times to a department and offer irregular money for most of these functions. The respondents mention that e-Government in their departments facilitates people's access to

information and delivery of public services. It is evident from the cases that if administrative rules, procedures, and requirements are publicised in department's websites, the scope for overregulation and disorganisation would be minimal.

The departments under investigation have been identified to adopt ICTs to streamline their internal processes because of their citizen interfaces. Therefore, looking at the high level of citizen centricity, it is expected that adoption of e-Government in these departments may have a positive impact to ensure customer satisfaction for their services. Manual file-processing in the previous system involved several steps and was lengthy and cumbersome and took months. The departments have set up websites and built their own databases for internal use. Through process automation, some of the operations have been computerised. Citizens are given a track number, which enables them to know the latest status of their applications for any service.

Findings reveal that automation in the Department of Passport and Immigration improves transparency and openness in the system, which might help reduce the discretion of the authority to access information and interact with their clients. The department has been able to ensure a certain degree of transparency in terms of making government information in the web. Stakeholders having access to the website can know the information regarding application of their passports and visas. Online submission of documents and sharing of those by all contribute to increased transparency as under such environment a particular document cannot be manipulated to the advantage of an official or a stakeholder. Automation in this department improves the efficiency and transparency in the following ways.

In the previous system in the department, manual file-processing involved several steps and was a lengthy process. It took couple of months to make a decision. Most importantly, the speed of decision for issuing a passport or visa sometimes was lying on the whims and fancies of the employees concerned. Client requests were addressed at a slow pace. Most often service seekers had to pursue and obtain the decision after paying extra money for expediting the process. Thus the system was very cumbersome for a citizen to obtain a passport. The need for an integrated e-Government system was felt to simplify the process of police verification of birth certificates to expedite the process. It is hoped that the introduction of e-Government in Passport department will have a positive effect to ensure customer satisfaction.

Improved Citizen Service Delivery. Computerisation in the department leads to standardised procedures for delivery of passports and visas. Provision for downloading an application form and submission of that culminates into provision of a passport eventually. Online tools can reduce public hassle to get a service as people had to face a long queue and wait for a long time. It automates routine matters, e.g. workflow and file numbering. Employees can now perform more value-added work. Each applicant obtains the service within the specified time. Passports are now issued within a definite time frame (30 days), which was not fixed previously. Both the citizens and the employees benefit from transparent movement and tracking of files. Citizens can determine the status of the issuance of their passports. Now, a 'one stop' service is there, wherein a passport is issued within two hours with an urgent fee. Discretion to expedite or lower the movement of the file is minimised. Overall, file-processing time has been reduced.

Increased Transparency. The department has set up department website, have built their own database for internal use and through process automation, some of the operation was computerised. Citizens are given a track number, which enables them to know the latest status of their applications for passports and visas. The department's website provides variety of information including government forms, rules and regulation, which has increased the level of transparency. Ability to track the processing of passport applications by citizens has increased transparency while the removal of discretion to delay makes the procedures simple and transparent.

Table 6.3 below demonstrates e-Government's influence on transparency as perceived by the respondents. A number of sub-themes were identified, e.g. 'information generation', 'increased efficiency' and 'strengthening control mechanism/check irregularities'. The most significant ones surfaced were: 'information generation' and 'increased efficiency'. All the respondents agreed that e-Government can increase transparency through provision of information and increased efficiency in government functions.

Table 6.3 Sub-Themes Within 'e-Government and Transparency' (How e-Government Improves Transparency?)

Entities	Number of respondents who identified reduction in corruption	Number of respondents who identified sub-themes		
		Information generation	Increased efficiency	Strengthening control mechanism/check irregularities
Ministries=4 (n=8) (n=number of respondents)	8	6	6	4
Implementing agencies=9 (n=18)	18	15	15	13
Advisory bodies=5 (n=10)	10	9	9	8
Development partners=4 (n=4)	4	4	4	3
Professionals=3 (n=6)	6	5	5	4

The Director General in Case A states:

If administrative rules and procedures are made available on the Internet, no over-regulation would be there and the level of transparency will be improved.

Clerical staff were the custodians of files and documents in the traditional system while e-Government services in a government agency may be offered from more than one source simultaneously, for instance, the use of ICTs (SMS) in DWASA and BR in railway ticketing and collecting utility bill payments made by citizens to their government. This may improve the accuracy of billing and ticketing, reduce the waiting-time, and provide digital proof of payment. Citizens have their own option to be served by any source, which enhances the transparency for citizens securing a service.

The Case C respondent comments:

E-Government holds the potential to improve transparency;, however, it cannot automatically turn a corrupt system into a transparent one. We need to apply it successfully; we need to understand it in the broader behavioural changes. In order to fully realise its potential, we need to change the system, technology, and people.

Bangladesh Railway (BR)

E-Government initiatives have been taken in the form of a computerised seat reservation and ticketing system (CSRTS), computerised wagon control system (CWCS), Bangladesh Railway automated support system (BRASS) and an informative web portal offers advanced technological standards, which ensures efficiency and effectiveness of the services. Online and SMS information reduces processing time and makes railway ticketing procedures simple and transparent. Improving citizens' service delivery helps increase productivity by minimising time wasted for standing in queues and seeking information.

Increased Transparency. The CSRTS and an informative web portal provide information regarding train fares, train schedules and a citizens' charter to the doorsteps of the citizens. The passengers also get information regarding train routes, ticket fares and availability of seats by sending an SMS to a particular number. The department website publishes the same information. The BR online database is applied for the SMS ticketing system. Online information on ticketing and reservation has made things transparent. By improving the level of transparency, it also eliminates paying extra money to a middleman to get a ticket. Improving citizens' service delivery helps increase productivity by minimising time wasted for standing in queues and seeking information. Transparency and accountability can be measured by the number of citizens getting train tickets without spending extra money (bribery). It also signifies accountability where transparency is perceived as publishing information by the institution.

Board of Investment (BOI)

Increased Business Process and Citizen Services. The online service tracking system (BOST) is an interactive e-Government system that assists the investors to track their service requests (investor's registration) made to the BOI. Investors are given a track number to follow up the process electronically. The BOI has simplified and reduced the registration process from six to four steps.

Increased Transparency. For a direct interface with the investors, the BOI has created an Internet portal that provides information on rules and regulations and allows monitoring of the status of an application for a permit or licence, for example, development of an informative website and LAN within the BOI. Sophisticated e-Government software applications include service tracking system providing the most recent status of different registration processes. The BOI has developed a number of databases for various services.

The electronic file tracking system (BOST) increased transparency in BOI functions. It is made transparent, so the users (investors) can easily determine the status of their registration process.

Roads and Highways Department (RHD)

According to the respondents, the most significant progress they have made is the development of software that is very effective and user-friendly to automate their systems for rendering services to their clients. The RHD has brought significant changes in their ways of doing businesses and delivery of services to their clients. Factors that account for its achievement include:

Improved Business and Citizen Services. RHD officials, contractors and the general public can obtain a wide variety of information from respective data bases. It improves both the internal and the external business processes of the RHD.

Increased Transparency. Transparency is there for accounts information and tender notification. For example, in accounts information there is information regarding total budget allocation of the department, expenditure, distribution etc. Transparency is increasing after the central management system (CMS) and tender database were initiated. The department's website provides information, data and notices to different stakeholders. The RHD has developed two management systems that are designed as a set of databases: first, the road and bridge asset management system (RAMS), a map-based system to streamline the planning of its maintenance and rehabilitation works and, second, the central management system (CMS), being used as a day-to-day management, control and monitoring tool for the projects of the RHD, known to be a powerful management and analytic tool. CMS improves transparency and accountability through access to information and knowledge sharing, which is expected to improve governance in the RHD.

Tender Database. The databases of the projects, contractors and tenders have disseminated a large amount of information, which may reduce the scope for manipulation. Previously, a number of outstanding bills and a huge backlog were there in the manual bill-payment system. Tender-related information is no longer confidential now. The website shows tenders published by the RHD and its subsidiaries. Anyone can make query in matters related to zones, submission date, projected cost, nature of tender, and form of expenditure. The website also replies to tender schedules, which fulfils the criteria. All manpower

information is preserved in the personnel data sheet (PDS), and placement and promotion of the employees can also be done in a transparent manner. Previously, many people could not participate and buy the schedule of the tender as it was done secretly. Now, the contractors of one district can easily view the tender publications of other districts. Thus transparency is there in tendering, which ensures more accountability of the system.

Public procurement in Bangladesh is manipulated and mismanaged at different levels of government. The importance of ICTs to ensure transparency in public procurement has already been discussed in the policy process. The government is going to develop an e-procurement system to ensure transparency and accountability in using public funds. Procurement policies of different development partners need to be uniform. Reform is also needed in the donor's procurement policies simultaneously with government initiatives. In Bangladesh, reforms in the public procurement were initiated in 2003 by formulating a regulation that was replaced by a public procurement act in 2006. For smooth implementation of the act, public procurement rules were introduced in 2008. The Internet is used for publishing information on biding processes in the RHD's website, which is accessed by different stakeholders including contractors and general public. Thus the Internet is expected to create a public contract system transparent and accessible to all bidders and contractors, resulting into a public procurement with the lowest possible costs. Hence the use of ICTs is critical to introduce more efficiency and transparency in the administrative processes of RHD.

The Executive Director in Case R opines:

> *Resources are much higher in the public sector. Irregularities in tendering can be minimised. We can minimise 'conflict of interest' in tendering by introducing e-Government in the public sector. For instance, a patient gets admission in a hospital. If he knows the right amount of the entry fee, he will only pay it; he will not pay the extra money. So, we need to provide correct information through e-Government. We need to improve service quality and that will signify improved transparency in the system. Public institutions will be more functional as a result of improved levels of transparency in their systems. Parliamentary standing committees will also be more effective as an outcome of increased transparency.*

Overall, the respondent comments that transparency and public service provision are related to governance issues in a developing country like Bangladesh. Non-transparent bidding in procurement and favouritism in procurement and recruitment are the signs of mal

administration in the existing system. Ensuring better service delivery will enable public organisations to measure an increase in transparency.

Summary of Findings on Subsidiary Research Question 2

Government websites are the primary means of generating information to citizens. Passport and Immigration, BR, DWASA, BOI, CCH, and RHD have established websites and databases that provide huge information available to citizens, monitoring organisations, development partners and the government officials. These have been instrumental in enhancing transparency in their operations. The findings reveal that the deployment of the Internet in the administrative set-up facilitates enhanced transparency and openness that might minimise the monopoly of public officials. People now interact with government departments for a variety of functions, for example, collecting information about government rules and procedures, government forms, applying for permits and licences, and obtaining legal documents.

The website in the Department of Passport and Immigration provides a wide range of information including government forms, rules and regulation, which has increased the level of transparency. The ability to monitor the progress of a passport application by citizens has increased transparency. This removes discretion to delay and makes the procedures simple. In BR, the CSRTS and an informative web portal provides information regarding train fares and schedules, and makes the system transparent. The passengers also get information regarding train routes, ticket prices and availability of seats by sending SMS to a particular number. The enhanced transparency eliminates extra money to a middleman to obtain a ticket. Improving citizens' service delivery helps increase productivity by minimising time wasted standing in queues and seeking information. The BOST has increased transparency in BOI functions by means of providing information on rules and regulations and allows monitoring of the status of an application for a permit or licence. The website in the RHD provides information, data and notices to different stakeholders. CMS improves transparency and accountability through access to information and knowledge-sharing in the RHD. The databases of the projects, contractors and tenders disseminate much information, which may also reduce the scope for manipulation.

6.2.3 Findings: Subsidiary Research Question 3: What constitutes success in the implementation of e-Government? What is failure? Does e-Government design mismatch hinder its effect on transparency and if so, how?

E-Government initiatives in Bangladesh are in their infancy. However, some key issues are already evolving. These may be termed as the factors critical for successful implementation of e-Government. Such factors may also act as barriers in the adoption process. Barriers experienced in public-sector organisations may restrict the realisation of expected benefits and undermine the adoption. This section summarises the causes of success and failure of e-Government in the public-sector. Various public agencies have initiated e-Government projects and there is an increasing need to know how these projects can be effectively implemented to achieve the predicted benefits. The results of e-Government initiatives must be assessed to recognise the achievements and failures.

What underlies success or failure according to most of the respondents is the difference between expectation and reality; the less the gap the more the success and vice versa. The organisations need to minimise the difference between expectation and reality to make the initiative a success. The respondents see 'expectation gap' as the gap between the expectation of the users of e-Government practices and the actual benefits they obtain in reality. According to their view, the gap should be minimised.

Mostly e-Government signifies a broad project of technology transfer, adopting designs from one context to another. Since the concept and designs originate from the Western culture, the origins are largely different from local realities. What is common in this respect is that designers may remain external to the background and context of e-Government use. This may result negatively leading to problems when the users' background or context is misinterpreted by the vendors or designers. Since e-Government in Bangladesh is in a very preliminary stage, the respondents hold the view that it is too early to comment on failure or success in this process. Yet, they believe that, given the e-readiness in this background, a large gap may exist between the project design and public-sector reality. It could be a serious threat for e-Government, but, according to the respondents, design mismatch may not be the main reason for failure of the process, if any. This gap can be minimised by catering the design to a country's own requirements. A tailored implementation approach is, therefore, required for this country.

The findings also reveal that IT professionals here are in a position to modify the project design to make it more authentic, more like reality. For example, automation in the CCH is a triumph of development activities within the purview of public-private partnership. An excellent combination of PPP and BOOT is a sustainable way to automate the CCH functions. A unique triangle of a trade body-government-technology company emerges from this project. This is thoroughly a local initiative. Hence, public-sector managers are in the way of developing capacity to gain the knowledge of the technology, public trade and business and the role of information in the public sector.

According to the Chairman in Case M,

> *Mostly e-Government comes through technology transfer, adopting technology from one context to another. The origins of e-Government may be totally different from the recipient country since the designers are different from the local environment. We are in a preliminary stage of the process. It is true gaps are there between the project design and reality; however, design mismatch may not be the main reason for any failure of the implementation process. Political commitment and change in mind-set is important for an open government.*

E-Government projects in this context are imported through technology transfer and donor assisted programs. Over a period of time, this technology has to be ingrained in the local environment. The respondents hold the view that they might need to depend initially on expatriate knowledge and skills but that do not mean expatriate consultancy should continue for an indefinite time. As a developing country, Bangladesh may need to seek necessary guidance and advice from the developed world but, the design must conform to its own context. The respondents hold the view that if the public sector agencies endeavour to follow the design with values and knowledge totally different from their national context that would obviously have a negative impact and bring failure to their initiatives.

However, failure mostly occurs due to the effect of non-technical factors. The respondent from DCC cites the example of the national databank project in Bangladesh. The Planning Commission took the initiative to provide official statistics to ministries and other stakeholders. The project could not succeed due to various non-technical reasons. The respondent views failure occurs due to bad management, which involves lack of education, awareness, interorganisational coordination, skills and training, and most importantly lack of organisational culture. Overall, the respondents have identified several factors as responsible for the success and failure of e-Government initiatives. Among others, these are

political commitment, vision and strategy, change management, knowledge of public officials, and technological infrastructure.

The findings also reveal a number of cultural barriers to e-Government. It is expected that public-sector managers in charge of implementing the concept should be able to identify these barriers within and outside the organisations. For instance, organisational values may act against technological developments. It may be detrimental to electronic services as bureaucratic hierarchy can be challenged through intervention of technology. Given the norms and culture of the organisations, respondents apprehend that some departments may not be willing to exchange their business information with others, which they think may weaken their power and authority. A lack of organisational demand may remain there. Thus the ownership and control of information indicate that politics also acts as an obstacle. Organisational barriers are linked to attitudinal and structural factors, i.e. the senior management has to accept the strategic benefits of new concepts and absence of communication and coordination between functional units. The respondents also identify the legacy of government process established over a long period of time as another barrier. e-Government entails considerable changes in institutional set-up, which may lead to resistance in the change process. To optimise the potential, organisational culture, management strategy, mind-set, employee behavior and attitudes need to be tuned. In contrast, the problem of social exclusion caused by unequal access to the technology also forms a barrier from the demand side. Thus public-sector managers will identify the barriers from both supply and demand perspectives and modify the design according to those demands.

Findings reveal that there is no investigation to discover the ways government reforms can be achieved through the use of existing ICT infrastructure. There is in fact no need analysis to determine the requirements of the stakeholders. Mostly the projects are implemented without stakeholder participation. Key stakeholders' views are not taken in the analysis and design of the applications. It is true that, in a developing country like Bangladesh, e-Government projects have to be small scale. A pilot case should be implemented for the stakeholders to use a test version of the application. Initially, revision or alteration of traditional systems in the e-Government practices could be helpful.

The respondent in Case N states:

Why we could not succeed that much is possibly due to the fact that it had no definite time frame for its completion. A visionary leader needs to be there to develop a vision for a pragmatic reform. ICT Policy 2002 was not sufficient, it was totally misleading. Those who formulated this did not have sufficient knowledge on ICT. For example, they proposed to develop an ICT-driven nation in a six-year period (2002-2008), which was totally unrealistic. We can dream about an ICT-driven nation, but if it is a nonsense dream it can never be realised. How can a knowledge-based society be developed with the whole ICT in six-year period? It is absolutely impossible.

The respondent is of the opinion that initially ICT development was undertaken in a haphazard way. The government formulated its first National ICT Policy 2002 to effectively harness the power of ICTs. The aim of the policy was to develop an ICT-driven nation by the year 2008, which was unattainable. The policy could not achieve the targeted success due to an absence of direction and appropriate plans to attain the goals set forth in it. Thus the spread of ICT and e-Government initiatives were not uniform across the nation. According to the respondent, ICT development must be made duty bound and compulsory. Further, government strategy and IT were not aligned because of lack of planning. All these, according to the respondent, need to be harnessed to proceed with a new drive for e-Government.

For successful implementation of the initiatives, the holistic view of the organisation, its culture, system and employees, have to be synchronised. The findings across different agencies reveal several key themes associated with the success and failure of e-Government implementation. These can be categorised as institutional, resource, accessibility, and legal. Table 6.4 demonstrates these factors are critical for successful implementation of e-Government in this context. Among these four categories, institutional factor was considered to be the most significant one, continuing to surface in the interviews across the organisations.

Table 6.4 Factors for Successful Implementation of e-Government

Entities	Numbers of respondents who identified Institutional factor	Number of respondents who identified Resource factor	Numbers of respondents who identified Access factor	Numbers of respondents who identified Legal factor
Ministries (n=8) (n=number of respondents)	8	7	7	6
Implementing agencies (n=18)	15	12	14	13
Advisory body (n=10)	8	5	7	6
Development partners (n=4)	4	2	3	3
Professionals (n=6)	5	3	4	4

According to representative from Case J,

Actually we are at the initial stage of implementation. It is a continuous process, we cannot say we are 100% successful or we have failed totally. However, a compromise is there between the extent of change and risk for failure. Reducing the extent of change may increase the probability of success and vice versa. There are some factors contributing to its success or failure. If we analyse the causes of failure and try to learn from it, we can progress more. E-Government application should be strongly enforced by the government. Unless it is made compulsory, it will not work automatically. We need a vigorous e-Government strategy and its action plan. We have to devise our targets and action plans to achieve those targets. Strong leadership is crucial in this regard. For successful implementation, political and bureaucratic commitment is a must in addition to other infrastructural factors. We have many problems, we have a fund shortage, shortage of technical know-how, and however, it won't be too difficult to overcome all these if political commitment is there.

Respondents suggest a vigorous e-Government strategy and action plan should be in place. Meanwhile, government has approved the National ICT Policy 2009. Apart from this, government agencies also need to formulate their own policies for e-Government. Some of the respondents indicate that the absence of such detailed policy affects the adoption in their departments. Although the government has already developed an e-Government strategy and vision, agencies need guidelines for translating this vision into action plans. Respondents contend that failure is due to: first, lack of concrete and comprehensive government policy framework along with time frame and adequate resource allocation; and

second, the obsolete mindset of senior officials, and resistance to change from vested quarters.

Bangladesh as a developing country may lack adequate resources (financial or technological) to introduce the concept, but technology itself would not guarantee success unless a strong political commitment is there. The government needs to assess the cost associated with the gains and profits before introducing a new system. Technologies that are less costly are desirable for this developing country. Table 6.5 demonstrates the range of institutional factors (as identified by many respondents to be the most significant factor for e-Government implementation) that affects the implementation. Three sub-themes were identified under the factor of institutional category. Among these three sub themes, political commitment was the highest rated factor to influence the implementation process followed by administrative leadership and organisational set-up.

Table 6.5 Sub-Themes within 'Institutional' Factor

Entities	**Numbers of respondents who identified institutional impediments**	**Number of respondents who identified sub-themes**		
		Political commitment	**Administrative leadership**	**Organisational structure**
Ministries (n=8) (n=number of respondents)	8	7	5	5
Implementing agencies (n=18)	18	15	13	12
Advisory body (n=10)	10	8	7	6
Development partners (n=4)	4	3	2	2
Professionals (n=6)	6	4	3	3

Next to political commitment, administrative leadership and responsive management is needed to support a new initiative. The respondents observe that some government officials may perceive e-Government as a threat to their discretion since it is likely to break bureaucracy, which is not desirable to many of them. Hence, putting e-Government into practice is not easy. Unless administrators in the public sector devise new strategies and

adopt e-Government culture, it may not succeed. Government employees should be ready for new ways of dealing with new technologies.

Several respondents argue that absence of an e-Government champion to drive initiatives is another hindrance. An e-Government champion could be, according to their views, a senior manager who has commitment, authority to plan, and can guarantee sufficient funds. One respondent cites the example of the Dhaka Electricity Supplying Authority's (DESA) creation of a client database with donor assistance which is later followed by the Rural Electrification Board's (REB) creation of a similar client database bigger than that of DESA with the help of local experts. Thus success may be guaranteed by selecting public agencies and e-Government champions with vision and already developed their own thoughts, ideas, and seek support. The respondents also emphasise the need for senior management's buy-in and support across the agencies.

Following that, the lack of skills and capabilities within the government is also important. The respondents identify the lack of skilled IT professionals as another major barrier that restricts success. The respondents indicate the problem of attracting and retaining trained IT staff in the government. Further, the turnover rate of IT staff in the public sector seriously affects the progress. The respondent in Case N suggests that, for effective implementation, policy guidelines on human resource development should be undertaken. Instead, the agencies will run short of trained manpower. A need for policy on human resource development is, therefore, highlighted in e-Government strategy. There should be a pool of dedicated people who will work for the nation. Case N representative suggests cadre for IT professionals should be in place to be recruited in different parts of the country. The issue of adequate payment to skilled IT people is also a hindrance. Bangladesh is still lagging far behind in e-Government initiatives compared to other South-Asian countries. Many a time e-Government is seen as buying hardware, doing some word processing, and tables, graphs etc. It is not seen as making the business more efficient, transparent, and a tool for cost-effective service delivery. This is a major public sector management issue.

Respondents in Case E and C are of the opinion that IT departments (in their organisations) are not properly equipped with skilled manpower. Some posts are still vacant for a long time, which warrants management's immediate intervention. IT personnel are not well paid; the existing pay scale of the government is not conducive to attract the right people to

manage these initiatives. They caution, if there is any failure in the process that will be due to lack of skilled manpower to run the system and non-cooperation from the management.

The respondent in Case E views:

Donors who finance the projects also want to continue for a long time. They may want the system to fail so that they can stay more. Following the completion of the project, we are committed to run it on our own. However, the IT department is not properly equipped with skilled manpower. Some posts remain vacant for a long time. IT personnel need to be certain about the prospects of their career in the government service.

Table 6.6 presents different sub-themes within the 'resource' factor. The findings reveal three different sub-factors/themes identified under the resource factor. 'Human resource' was perceived by the highest proportion of respondents to be the most crucial factor for e-Government. Then 'technology' and 'finance' issues were the other important factors identified by the respondents.

Table 6.6 Sub-Themes within 'Resource' Factor

Entities	**Numbers of respondents who identified corruption**	**Number of respondents who identified sub themes**		
		Financial	**Human resource**	**Technology**
Ministries=4 (n=8) (n= number of respondents)	8	6	8	7
Implementing agencies=9 (n=18)	18	13	16	15
Advisory Body=5 (n=10)	10	6	9	7
Development partners=4 (n=4)	4	2	3	2
Professionals (n=6)	6	5	6	4

Similar to this the respondent in Case N says:

It is true that IT literacy among the government officials is not satisfactory. Moreover, IT posts are not created nationwide. For example, a System Analyst – it is a block post. He/she cannot serve elsewhere if he/she is posted in a government department. They have no scope for further promotion, remuneration etc. So, they become demoralised. IT posts creation is not adequate with the needs of the country. Government still recruit 'Steno Typist', which post is obsolete and no longer required in public-sector agencies. On

the contrary, computer literate IT professionals like System Engineer is not recruited. This substantially hinders the success of ICT development in the nation.

The respondents consider financial constraint as an important factor but do not consider as a major concern in this regard. Although the assessment of all accomplishment is done so far on the basis of other country's experiences, if Bangladesh as a developing country is committed to use its resources economically, funding will not be a serious threat. The respondents mention two per cent of government budget allocation (in addition to donor support) is available for ICT development as the ICT policy (BCC, 2002) states that government spending in ICT shall be increased to at least two per cent of the Annual Development Program (ADP).

This is reflected in the version of the respondents from two organisations below:

We have resource constraint. Sometimes we cannot cope with the latest technology. However, we do not think resource is the main barrier. We have to train the officials; many of them do not know how to operate a computer. They are hesitant to learn about new technology. Further, we have a shortage of legal instruments. Email is not officially recognised and if you want to start a paperless office, there is no legal support for this. We can develop some customised software but that is not enough. Electronic filing is not officially accepted. The overall e-Government scenario in the public sector is not encouraging. However, things are moving slowly… (Case P respondent)

The respondent in Case T comments:

We concentrate too much on supply side, too little on demand. We put a narrow focus on demand side. There is no stakeholder involvement in designing the projects, e.g. study tour projects of the government are based on 'Oracle', but why? It may be due to the fact that it offers overseas training so that people will be attracted to visit a foreign country. The e-Government initiative is generally led by technicians (supply-driven) in our context, which in fact needs to be governed by the leader, the head of the department.

Table 6.7 identifies the different sub-themes under the 'access' factor and highlights awareness-building was of primary importance to the respondents. The access factor has been classified into three sub-categories: awareness, (lack of) education and purchasing capacity. It is evident from this table that lack of awareness is the main cause of hindrance.

Table 6.7 Sub-themes Under the 'access' Factor

Entities	Numbers of respondents who identified access impediments	Number of respondents who identified sub-themes		
		Awareness	Education	Purchasing capacity
Ministries (n=8)	8	7	6	5
Implementing agencies (n=18)	18	15	13	12
Advisory body (n=10)	10	9	7	6
Development partners (n=4)	4	3	2	2
Professionals (n=6)	6	5	4	3

Another issue, according to the respondents, is the low accessibility of the Internet to the mass population. The initiatives taken by government will not serve the majority unless accessibility and affordability are addressed. The respondents identify the digital divide as the potential barrier in this respect. The digital divide affects willingness to use it. E-Government should address the needs of those beyond the boundary of well-offs. Government has to serve the society irrespective of class and physical presence. Thus online services need to be designed with appropriate interfaces. The respondents consider awareness is also significant which they identify as a major barrier to accessibility. They believe e-Government services will be useful if people are aware of them. They tend to signify education and outreach programs as important and essential for publicising the benefits. Describing the lack of awareness, knowledge and understanding of the use ICTs, the Case O respondent illustrates:

In 1992, Bangladesh failed to avail of the opportunity to be linked with others through submarine cable. That time AT&T offered free access to Bangladesh. It was due to inadequate knowledge and awareness, this landmark proposal was not considered. The government was not sure about it and it was based on the perception that it could be a threat to national security. However, after a long time, we have been connected recently through spending huge revenue compared to that price. We have not only lost our foreign currency but also lost the crucial time for making progress with the globe.

Comments such as these continued to surface in the interviews with the respondents from the implementing agencies, development partners and professionals. Most of them voiced

their realisation of the need to create access for the effective implementation of e-Government.

The respondent in Case A views:

Resistance may come from those who are afraid of losing their jobs, and could be a menace to the system. Resistance also comes from those who benefit from the manual system. They are afraid of losing their discretionary powers. Government should campaign for the benefits of e-Government and offer vision for the public servants. Let us think about the use of ICT for passports and other government forms available through government websites. This saves citizens' time, money and hassles to be physically present at the government offices. Similarly, automation in railway ticketing and reservation system is another important e-Government initiative for the benefit of the people. People will be aware when they see the result of any reform. Hence demonstration through qualitative and quantitative changes would in turn convince people and create awareness.

The respondents then identify absence of a comprehensive regulatory framework is another barrier to ensuring adequate security and privacy. They observe the use of ICTs by government faces legal or policy barriers. They suggest politicians must ensure that laws are revised to endorse electronic documents and transactions. Table 6.8 lists the legal factors, which have been classified into three categories: laws, privacy and security needs for successful implementation of e-Government. It is evident from this table that regulatory impediments were uttered strongly by the implementing agencies, development partners, and professionals.

Table 6.8 Sub-Themes within Legal Factor

Entities	**Numbers of respondents who identified Legal impediments**	**Number of respondents who identified sub-themes**		
		Regulatory framework	**Privacy**	**Security**
Ministries (n=8) (n=number of respondents)	8	7	5	5
Implementing agencies (n=18)	18	18	15	14
Advisory body (n=10)	10	9	7	6
Development partners (n=4)	4	4	3	2
Professionals (n=6)	6	6	5	5

All the implementing agencies mention that they require a strong regulatory framework and its compliance for its success. It is imperative for the implementers to be guided by certain rules and regulations as illustrated in the comment below by Chairman in Case M.

> *For transparency or successful implementation, a range of legislative changes is required. Knowledge-sharing will be hampered in the absence of legislation and organisations will not cope with the issues of public access, privacy and security, which control the dissemination of information. Openness laws are the key for e-Government success. Transparency and accountability need to be strengthened in the form of policy and legislation.*

Comments such as these continued to surface in the interviews with different categories of the respondents. They acknowledge the need for creating the regulatory provisions for effective implementation of e-Government. In sum, the respondents hold the view that introduction of e-Government is not straightforward and cannot be accomplished overnight. It needs a strategic framework approach to publish public information and services online. Political leadership and commitment is the most critical factor for successful implementation of e-Government in Bangladesh.

Summary of Findings on Subsidiary Research Question 3

What underlies success or failure according to most of the respondents is the gap between expectation and reality; the less the gap the more the success is, and vice versa. For effective implementation, the holistic view of the organisation, its culture, system and employees, need to be synchronised. The respondents in the case studies have identified several key factors responsible for successful implementation of e-Government, which are institutional, resource-related, accessibility, and legal.

According to the respondents, technology is important, but technology alone cannot ensure success unless a strong political commitment is there. The government needs a vigorous e-Government strategy and action plan for its success. Respondents view failure is due to: first, lack of concrete and comprehensive government policy framework along with time frame and adequate resource allocation; and, second, the obsolete mindset of senior officials and resistance to change from vested quarters. Research findings reveal that organisational culture is one of the key barriers to e-Government implementation. In order to optimise the potential, organisational norms and culture, management strategy and employee mindset,

behavior and attitudes need to be aligned. The respondents have identified the legacy of government processes, which were established over a long time, as another barrier. As e-Government entails significant changes in organisational set-up, may lead to resistance to the change process. After that, the lack of skilled IT professionals seems to be another major barrier that restricts success. The issue of adequate payment to skilled IT people is a serious threat in this regard. The accessibility of the Internet is also significant. In order to succeed, the issue of accessibility and affordability should also be considered. The findings reveal the digital divide as a potential barrier to these. E-Government efforts of the government should address the needs of those beyond the boundary of rich people. It must consider the affordability of the poor. The benefits of e-Government should not only be limited to the rich, it should also be made available to the disadvantaged. The findings also observe the use of ICTs by government faces legal or policy barriers. Absence of a comprehensive regulatory framework is another constraint to ensure adequate security and privacy. Finally, awareness is considered to be the most important factor. The respondents believe e-Government services will be useful only when people know it. Overall, the respondents view strong political leadership and commitment is critical for successful e-Government implementation. Simultaneously, it is mandatory for any initiative to ensure management support, skilled human resources and useful IT training and support.

6.2.4 Findings: Subsidiary Research Question 4: Does disintermediation help in improving transparency?

Disintermediation is the elimination of intermediaries in the delivery of public services. The objective of introducing e-Government in Bangladesh is not only to computerise the internal functions, but also to remove intermediaries in the government businesses. The respondents are of the opinion that disintermediation is the withdrawal of intermediaries, i.e. elimination of the middleman in the business transaction process. It is the removal of conventional intermediaries, i.e., the middlemen. An intermediary could be any person or agency who performs on behalf of both the customers and the service providers to benefit both the parties involved (Oldenburg, 1987). The cost of getting information through middlemen is one of the reasons for high cost of service delivery. Therefore, there should be an end to the traditional intermediary. Although disintermediation helps increase transparency and reduces the scope for corruption, a concept originated from private sector practices, it is still far from being introduced substantially in the public domain in Bangladesh.

The respondents in cases CCH and DCC view that work done manually in the pre-automation phase used to take three to five times longer than in the new automated systems. Absence of human intermediaries in dealing with government introduces efficiency and transparency, which may in turn reduce the scope for corruption in these organisations. Research findings indicate that by replacing the services of middlemen, disintermediation enables the citizens to gain access to information and services directly. In organisations like CCH, DCC, and RHD, disintermediation has provided information that was very complex and time-consuming to get through traditional manual systems.

The respondents are of the opinion that disintermediation removes the time delay caused by intermediaries. It replaces physical effort and manual skills, increases the rate at which physical operations can be carried out, and generates information that can be used by human operators to improve control. The research discovers automation minimises the human interface in the organisations investigated. For instance, the payment of 'speed money' and the understanding between the concerned official and the investor in BOI, Clearing and Forwarding (C&F) agent and inspectors in CCH, and the revenue collector and administration in DCC, to evade duty and tax have been greatly reduced. The IT Consultant in Case H holds the view that the absence of human intermediaries in dealing with the government may reduce the scope for corruption in various. He states:

> *It is true that human contact increases the chance of corruption. However, it is not practicable to avoid the human contact fully right now. The need for some human contact points are still there. What we need is to develop some standard requirement of services. For example: file tracking system of BOI-we need to simplify the procedure. If it is there, corruption will reduce automatically.*

However, the respondents caution that if the drivers are not that powerful, it may not bring the expected results. Absence of human intermediaries may reduce the scope for manipulation, but it will take time to reduce human contact and depend on full automation. According to the respondents, it is not the right time to withdraw the human intermediaries at this initial stage of e-Government adoption in Bangladesh.

The Assistant Country Director in Case T, Bangladesh elaborates that disintermediation cannot stop corruption to a great extent unless supported by the top. He explains:

> *Corruption can be prevented if contact points (human intermediaries) are reduced. However, ICT alone cannot reduce corruption unless systemic changes take place. E-*

Government will be able to reduce corruption if supported by the leaders from the top level. Integrity of public officials is critical to reducing corruption.

Hence, the stakeholders hold similar views to those of the implementing agencies. However, disintermediation through abrupt replacement of physical presence is not practicable under the existing governance system. Findings reveal that there is still a need for human presence and informed intervention in the process of automation. Automation in various agencies replaces physical presence, increases the output and provides information regarding their services. This information management complements, rather than replaces human capabilities.

Summary of Findings on Subsidiary Research Question 4

By replacing the services of middlemen in various public agencies, disintermediation enables the citizens to gain access to information and services directly. However, the departments at this stage are not ready to undergo full automation. Personal contact is still significant in the public delivery system. Touch points cannot be totally reduced. Although the absence of human intermediaries helps increase efficiency and transparency, which may in turn limit the scope for corruption, it will take time to reduce human contact and depend on full automation.

6.2.5 Findings: Subsidiary Research Question 5: What variations in e-Government (results) are found in practice and what effects do these variations have and why?

The respondents have notified differences between departments. Results show that the quality and range of government information and services vary largely across the organisations. Variation is caused by the fact that e-Government application depends on the nature of services and the rules of business of each department. In fact, different departments have different approaches for delivering their services. Some departments are much more citizen-oriented than others. For example, DCC, Passport and Immigration, BR all have mandates to fulfil customer demand, in contrast to CCH, LGED, RHD and others. The respondents observe the leader's commitment and interest largely contribute to achievement of success despite many bottlenecks in the process. The mode of their service delivery is efficient and cost effective. Customers remain consistent with the service they provide. This will eventually ensure good governance and enable them to be more democratic.

There are differences in terms of degrees of implementation. Some departments have become efficient and others are lagging behind, which is frustrating for the service seekers. The respondents endorse that departments that are advanced can discharge their functions and responsibilities more efficiently and cost effectively, customers are better served, receive fewer complaints from the clients, and transparency in the whole systems is improved. Findings reveal that strong leadership and clear vision has been central to the success of e-Government. Only a visionary leader can bring this change in his/her department. The organisational head plays a vital role in initiating any change in the department. Until recently, a change in the administration in Bangladesh, like introducing e-Government, is undertaken through personal initiatives in addition to government directives. The respondents acknowledge that they need to learn from failure. If e-Government does not function properly, transparency cannot be improved, and may lead to failure of the project. The respondents state that for e-Government implementation, the whole-of-art depends on the goals and strategy of the organisations. The organisations have to define its target and action plan to achieve those targets. Effective monitoring ensures successful implementation of the projects. The organisations need to examine the risk factors involved, check the defects and resolve it accordingly. They need to plug in all those very quickly.

In regard to variation in results the Chairman in Case M states:

> *Commitment and motivation must be there. We need to implement the projects on time, nothing should be delayed. We can achieve this under constant monitoring and observe the progress at certain intervals. We have resource (funding) constraints but that is not a big issue. Officials do not know about the computer and they do not take any interest. They solely depend on the system analyst. So, it has to be made compulsory. A strategy, action plan, should be there with time specification. For all these, political commitment bears the same weight. Like Chandrababu Naidu in India, we need visionary leaders. The leader (political and administrative) has to be motivated to bring some changes in their departments. It depends on the democratic environment of the institute and efficient management of the system. Everything will be clear and transparent then. If we cannot perform it in this way, failure is a must. Partnership is important for obtaining resources and efficient outcomes, which also facilitates knowledge and technology transfer. Overall, inter-department coordination is crucial.*

The respondents hold the opinion that a leader in an organisation is the key to initiate any change. Successful adoption of ICT mainly depends on the role of the head of the department. A project cannot succeed without the interest of the leader. The Secretary in

Case O views:

Champion of e-Government and the leadership role is most important in implementing a concept like e-Government. The success depends on the acceptability of the leaders, political and administrative. Their positive attitude leads to the success of the implementation. In my experience, I have seen the young generation is more positive to accept a new concept. They are actually very responsive to adopt modern tools. Therefore, I strongly believe that the upcoming new generation and the fresh batches of civil servants along with others involved in this will uphold the initiatives.

Table 6.9 presents different sub-themes within the 'variation among department'. The findings reveal three different sub-themes identified as the causes of variations, like 'leadership role', which was perceived to be the most important factor for variation (by the highest proportion of respondents). A closer examination reveals that 'strategic partnership', 'stakeholder participation' and 'resource' were the other important sub-themes identified by the respondents in the implementing agencies. For example, 16 out of 18 respondents from implementing agencies mentioned leadership role as critical for successful implementation of e-Government and a major cause of variation.

Table 6.9 Sub-Themes within Variation between Departments

Entities	**Number of respondents who identified variation among departments**	**Number of respondents who identified sub-themes**			
		Leadership role	**Strategic partnership**	**Stakeholder participation**	**Resource financial/human/ technology**
Ministries (n=8) (n=number of respondents)	8	5	4	4	3
Implementing agencies (n=18)	18	16	13	13	12
Advisory body (n=10)	10	8	7	7	6
Development partners (n=4)	4	3	3	3	2
Professional (n=6)	6	5	5	4	3

The Joint Commissioner in Case B views that the departments in which planning is usually undertaken through collaboration, training and change-management initiatives, are doing well. In most of the donor-aided projects, the implementation approach is top-down, while the bottom-up approach is undertaken in home grown projects. Due to mass participation, the latter succeeds in most cases. Success also depends on the funds available for ICT

installations. Donor support is an enabling factor in this. So far, departments handling donor-supported programs may implement e-Government more successfully than those who cannot afford this. It is reflected in the following comment:

In some departments the approach is top-down and in some departments it is bottom-up. The latter approach is more successful. However, the role of the head of the department is very crucial. He is the key person in pioneering any change, he is the change agent. Funding is always a constraint in a developing country like Bangladesh but is not the main hindrance. For a successful completion of a project, partnership and stakeholders' direct involvement is important.

Findings reveal that partnership and collaboration between government organisations and private bodies can be useful in initiating reforms and expedites the implementation process. Respondents hold the view that success is also due to stakeholders' active participation in automated projects like the one in the CCH. Private companies were chosen for designing an e-Government where software development, training of staff, data entry and maintenance are outsourced to the private sector.

With regard to the availability of funds, the Programmer in Case E remarks:

Source of funds could also be a cause of variation in results. We have sufficient funds, manpower and expertise compared to other departments, e.g. Bangladesh Railway. They had to suspend some projects due to lack of ICT infrastructure, funds and skilled manpower.

However, the IT Consultant in Case H states:

Finance should not be a big problem as government has resources. Two per cent of the budget is being underutilised, which could have been used for IT development. In addition, there are many donors to support it.

Nevertheless, respondents view that the size of funds available for ICT installation is important. Some mentioned that source of funds could also be a cause of variation as departments sometimes have to suspend projects due to lack of ICT infrastructure, funds and skilled manpower. Funding, however, may be a cause of difference, if not a hurdle. Overall, according to the respondents, the factors that are the major causes of variations and may lead to failure are: leader's commitment and interest; attitude and mindset; knowledge and skill; ICT infrastructure; website design failure; IT manpower and their skill; shortage of funds; organisational internal environment; and legal support.

Summary of Findings on Subsidiary Research Question 5

There are variations in results between departments due to several factors. Findings reveal variations in results depend on the nature of services offered by the departments and their rules of business. It suggests that these variations occur first due to effective leadership. It is obvious that leadership commitment (political and administrative) is vital for any reform to succeed. The initiatives and leadership of the head of the organisation have contributed to the successful implementation of e-Government. Government projects often stop midway due to shortage of funds and delays in exploring further funding. Variations also occur because of the fact that some departments involved with development-related activities receive a significant share which enables them to initiate projects for ICT development. Ongoing professional training and awareness programs have also been the reasons for sustainability.

6.2.6 Findings: Subsidiary Research Question 6. What role does the ICT Task Force play in implementing e-Government? Are government departments authorised by the Task Force or have they autonomy to implement the system?

The National ICT Task Force was formed and headed by the Prime Minister in 2001. It is the highest ICT policy making body in Bangladesh, making major ICT policy decisions. The apex body was expected to guide the updating, implementing and monitoring the ICT policy in order to make the best use of ICT. According to the respondents, government organisations are not authorised by the Task Force. Public agencies developed their ICTs by their own initiatives, which are being updated from time to time. Although it is a high-powered steering committee dealing with the policy guidelines, it is not widely known to various public sector agencies.

According to the respondent in Case J,

> *The National ICT Task Force does not take routine IT decisions. The ministries and their attached departments are guided by the relevant IT rules and regulations. They are mainly implementing GOB-funded projects. They do not need to be directly regulated by the ICT Task Force. However, there are projects, for example, A2I Program (Access to Information) under the Task Force, which is coordinating the implementation of e-Government with government agencies.*

The ICT Task Force encompasses the members from cabinet, ministries, academia and the

industrial sector. The Task Force determines some areas for implementing pilot projects. The committee suggests that ministries and other public agencies need to be computerised through ICT-led technologies. To materialise the decisions of the Task Force, the government implemented a number of initiatives: interactive website for the job search and other information for the benefit of expatriates under the Ministry for Expatriate Welfare and Employment Opportunities; interactive website for downloadable and submittable forms, online complaints, billing information under BTTB; and digitisation of information on land, e.g. land records, documents, maps etc.

This apex national body was expected to monitor the overall ICT policy in order to make best use of ICT, which in fact could not be accomplished properly. The Case N respondent states:

> *Relation between the task force and the Ministry of Science and ICT is not clear; the key members in supporting the task force have other commitments which conflict with this role. It is to be noted that government strategies are mostly broad and ambitious to the scope of ICT policy change, which makes the government rush to do everything at once, and thus, under-delivered. Second, governance structures and processes are unclear and not coordinated. Many bodies are involved in ICT governance, which in fact creates no accountability at all.*

The respondent continues that in 2002, the Support to ICT Task Force (SICT) was formed as the key public-sector project to expand ICT for development. The project began its operation from 2003, being formed to execute task force decisions. However, the Task Force has been mostly inactive and thus the SICT could not assist the task force to a great extent.

Most of the respondents (Cases A, C and D) are of the opinion that they are implementing e-government on their own initiatives. They are not regulated by the ICT Task Force, being autonomous. To their knowledge the ICT Task Force is a high-powered body, mainly looking at policy issues. Generally, the agencies get directives (on ICT-related matters) from respective ministries, which might have connections with the Task Force.

The representative in Case F states:

> *We are not authorised by the ICT Task Force, we are autonomous and implementing our projects independently. Other than policy making, they could not prioritise what they should have done. We have designed and implemented our project in consultation with*

concerned stakeholders. ICT Task Force is a high-powered body looking at ICT policy issues. However, we follow the policy guidelines made by the Task Force but not directly related with it. It could have been better if there is any link between us.

The new government came in power in 2009 and reconstructed the National ICT Task Force to form a 23-member high-powered task force renamed as 'Digital Bangladesh Task Force' to achieve the objectives of Digital Bangladesh by 2021. However, the ICT Task Force needs to be reinforced with new insights to fulfil the vision of 'Digital Bangladesh'. It would require a better track record than it had in the past. The Prime Minister has the mandate to develop a digital Bangladesh by 2021, which has ushered in new hope to the whole nation. Bangladesh in the mean time has earned some experiences on digitisation from a number of national ICT projects, for example, Chittagong Customs Automation System, Internet selection of Teletalk mobile user, machine-readable digital passport project and the successful computerisation of national voter identification.

National ICT Policy 2009 has been revised to function as a milestone for 'Digital Bangladesh'; a concept for the use of IT for management, administration and governance to ensure transparency, accountability and responsiveness at all levels of society and state. It offers a framework of a policy pyramid to achieve the nation's ICT goals through 306 action plans. Findings reveal that the government needs to fulfil these action plans systemically to pragmatise the vision of 'Digital Bangladesh'. It was apparent from the findings that e-Government is the main focus of Digital Bangladesh. The Task Force has been re-empowered to take an integrated initiative to improve public management and make it transparent.

Findings also reveal that ICT development relates to quick decisions and prompt coordination among ministries, which mainly depend on the direct intervention from the head of the government. However, this may delay things if the Prime Minister of the state has to check everything. Some key ministries may be held responsible for executing such operational matters. If these are taken to the chief executive for his/her decision, this may take longer to achieve. The respondents hold the view that the line ministry for Science and ICT and its subordinate agency, i.e., Bangladesh Computer Council (BCC), need to be strengthened to implement the ICT policy within the stipulated time frame. A combination of these could be the best way when the prime minister observes the ICT priorities

simultaneously with the ministry to manage the development of ICT through ICT professionals.

Overall, the respondents opine that the Task Force has authority and power but could not perform their role properly for the overall ICT development of the nation. The members of the Task Force are not visionary. Some also view them as inefficient. Thus ICT development was not accomplished in an appropriate manner. They need to determine the problems regarding ICT and then coordinate accordingly. They failed to perceive the existing ICT condition in the country and could not provide specific guidelines.

Summary of Findings on Subsidiary Research Question 6

The national ICT Task Force is a high-powered body dealing with ICT-related policy guidelines. Findings reveal that it could not perform its role properly. Public-sector agencies are autonomous, not regulated by the Task Force. They are implementing their projects on their own initiative. The National ICT Task Force and its role are not very known to most of the departments. Hence, there is disappointment about the effectiveness of the Task Force. The new government already declared 'Digital Bangladesh', which is an idea of the using IT for management, administration and governance to ensure transparency, accountability and responsiveness at all levels of society and state. E-Government is considered to be the central theme of Digital Bangladesh. Findings also reveal that ICT development depends on prompt decisions and coordination among ministries and departments, which depend on the direct supervision from the Prime Minister (head of government). As such, this may delay things if the chief of the government has to check everything. The line ministry for Science and ICT and its subordinate agency BCC can be empowered to implement the overall ICT development within the stipulated time frame in the policy.

6.2.7 Findings: Subsidiary Research Question 7: Does e-Government reduce corruption?

Some of the e-Government applications in different public-sector agencies have attributed a number of benefits to the stakeholders. Implementation of e-Government in this context is still in a very early stage and yet to fulfil its potential despite many obstacles in the process. At this stage of adoption, evidence on the anti-corruption effect of e-Government in these organisations is virtually non-existent. Available information is only anecdotal. However, it

is evident from the findings that e-Government can bring transparency into public administration and politics. According to the respondents, the enhanced transparency might have an effect on preventing corruption. However, e-Government and ICT alone cannot put an end into it. To increase the probability of disclosing corrupt activities, it must be accompanied by other measures, for instance, minimising corruption opportunities and strengthening control mechanisms.

The departments under investigation have been identified to adopt ICTs to streamline their internal processes purely because of their citizen interface. Therefore, looking at the high level of citizen centricity, it is expected that adoption of e-Government will have a positive impact to ensure customer satisfaction for their services. Manual file processing in the pre-automation phase involved several steps and was a lengthy process in which it took couple of months to make a decision. The departments now have set up websites and built their own database for internal use. Through process automation some of the operations have been computerised. Citizens are given a track number to enable them to know the latest status of their applications for any service.

The objective of CCH automation was to boost revenue and control irregularities by means of increasing its efficiency. This automation helps the CCH to check the evasion of revenues. One of the important benefits of the system is that it facilitates measurement of service levels. The supervisors can now monitor processing delays. An inspector cannot raise unnecessary queries. Dues are collected before and duty drawback goes to a bank account. The payment of 'speed money' and the understanding between the C&F agents and inspectors to evade duty has been reduced. A cargo-handling agent can now file an electronic bill of entry from its own office. The bill of entry is processed online at different workstations. The system has resulted in increased efficiency, quicker transaction processing, and improved transparency, which may lead to less corruption.

At this early stage of implementation, the respondents in various public agencies are, in fact, not in a position to express the extent of corruption reduced through automation. Reduction in corruption cannot be measured (in terms of percentage or money) at this stage of e-Government development. However, the changes occurred after computerisation could be observed in this instance.

The Chairman in the Case M states:

Timely service delivery and the degree of transparency may indicate the reduction in corruption. If we do not get the service on time, we have to think about other ways of having services. We try to offer a bribe, which is corruption. Reduction in corruption indicates reduced cost of service and less complaint, customer satisfaction etc. In the past, people had to move after their file, with decisions on assessment of goods in the process of Bill of Entry, which took a long time to get a decision. Now, chances are low to take extra money from the businesses as we have minimised the steps and simplified the process. So, there is no unexpected delay.

In order to investigate whether e-Government can reduce corruption, it was deemed important to understand the way corruption is hindered after introduction of e-Government. If the respondents know the ways e-Government facilitates citizens' access to information and public service, they may remain in a position to comment on e-Government's influence on corruption. The respondents mention enhanced efficiency in the government, i.e. better service delivery, no extra payment to get any service, fewer complaints, customer satisfaction, customer feedback, enhanced rate of results and targets achieved, could be some of the indications of reduction in corruption in the public sector. Reduction in corruption is also visible from reducing the number of steps for approval, reducing the number of intermediaries, online approval, reducing scope of using discretionary authority, etc. The respondents acknowledge the fact that they did not practically measure reduction in corruption since the inception of e-Government in their departments. However, they can perceive the reduction in terms of better service delivery, which is manifested through reduced delivery time and cost from the perspective of both the service provider and the service seeker.

The respondents express that measuring the reduction in corruption is difficult and hard to cost it. It cannot be measured in terms of money. However, they assess the reduction in several ways: by notifying things online, degrees of standards, i.e. how faster services are being delivered, online financial management system, minimising bureaucratic hassle etc. following computerisation. WASA and DCC have increased billing and tax collection. Automation enables them to increase revenue in their departments. Before automation took place, there was a large gap between the targets and the actual collection of revenues.

The e-Government initiative in RHD involves the development of a website that publishes a wide range of information, data and notices to stakeholders. RHD's management systems

are designed as a set of databases. It has developed two management systems. First is the Road and Bridge Asset Management System (RAMS), a map-based system to streamline the planning of its maintenance and rehabilitation works. Second is the Central Management System (CMS), which is used as a day-to-day management, control and monitoring tool for the contracts and projects of RHD. CMS is known to be a powerful management and analytic tool that improves transparency and accountability through access to information and knowledge-sharing. CMS through web modules monitors RHD's functions externally and is expected to improve governance in the department. The databases of projects, bidders and tenders have disseminated substantial information on their services. The RHD is receiving a major share of the ADP, which may create a scope for corruption at every stage in the department. The databases of projects, bidders and tenders have disseminated substantial information, which in turn has minimised the scope for corruption. Subject to continuing political support, the databases and the website may be used as appropriate tools for combating corruption.

The Executive Chairman in Case H agrees:

> *We do not measure reduction in corruption in true sense. However, we can feel the reduction if we see there is reduced average service-delivery time, reduced cost of getting service, customer satisfaction and less complaint from citizens. Previously, people had to move after their files, which took a long time to get a registration from BOI. Moreover, people had to offer bribes to expedite the process. Now, chances are low in this way to take the speed money from general people as we have minimised the steps and simplified the registration process (six to four steps). So, there is no unexpected delay and the registration process takes time from four to six weeks only compared to several months before.*

Automation in the Passport and Immigration department leads to standardised procedures for delivery of passports and visas. The Director General in Case A says:

> *Bureaucratic corruption can be minimised through the enhanced transparency achieved by electronic means. If administrative rules and procedures are made available on the Internet, no overregulation would be there.*

Ability to monitor the progress of passport applications has increased transparency while removing discretion to delay, and makes the procedures simple and transparent. It automates routine matters, e.g. workflow and file numbering. Employees can now perform more value-added work. Both the citizens and the employees benefit from transparent movement and tracking of files. Corruption can be minimised by increased transparency in the

administration. Thus automation cuts down processing time, improves quality of decision-making and lowers corruption. Thus it is hoped that in near future bureaucratic corruption the CCH, DCC, RHD, WASA, BOI and Passport department may be effectively minimised through the technique of increased transparency and enhanced efficiency achieved through modern electronic media.

Summary of Findings on Subsidiary Research Question 7

Since e-Government is in a very initial stage in Bangladesh, no concrete evidence of a reduction in corruption is found in those organisations. Corruption reduction in fact cannot be measured at this stage of implementation. However, the organisations could perceive the potential through improving transparency and accountability in their functionalities. Government websites are the principal source of generating information to citizens. The organisations, viz. CCH, DCC, RHD, LGED, Passport and Immigration and BOI have established websites and databases that provide huge information. It is evident from the findings that, if administrative rules, procedures and requirements are publicised in departments' websites, there would be no scope for overregulation and disorganisation. Adoption of e-Government facilitates people's access to information and public service, which may somewhat reduce corruption. The available information are tender notification and procurement, submission of web-based complaint, citizens' participation through online comment on draft legislation, computerised licencing and registration, automation of customs clearance, computerised holding-tax management, machine readable passports and visas (MRPs and MRVs) and so on.

According to the respondents, small bureaucratic corruption could be minimised through diversified means of high and enhanced level of increased transparency and openness created by the use of modern electronic media, effective vigilance and awareness of the people. Findings show that irregular money accepted by public officials in offering contracts or permits, approval of contractors' bills, assessing lower customs and income tax, etc. are examples of bureaucratic corruption. In general, the findings reveal that the deployment of the Internet in the administrative set-up facilitates enhanced transparency and openness, which in turn may lower the monopoly of public officials in CCH, DCC, Passport and Immigration, WASA, BOI to access information and to extort bribe from clients. Thus the deployment of increased level of ICTs may foster to strengthen the anti-corruption attempts against self-serving asset acquisition by the government officials.

6.3 Findings: Research Question: Does e-Government lead to greater transparency in the public management in Bangladesh?

This study aims to assess the effect of e-Government on transparency. It investigates whether there is any relation between e-Government and transparency at this current state of its adoption in Bangladesh. The respondents from CCH, DCC, RHD, BOI and others hold the opinion that e-Government can increase access to information and efficient delivery of public services. The respondents observe, in the existing governance practices in Bangladesh, it is difficult to get a licence, trade permit, work order and pension without offering 'speed money' to the concerned. The existence of corruption in the bureaucracy is widespread. Provision of service depends on the personal position of a citizen. Hence, e-Government introduces a new culture of transparency in the system, which may ensure equal treatment from bureaucrats.

With regard to increased transparency, the automation empowers CCH, DCC, RHD, BOI and others to have better control over the information flow, which enables decision-making based on available data. Thus knowledge and information gathered through various electronic media (Internet, broadband) would have exposed knowledge to the people beforehand.

Findings indicate enhanced efficiency in terms of minimising bureaucratic hassle, better service delivery, lower administrative costs, getting service without offering extra money, simplification of procedures and reducing steps for approval, faster and accurate responses to queries, reduced average service delivery time and cost, reducing the number of intermediaries, online approval, reducing the scope for applying discretionary authority, fewer complaints, customer satisfaction, customer feedback, increased rate of results and targets achieved, and so on. The respondents view the increase in transparency like: having control over information, which enables decision-making based on available data; sharing diverse services and information between government and citizens, businesses and other stakeholders; establishment of websites for generating information such as legislation, strategies, policies, regulations and other business and trade information; developing own database for provision of information for internal use; downloading government forms and legislations from the websites; licence renewal, trade registration, permits and paying taxes; computerisation of internal functions through process automation; and track numbers given to the customers for enabling them to know the status of their applications for any service.

These are the ways how the scope for manipulation has been reduced through increased transparency and enhanced efficiency in the departments.

Respondents state that the departments under investigation have been identified to adopt ICTs to streamline their internal processes purely because of their citizen interface. Therefore, looking at the high level of citizen centricity, it was expected that adoption of e-Government in the departments will have significant effects on client satisfaction with their information and services. The Chairman of Case M views:

> *The automation empowers CCH to have command over the flow and access to government information, which enables decision-making based on available data. Information is made accessible to the users which greatly facilitates the business and trade of the government. At any rate, the G2B transactions in CCH involve divergent services shared between government and the business entity, for example distributing policies, notices, memos, legislations. Apart from these, business services offered include getting latest business information, downloading government forms, renewing licences, registering businesses, getting permits, and paying taxes.*

The automation enables shipping agents, freight forwarders and stakeholders to submit IGM and EGM electronically from their own premises. Operation of the IGM/EGM module is facilitating the C&F agents' submission of documents at a reduced cost compared to the old manual system. Apart from C&F, this system also enables the exporters and importers to maintain all documents after getting the self-clearing licence. The new system attempts to streamline and shorten the procedures of the Customs House. The e-Government initiative in the RHD involves the establishment of website which publishes a wide range of information, data and notices to different stakeholders. The RAMS and the CMS are known to be powerful management, control and monitoring tool for the contractors and projects. CMS improves transparency and accountability through access to information and knowledge-sharing.

The respondents are of the opinion that the deployment of the Internet in their departments brings more transparency and openness, thus limiting the scope for government officials to monopolise access to relevant data and information. The respondents supplement that tremendous development of the Internet and other technological means enables government officials to be more efficient, responsive and accountable to their clients. All respondents state that they are just introducing e-Government in their departments which remain in a very early stage of adoption. They all agree with the fact that e-Government definitely

increases transparency. The respondents, without exception, hold the view that disclosure and dissemination of information to citizens is important to contain corruption. The key here is transparency. Governments monopolise information. In order to reduce existing malpractices, the monopoly of information should be reduced to enhance the accountability of the government. If people can actively participate in democratic decision-making, that might increase the accountability of government.

Summary of findings on the Research Question

The findings from these case studies support that e-Government can achieve transparency and openness in the government system. It enables the organisations to improve the level of transparency in the bureaucracy. The automation helps the CCH to introduce transparency in revenue collection through increasing efficiency. The RHD's website publishes information, data and notices to different stakeholders. In addition, the CMS and tender database improve transparency and accountability through access to information and knowledge-sharing, which is expected to improve the whole governance in the RHD. Computerisation of some internal functions in DCC benefits the clients to get more responsive and quicker services. The system publishes a variety of information about the services, permits and licences issued by DCC. The website in the department of Passport and Immigration provides a wide range of information including government forms, legislations, which have largely increased the level of transparency in the department. The ability to monitor the progress of passport applications by citizens has made the procedures simple and transparent. The CSRTS and an informative web portal provide information regarding train fares and schedules and a citizens' charter. The passengers also get information regarding train routes, ticket fares and availability of seats by sending an SMS to a particular number. The department website publishes the same information. The BR online database is applied for the SMS ticketing system. Online information on ticketing and reservation has made things transparent. By improving the level of transparency, it also eliminates the middlemen needed to get a ticket with extra money. Transparency and accountability can be measured by the number of citizens getting train tickets without spending extra money (bribery). It also signifies accountability, where transparency is perceived as the release of information by the institution. For a direct interface with the investors, BOI has created BOST to provide information on rules and legislations and to track the progress of the application for a permit or licence. This electronic file-tracking system has increased transparency in BOI functions.

The respondents opine that some mechanisms should be there to check these. The government organisations need to cross-check the systems so that citizens can put their grievances against these activities. This, according to the respondents, will make officials more accountable to control the unjust ways of doing things. Bangladesh, as a developing country, has to go a long way to be equipped with modern ICTs. It indicates high infrastructure costs for e-Government. However, the respondents view that the infrastructure cost is required only initially to improve transparency in the system to stop malpractices. From the analysis of these public sector cases, this study reveals some ways and means to improve transparency, openness and accountability through introducing e-Government in Bangladesh. In combination with other socio-economic and cultural factors, like economic infrastructure, education and rule of law, e-Government, a technological factor, may also help introduce transparency in Bangladesh.

6.4 Summary of Chapter 6

This chapter has answered the research question and the subsidiary research questions. The central theme of this study is transparency and openness viewed as the availability of information in the websites regarding government functions and delivery of services. Findings reveal that transparency is a tool to create a sense of responsibility among government officials.

Government websites are the primary means of providing information to the citizens. Different public agencies in Bangladesh have established websites and databases that provide substantial information to stakeholders. E-Government is showing astonishing potential for public-sector reform through efficiency gain and transforming governmental activities. Yet the positive effects of e-Government must be considered with its challenges. Being in a primitive stage of development, e-Government is slowly diffusing within Bangladesh. The lack of e-readiness is contributing to a major challenge. Adoption of e-Government often faces a variety of challenges in the public sector in Bangladesh. Although national leaders seem to be committed to adopt ICTs to establish e-Government, there are still obstacles to overcome. The findings reveal several key challenges in the process, which include barriers that are institutional, resource-related, access-related, and legal.

There are variations in results among departments due to several factors. Findings reveal leadership commitment (political and administrative) is vital for any reform to succeed. The

initiatives and leadership of the head of the organisation have largely contributed to the success of e-Government projects. Findings also reveal that partnership or collaboration among government organisations, private bodies and NGOs can be useful in initiating reforms and expediting the implementation process. It is evident that success is also due to stakeholders' active participation in automation projects.

Replacing the services of middlemen (disintermediation) in different organisations enables citizens to gain access to information and services directly. Application of technology for automating the physical process results in lower costs, increased efficiency, transparency, improved businesses and citizen services. Though the absence of human intermediaries may limit the scope for manipulation, it will take time to reduce human contact and depend on full automation.

The National ICT Task Force is a high-powered body dealing with ICT-related policy issues, but findings reveal that it could not perform its role as expected. Public-sector agencies are autonomous and not regulated by the Task Force. They are implementing their projects on their own initiatives. The new democratic government in the meantime declared the vision of Digital Bangladesh, which is an idea of the use of IT for management, administration and governance to ensure transparency, accountability and responsiveness at all levels of society and the state. E-Government is considered to be the central theme of Digital Bangladesh.

Since e-Government is at a preliminary stage in Bangladesh, there is in fact no concrete evidence of a reduction in corruption in those organisations. Reduction in corruption in fact cannot be measured at this stage of e-Government development. However, the organisations could perceive the potential to prevent corruption through improving transparency and accountability in their businesses. Government websites are the preliminary source of public information. The findings reveal that the deployment of the Internet in the administrative set-up facilitates enhanced transparency and openness that may reduce the monopoly of public officials to extort bribes from clients.

Respondents from Passport and Immigration, CCH, DCC, RHD, BOI and others hold the opinion that the use of ICTs in public agencies in Bangladesh has made a significant progress in shaping the future of governance of public matters. The findings from these case studies support the fact that e-Government can achieve transparency and openness in the

government system. It reveals that enhanced efficiency in the government, i.e. better service delivery, fewer complaints, customer satisfaction, customer feedback, increased rate of results and targets achieved, are some of the indications of increased transparency. Increased transparency can also be visible from the establishment of department websites for generating information such as government strategies, policies, legislations and other business information; establishment of departmental databases for providing information for internal use; downloading application forms, legislations from the websites; renewing licences, trade and business registration, getting permits and paying taxes; computerisation of internal functions through process automation; and track numbers given to the customers for enabling them to know the status of their applications for any service.

The next chapter discusses the results and findings of this study in view of the extant literature by way of highlighting whether the findings of this research agree, differ or broaden the literature.

Chapter 7. Discussion

7.1 Introduction

The aim of this study was to investigate how e-Government helps improve transparency in Bangladesh. This chapter offers a comprehensive discussion of the results of this study by comparing the major findings to the literature. This chapter discusses the research question along with the subsidiary questions and applies it to relevant governance and e-Government theoretical perspectives. Each research question is discussed separately.

7.2 Research Question: Does e-Government lead to greater transparency in the public management in Bangladesh?

7.2.1 Subsidiary Research Question 1: What is understood by transparency in the public Management in Bangladesh?

Various public agencies in Bangladesh are adopting e-Government through automating traditional complex practices and communicating electronically with their clients. Most agencies fall into the first or second phases in the evolution of e-Government (As-Saber *et al.*, 2006; The Respondent 10, 2009; The Respondent 3, 2008). E-Government adoption in this context is very recent in the public-sector in Bangladesh when compared to the situation in a number of South-Asian countries, where the system has existed in a more advanced form for a number of years (Hossain, 2005; Iqbal, 2009b).

The research findings reveal that the public-sector organisations under investigation are in the early stage of e-Government adoption, which is supported by Sobhan *et al.* (2004). Government organisations in Bangladesh developed their websites and generate information therein, which is the first step of e-Government implementation. The respondents agree with the view of (Taifur, 2006a) that e-Government in these departments has the potential for building the basic infrastructure for both information and service delivery.

As identified in Chapter 6, there is convergence on an original definition that defines transparency as the availability of information regarding government functions and delivery of public services. To define what transparency connotes in the public management in Bangladesh, this study has attempted to highlight transparency in terms of citizen's access to information, which is regarded worldwide as critical for democratic functions (Anderson, 2009).

Respondents view that transparency in the form of the right and the access to information is essential for good governance. Transparency does not only imply the web presence of information, but also signifies its access to people. Thus transparency connotes both availability of and access to public information for the people. The availability of a variety of information about the activities of different public organisations as well as economic and legislative aspects of the government enhances the level of transparency in the system.

Based on the findings, transparency in different public agencies is evident through the spreading of information, and is important in this context for making the government transparent and open. Further, this finding is consistent with some recent studies in the literature that consider transparency and access to information as crucial for democratic participation (Bertot *et al.,* 2010). The respondents state that transparency provides informational advantages to people and enables public officials to act responsively in the public interest, which is confirmed by Shim and Eom (2008). Findings reveal that ICT-led e-Government could be one of these ways to provide access to information to citizens. According to the respondents, the government seems to be committed to adopt transparency for sharing information with the stakeholders including citizens, businesses and other governments.

Most respondents agree with Bhatnagar (2004) that transparency is the availability of information in the website regarding government functions and delivery of services. Through government websites citizens can access and download necessary information and their updates through the Internet. According to the respondents, transparency promotes democratic participation and offers the public an opportunity to monitor policy formulation and implementation process, which is reflected in the study by (Saxena, 2005). The finding is consistent with some studies in the literature that have demonstrated that a transparent and open government is able to provide efficient service delivery, which in turn builds citizen trust (Norris, 2001; Tolbert & Mossberger, 2006). Transparency and openness in the form of information sharing highlights government malfunctioning. Further, a study by Heeks (2004) also testifies that transparency brings about people's right to compel public officials, increasing the risk of exposure.

This study goes a step further and identifies a number of factors that influence the extent of transparency, for example, the quality of public-sector management, the form of accountability exists between the government and citizens, the legal structure, and the extent

to which public-sector processes comply with transparency and dissemination of information (Roberts, 2006). Besides, findings also reveal other obstacles to transparency: lack of policies/initiatives to implement ICTs in large scale; lack of information dissemination across the platforms; and lack of coordination among agencies.

Summary of Subsidiary Research Question 1

Transparency is the availability of information regarding public functions and delivery of public services. Transparency does not only imply the web presence of information, but also signifies its access to the general public. Thus transparency connotes the availability of and access to public information for the people. Transparency in the form of the right and access to information is essential for good governance. Transparency offers the opportunity for citizens to directly participate in democratic decision-making. The respondents view that transparency is a tool to create sense of responsibility among the government officials. Transparency in the public sector in Bangladesh may act as a watchdog behind everything to review public functions.

7.2.2 Subsidiary Research Question 2: How does e-Government improve transparency?

The websites and databases developed under the e-Government projects have been of immense benefit in introducing transparency. A study by Cho & Choi (2004) testifies to the fact that the websites and databases have provided substantial information available to the citizens, monitoring organisations, development partners and public officials. E-Government with the application of ICTs acts as a tool to increase the quality of public information and services. This corresponds to the idea of Bhatnagar (2004), who argues that e-Government holds the potential for the provision of quality information and services in government agencies.

The respondents agree with Sobhan *et al.* (2004) that e-Government activities in the departments largely affect transparency in the administrative procedures and pave the way for openness and accountability in public systems. Thus the establishment of the Internet and other technologies have been expected not only to reshape public management but also to enable government officials more answerable to the public. This is reflected in the study by Cisar (2003). The respondents state that through dissemination of information they have been able to ensure certain level of transparency in the delivery of services. However, the

respondents also mention that they are at the initial stage and have not progressed that much in achieving transparency in their systems. They hold the view that complete automation over a period of time will enable the system to be more transparent and democratic. The respondents agree with Iqbal and Seo (2008) that e-Government does play a major role in improving transparency and accountability in their departments. Compared to the previous system, they observe that automation made substantial progress towards achieving increased transparency and accountability. The online tools allow their clients to get services in a shorter time and reduce dependency on officers, thus increasing transparency. Overall, ICTs hold the potential to achieve greater transparency by offering public access to information through web-based network services.

In the old system, it was very difficult for the people in general and the auditors in particular, to access the documents. The right to entry of records was denied in the traditional systems. Moreover, paper records cannot be easily kept, maintained, and retrieved while after computersing the system, electronic records can be safely secured for a longer time. There are examples of how the Internet can be used for providing information on corrupt officials and their behaviour. A study by Bhatnagar (2004) demonstrates how the Central Vigilance Commission (CVC) in India developed a website to minimise corruption and improve transparency by providing information on the corrupt activities on its websites. This kind of information enabled the public to be aware about its initiatives in controlling corruption. Findings reveal that public-sector organisations in Bangladesh are trying to explore these opportunities offered by e-Government. However, for e-Government success, interoperability and integration across the organisations is important. It might take more time to reach that level if the government wishes to apply it in this context. The respondents view that the effect of right to information laws and e-Government functions will be useful to monitor functions of public officials.

E-Government offers a new dimension to transparency. The United Nations (2008) has also acknowledged the importance of transparency in government functions in its convention against corruption. The government has already approved the Right to Information Act. The respondents agree with the view of Relly and Sabharwal (2009) that implementation of this law needs to be tied with the implementation of e-Government initiatives. This finding is consistent with the literature that has suggested that ICT-related initiatives should also focus on guaranteeing that rules are transparent and used to trace the decisions and actions of

public officials (Bhatnagar, 2003b). The government needs to use ICTs to increase efficiency and transparency simultaneously.

E-Government in various public agencies in Bangladesh is committed to improve quality of public services and dissemination of information about government activities (Hasan, 2003; Sobhan *et al.*, 2004). This finding is consistent with some studies in the literature that have suggested e-Government provides the opportunities for interaction between government and citizens, enabling active participation in public decision-making (Thomas & Streib, 2003). Further, studies by Hossan & Bartam (2010) and Sobhan *et al.* (2004) provide evidence that e-Government contributes better transparency to public administration in Bangladesh to offer available information to citizens. Findings suggest that government needs to introduce e-Government to achieve both transparency and efficiency in the system.

Internet technology in various public agencies may enable citizens to become more knowledgeable through information dissemination about government. Literature strongly supports the findings of this study, with the provision of information, rules, agenda and policies as the basic features of transparency in the government (Mossberger, Tolbert, & Stansbury, 2003). Findings reveal that searchable databases and websites in different organisations like Passport and Immigration, BOI, CCH, DCC, RHD, LGED and others can also increase the accessibility of information. Online transactions and downloadable information are the indications of efficiency through e-Government. The fact that customs, taxes and government contract in Bangladesh are the key areas where e-Government can affect on transparency is consistent with the findings of Brown & Cloke (2004). The automation helps BOI to introduce transparency and check the evasion of revenues. The system has resulted in increased efficiency, quicker transaction processing and improved transparency in the registration process of the BOI. This is also endorsed by literature showing that a high level of increased transparency and openness was created by the use of modern electronic media, effective vigilance and awareness of the people (Iqbal, 2009b). Further, the findings observe that e-Government project in RHD involves the establishment of a website to publish information, data and notices to stakeholders. RAMS and CMS databases are known to be powerful management and analytic tools. This is also acknowledged by Sobhan *et al.* (2004), who views CMS improves transparency and accountability by means of access to information and knowledge-sharing, which is expected to improve governance in RHD.

The findings show that clerical staff is the custodians of files and documents in the traditional system of government while e-Government services in a government agency may be offered from more than one source simultaneously. For instance, the use of ICTs (SMS) in DWASA for collection of bill payments by citizens to the government. This may increase the accuracy of billing, reduce the waiting time, and provide digital proof of payment. Citizens have their own option to be served by any source, which in turn will minimise the need for offering bribes for securing a service.

Findings reveal that the deployment of the Internet in the administrative set-up facilitates enormous degrees of openness and transparency, which lessens the opportunity for government officials to maintain a monopoly of access to data and information needed by clients who approach them for services and benefits. This findings is consistent with Kim *et al.* (2009), who argues that the tremendous advancement of the Internet and other such devices have been expected not only to reshape public administration but also made government officials and executives more answerable to the citizens. In general, this study extends the results of Hossan and Bartam (2010) and Sobhan *et al.* (2004), which reveal that the combination of e-Government, social media, web-based technologies and transparency policy initiatives in various public-sector agencies, for instance Passport and Immigration, RHD, BOI and others, have created the potential for open, transparent, efficient, citizen-centred services.

Summary of Subsidiary Research Question 2

Introducing e-Government practices to public services is one way to improve public-sector transparency. ICTs can minimise the cost of accessing public information through transparency practices. This has resulted in the introduction of e-Government in various public agencies for ensuring access to information and promotion of transparency and accountability. In organisations like CCH, BOI, RHD, and Passport and Immigration the role of e-Government in delivering services, submitting applications, permits and licences may take away the discretion of officials in those departments. Similarly, in a transparent environment, individual administrative decisions are made available on the Internet. Hence, it is felt necessary to use the potential of ICTs to make the administrative practices more efficient and transparent.

7.2.3 Subsidiary Research Question 3: What constitutes success in the implementation of e-Government? What is failure? Does e-Government design mismatch hinder its effect on transparency and, if so, how?

Governments across the world are increasingly trying to improve their performance through the use of electronic devices. In developing countries, ICTs also facilitated in improving government standards. However, the process is not straightforward compared to developed countries (Wescott, 2001). The adoption of e-Government in developing countries is very much questionable (Ciborra, 2005). Despite many success stories, failing to achieve expected result is also there. Findings concur with the view of Heeks (2005b) that many e-Government initiatives in a developing country like Bangladesh encounter a number of challenges. Gaps remain there between the design of technology and reality of the context. However, the respondents agree with Dada (2006b) that success or failure varies according to the context, depending on which factors are most relevant to which context.

The section intends to identify the factors critical for successful implementation of e-Government in Bangladesh. It is important to learn from the failures to protect the system and public awareness to benchmarks against the progress of these initiatives at their completion. In order to assess e-Government's effect on transparency and openness, it is important to identify and analyse the primary issues, opportunities and challenges that various public agencies are facing in their e-Government efforts. It is also important to know the reasons for failure or what often goes wrong within the context. The primary objective of e-Government application is to improve public-service delivery to the people. Establishment of website in public organisations disseminates information to citizens. In fact, there is no evaluation of the quality and effectiveness of the e-Government projects in in Bangladesh.

"Expectation gap" implies the variation between what the stakeholders (of any reform) perceive the developers' roles to be and what developers believe their roles entail (Porter, 1993; Welch, Hinnanth, & Moon, 2005). The findings of this study serve as evidence that government may engage in appropriate measures to reduce this expectation gap. This finding is consistent with some recent studies in the literature that have identified expectation gap as the lacunae or difference between the actual standard of performance of e-Government and public expectations of that performance (Marianne, 2006; Pardo, Gil-Garcia, & Burke, 2009). In short, 'expectation gap' is the disparity between what people

expect to get and what they get in reality, in actual circumstances. Literature confirms the finding that the probability of failure increases as the gap enlarges (Dada, 2006b). Hence, the difference between expectations and reality needs to be minimised. The findings observe this depends on e-Government strategies that spell about technology, process, inter-organisational and political aspects, and resources, which is also supported by other studies (Pardo *et al.*, 2009).

In tune with Heeks (2003b), the respondents state that failure is due to: first, lack of concrete and comprehensive government policy framework along with time frame and adequate resource allocation; and, second, the obsolete mindset of senior officials and resistance to change from vested quarters. The government at this stage continues to struggle to provide current information on its activities electronically. Although national leaders seem to have the political will and commitment to adopt ICTs, there are many obstacles to overcome. Gil-Garcia and Pardo (2005) observe that every decision-making and planning process encounters some constraint factors that affect how the government achieves its objectives. The respondents view that primarily the government needs to assign policies and strategies changing their existing governance mechanism, and thus numerous challenges and opportunities may crop up during the process. The findings reveal several key challenges in the passage of e-Government across public organisations, which are consistent with the studies of Heeks (2001b) and Yigitcanlar, Baum, and Stimson (2003). As identified in Chapter 6, this study extends the findings of the studies of Knepper and Chen (2005) and Ndou (2004) within the context of e-Government adoption in developing nations by demonstrating that these challenges can be classified into four categories such as institutional, resource-related, accessibility, and legal aspects (Rashid & Rahman, 2010). Each of these categories is briefly discussed in the following sub-sections.

Institutional

This research contributes to the literature by identifying a series of sub-themes across these institutional, resource, access and legal driver categories and ascertains the relative significance of these sub-themes. For instance, the respondents view political commitment, administrative leadership and organisational structure are critical under the category of institutional driver for e-Government adoption. These are evidenced by the case findings across all groups, who identified political commitment significant for successful implementation of e-Government. Findings reveal that the failure of any system is not mainly due to technology but due to other factors, i.e., human or organisational. The

managerial and policy factors are important to create sufficient operational and regulatory arrangements to offset this. Political and social changes are important at the same time. Top-level administrative support involves commitment of resources, staff and moral support to those associated with e-Government application. The respondents agree with the view of Coursey and Norris (2008) and Koh *et al.* (2005) that political commitment and organisational structure are the two key factors for the success because of the complexity and magnitude of changes that take place in various public organisations (Bonham *et al.*, 2001). The finding is consistent with some recent studies that have identified political commitment as the most important factor (CEG, 2001; Mahmood, 2004; OECD, 2003a). In tune with Singh (2003), the respondents assert that the high officials within a department are the main driving force. The respondents hold the view that, while political commitment is the milestone of any change, administrative leadership with effective management is crucial. This is also supported by other studies (Coursey & Norris, 2008; Koh *et al.*, 2005).

Resource

According to the respondents, technical, financial and human factors are critical under the category of resource driver for e-Government. The findings concur with the literature that identified shortage of IT skills as a major constraint (Chen & Gant, 2001; Heeks, 2005a; Moon, 2002). Literature testifies that many e-Government projects suffer from an absence of skilled human capital (Morshed, 2007; Sobhan *et al.*, 2004; Taifur, 2006a). Moreover, lack of financial support (Caffrey, 1998; Dawes & Pardo, 2002; Edmiston, 2003; Norris *et al.*, 2001) is also there. E-initiatives also require investments for securing hardware, software, and expertise. The respondents agree with Bonham *et al*. (2001) and Bourn (2002), who consider technical infrastructure as an important constraint for providing online services. Further, this study extends the results of Bhatnagar and Bjorn-Anderson (1990) and Yong and Koon (2003) that ICT infrastructure and use of ICT in a developing country are very weak and low. The respondents supplement to the view of Taifur and Chowdhury (2003) that it worsens the situation when it adds to the lack of technical infrastructure planning and sub-optimal use of available infrastructure.

Accessibility

Echoed with the view of As-Saber *et al.* (2006), the respondents state that e-readiness must be there for successful introduction of e-Government. According to the respondents, accessibility-related issues include education and basic technical knowledge, awareness and purchasing capacity. The use of ICTs (e-mail and the Internet) is still considered to be

something meant for the elites in the society. The majority of the people are ignorant about the impacts of ICTs on their lives. Findings reveal the fact that the effective use of ICTs necessitates not only literacy but also technical expertise, computer literacy and language skills (Fors & Moreno, 2002). The importance of education and purchasing capacity was also highlighted in other studies (Cecchini & Raina, 2004; Hasan, 2003; Hossain, 2005). The findings also concur with the literature that the digital divide may hinder users' willingness to use the websites (Thomas & Streib, 2003). Hence, the affordability of the users needs to be considered.

Legal

Respondents have identified overcoming legal barriers in the form of the regulatory framework, privacy and security as essential for e-Government success. Studies in the literature reveal that sound legal or policy guidance with clear indications regarding the accessibility of information and the issues related to risk, trust, and increasing inter-organisational knowledge-sharing is important (Lane & Buchanan, 1998; Rousseau, Sitkin, Burt, & Camerer, 1998). It is evident from the respondents' view that the absence of legislation hampers a congenial environment for knowledge-sharing. The respondents suggest that transparency and accountability should be strengthened by means of legislation, regulation and policy which support the study of Dalal (2007) regarding the role of e-Government in transparency and openness. However, the findings reveal that organisations need to be aware that they have to be trustworthy in handing all the information during the delivery of services. Information must be secured to maintain citizens' privacy, which is an issue of trust but not the technology (Kessler, Hettich, Parsons, Richardson, & Triana, 2011). The findings support the view of Kubicek (2004), who cautions that, to attain the goal of transparency and openness, the risk of breaking citizens' privacy may arise from ethical and legal perspectives since breach of privacy and security may harm public trust in e-Government.

Overall, research findings concur with the studies of European Commission (2003), who views legal, social, technological or institutional factors as barriers to e-Government development. These factors are context dependent which may act both against demand and supply perspectives of e-Government (Modinis Study, 2007). The findings also agree with the view that the legal aspect and how legal frameworks can support or obstruct e-Government (Australian Government Information Management Office, 2003; OECD,

2003b). The project has identified eight legal foundations of the seven barriers that may expedite or impede e-Government development.

Meanwhile, the government approved the National ICT Policy 2009. Apart from this, government agencies also need to formulate their own policies for e-Government adoption. The study reveals that the absence of such detailed e-Government policy affects the adoption. As identified by the respondents, there is lack of common goals and objectives between government agencies, which hampers the multi-level project implementation of different organisations. Further, it lacks clarity in defining the roles and responsibilities and lines of ownership.

Mostly e-Government signifies a broad project of technology transfer, adopting designs from one context to another. Being in an initial stage of development, e-Government is slowly diffusing within Bangladesh. The lack of e-readiness is contributing to a significant challenge. The potential of ICT is taking much longer to be realised in government. What factors affect the advancement of e-Government? Are they internal and do they come from government organisations themselves or from the society? Or are they externally imported? Since e-Government concepts and designs originate from the West, the origins are largely different from local realities. Data on extents of success and failure of e-Government are very scanty in developing countries (Heeks, 2003a). Nonetheless, what is common in this respect is that designers may remain external to the context of e-Government application.

Heeks (2005a) views these externalities can be of different forms. For instance, 'disciplinary externality' may happen when the designer originates from a different work domain than that of the users. The educational background, departmental culture, even 'language' of the designer, appears to be different from the user of the e-Government application. This may cause problems if the users' context is misinterpreted by the designers. Next, Heeks (2003b) observes another reason for failure is the mismatch between the design and the reality or context gaps. The most acute form of this may take place when western designers develop a system for their own context but is later transferred to a developing context. In such circumstances, the reality of local perspectives in the developing country may not have been reflected in the original design, and a huge difference between the context of design and the context of use takes place.

Since e-Government in different government organisations is in a very preliminary stage, it is too early to comment about any failure or success in this process. Considering the e-readiness in this context, a large difference may take place between the project design and public-sector reality. It could be a serious threat for e-Government, but, according to the respondents, design mismatch may not be the main reason for failure, if any. As a matter of fact, e-Government initiatives here go through a design-reality process. The projects are developed on the basis of some expectations as an outcome. According to Heeks (2003b), variation is there between the assumption and the reality of the government organisations. According to the respondents, the IT professionals in Bangladesh are in a position to modify the design to make it close to real. Successful automation in CCH is a one-of-a-kind development projects within the purview of government-private partnership (New Age Business, 2008; Raihan, 2010). A unique triangle of a trade body-government-technology company emerges from this project (Data Soft, 2010). Hence, public-sector managers are in the way of developing capacity to combine the understanding of the technology, the trade and business of government and the role of information in government.

Findings reveal the patriotism and commitment of the senior officials who expressed their determination to serve the country in the national interest. A design mismatch may take place if the implementers do not have the requisite knowledge of ICTs. Findings explore that foreign consultants are interested in offering hardware more than software. The findings support the views of Habib *et al.* (2007) that the IT industry is experiencing growing availability of computers and Internet use, development of the telecommunications network, and a growth of software development and working with joint-venture companies.

The respondents agree with Heidegger (1978) that core of technology does not necessarily mean something technical; rather, technology is something that creates an overall infrastructure. Ciborra (2005) uses this framework for characterising e-Government in developing countries to explain the essence of technology as the relationship between the government and citizens and introducing transparency and accountability. However, the respondents observe that the evaluation of the effect of non-technical factors is in fact lacking, which is also confirmed by existing literature (Hossan, Habib, & Kushchu, 2006). The example of the National Databank project in Bangladesh can be cited in this regard, and is analysed by Professor Richard Heeks. The Planning Commission took the initiative to provide official statistics to ministries and other stakeholders. The project could not succeed for various reasons. According to Heeks (2003a), lack of leadership, lack of skilled human

resources, and lack of interdepartmental coordination were the major cause of failure. Despite having all the needed technical and financial back-up, the project failed to attain the predicted outcomes due to several other barriers that are not technical in nature. The finding is consistent with Heeks (2005a), who argues that management factors that involve lack of education, awareness, inter-organisational coordination, skills and training, and most importantly lack of organisational culture, are the major causes of failure. Overall, the respondents agree with Heek's (2003b) 'factor model', which identified several factors responsible for the success or failure of e-Government projects in developing countries. Among others, these factors are political commitment, vision and strategy, change management, knowledge of public officials, and technological infrastructure.

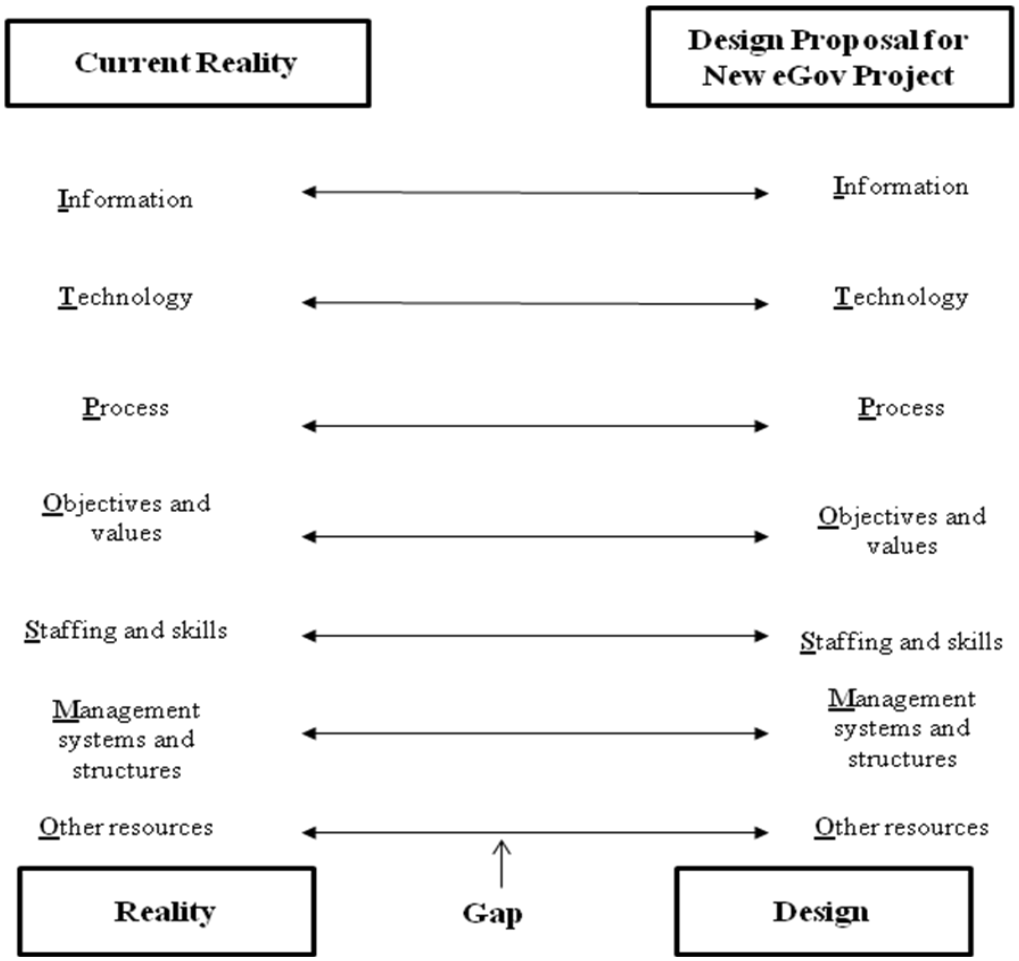


Figure 7.1 Design-Reality Gaps in e-Government Projects – (Heeks, 2000, 2003a)

Further, the findings reveal that there is in fact no analysis to determine the requirements of the stakeholders (Akhter *et al.*, 2007). Often the projects are implemented without stakeholder participation. Key stakeholders' views are not taken into account in the analysis

and design of e-Government applications. It is true that in a developing country like Bangladesh, e-Government projects have to be small. It should be implemented as a pilot case for the stakeholders to use a test version of the application. The respondents supplement that initially adaptation through modification of traditional systems under the e-Government application could be helpful (eGovernment for Development, 2009).

The findings explore other factors that can also hamper the development process. Based on experiences, it concurs with some of the recent studies in the literature that have identified cultural barriers to e-Government (Margetts & Dunleavy, 2002; McLoughlin & Cornford, 2006). The findings suggest that public-sector managers in charge of implementing e-Government should be able to identify the cultural barriers within and outside their organisations. Apart from the barriers within government organisations, there are other barriers that come from society. Respondents agree with the view of O'Dell and Grayson (1998), who observe that organisational values may act against technological developments. This is also consistent with Bagiire (2007), who contends that it may be detrimental to electronic services as bureaucratic hierarchy can be challenged through the intervention of technology. Thus a lack of organisational demand may remain there. On the contrary, the respondents observe that the problem of social exclusion caused by unequal access to the technology also forms a barrier from the demand side (Rice, 2003). Therefore, the findings concur with the view of Fountain (2001) that public sector managers are expected to be able to identify the barriers both from both supply and demand sides and cater the design to those demands.

Summary of Subsidiary Research Question 3

In order to assess the critical factors for e-Government success, it is important to learn from the failures in the development of the initiatives. It is important to analyse the primary issues, opportunities and challenges public agencies are facing in their e-Government efforts in Bangladesh. The findings reveal that the expectation gap can be minimised by developing strategies that tell about political and inter-organisational perspectives, technology, process and resources. According to the respondents, failure is due to a lack of concrete and comprehensive government policy framework along with time frame and adequate resource allocation as well as the obsolete mindset of senior officials and resistance to change from vested quarters. This study reveals four categories of challenges in e-Government implementation: institutional, resource-related, accessibility, and legal. This study has

identified a series of sub-themes across these institutional, resource, access and legal driver categories and ascertains the relative significance of these sub-themes. For example, the respondents view political commitment, administrative leadership and organisational structure are critical under the category of institutional driver for e-Government implementation. These are evidenced by the case findings across all groups, who identified political commitment is critical for the successful implementation. Next, shortage of IT skills is the most significant among these. Findings explore the absence of skilled human capital in many e-Government projects. The respondents believe that, if the government is committed to economically use its resources, funding will not be a serious problem. According to the respondents, accessibility issues include education and basic technical knowledge, awareness and purchasing capacity. The findings expose that the digital divide may hinder users' willingness to use the websites. Thus the affordability of the users should be considered. Respondents have also identified legal barriers in the form of regulatory framework, privacy, and security is essential for e-Government success. Absence of legislation may hamper a congenial environment for knowledge-sharing. The findings also caution that, breach of privacy and security also harm public trust in e-Government.

E-Government in different public agencies is in a preliminary stage, and it is yet to comment on success and failure of the process. However, the findings reveal a variety of challenges across public sector agencies. Although design mismatch does not seem to be the main reason for failure, a large gap may exist between the project design and public sector reality. Overall, political leadership and commitment are the most critical for successful implementation of e-Government in Bangladesh. Hence it is mandatory for any e-Government initiative to ensure management support, skilled human resources and effective IT training and support. The findings observe that the evaluation of the effect of non-technical factors is in fact lacking.

7.2.4 Subsidiary Research Question 4: Does disintermediation help increase transparency in the system?

Disintermediation means avoiding a middleman by using an alternative delivery channel. The respondents agree with Iqbal (2009b) that, with the advancement of Internet, e-Government came up with the idea of disintermediation for the purpose of cost reduction through delivering services electronically. Findings reveal that disintermediation in various public-sector organisations depends on lowering the barriers to information, which is

increasing incredibly and the process of organising the information is also increasing in sophistication.

Research findings indicate disintermediation as the reduction or elimination of the middlemen in transactions between the government and the citizens and businesses. By replacing the services of middlemen, disintermediation enables the citizens to gain access to information and services directly. According to the respondents, during process reform, e-Government facilitates the delivery of public services through means other than direct contact. This is also consistent with Iqbal and Seo (2008), who observe that with the Internet revolution, e-Government reduces the extent of personal contact with government officials. Further, studies by Buchanan and Boddy (1983) and Kumar (2003) also testify to the fact that using technology for automating the physical process results in lower costs, increased efficiency, improved business and citizen services, and increased transparency. Respondents observe that disintermediation through e-Government makes it possible to secure information that was extremely time-consuming to obtain through manual searching. This information has been instrumental in promoting transparency in public-sector agencies, which is supported by (Relly & Sabharwal, 2009; Sturges, 2004).

E-Government removes the 'middleman', who is known to be a central actor in the corruption process. As described by Oldenburg (1987), middleman is one of the significant factors in the corruption mechanism in land consolidation of the north Indian state of Uttar Pradesh (Bhatnagar, 2004). The middleman plays a major role in the act of donor and recipient. Literature also supports the argument that the absence of human intermediaries in dealings with government increases the transparency, which may reduce the scope for manipulation in government agencies (Kartasasmita, 2010; Shim & Eom, 2009). Disintermediation in public-sector agencies is the result of high transparency, which, according to Kopits and Craig (1998), enables citizens to become aware of their rights and demands. The G2C and G2B functions in public-sector organisations can now be seen as the bridge between government, citizens and businesses. The findings of the present study are also supported by other studies that have demonstrated that the databases created in various public departments have improved the level of transparency, which may reduce the scope for corruption (Iqbal, 2009b; Sobhan *et al.*, 2004). However, disintermediation cannot be the substitute for good public management or internal controls in the absence of other associated measures. It needs data protection and systems integrity. Overall, it needs to aim

at an integrated strategy and avoid a piecemeal approach in order to make it successful, which is also confirmed by Wescott (2001).

The study suggests that problems associated with the emerging e-Government practices need to be addressed. When it allows stakeholders' direct access to government transactions, it tends to remove human intermediaries, which may cause some business obligation (i.e. exploring additional information), to citizen-clients. Further, studies in the literature have acknowledged that this may also need a more flexible structure and process, increased coordination between governments, businesses, and citizens (Aichholzer & Schmutzer, 2000; Backus, 2001; Csetenyi, 2000; Wescott, Marilyn Pizarro, & Schiavo-Camp, 2002). It is because of this increasingly sophisticated fabric of government-stakeholder relations in e-Government that Pardo *et al.* (2009) have noted the significance of recognising stakeholders and integrating their options in e-Government initiatives.

Respondents observe that disintermediation removes the time delay caused by intermediaries. A well-designed website can perform this function properly. While human contact increases the scope for corruption, it is not possible to avoid human contact fully right now. Due to the early stage of ICT adoption, 100 per cent disintermediation is not possible in Bangladesh at this moment. Yet the government is only in the initial phases of adopting ICTs and the departments are moving gradually towards the path of e-Government. Face-to-face communication between the government and citizens is still significant in this public delivery system. It is true that expertise and services of all kinds cannot be downloaded.

Findings strongly resonated with the view of Bhatnagar (2004) and Sobhan *et al.* (2004) that disintermediation cannot improve transparency or contain corruption unless supported at the top level (Bhatnagar, 2004). Integrity of public officials is critical for supporting any reform. The question of displacement of human reasoning in the public domain may be addressed in that there is a continuing need for human presence and informed intervention in the effective use of computing and information technologies. The respondents agree with Buchanan and Boddy (1983), who observe that the organisations replace physical effort and manual skills, increase the rate at which physical operations can be carried out, improve consistency in work flow, and generate information that can be used by human operators to improve control. Thus their information handling and control capabilities complement,

rather than replace, human information-processing, problem-solving and decision-making skills.

Summary of Subsidiary Research Question 4

Disintermediation is the elimination of middleman in the delivery of public services, which enables the citizens to gain direct access to information and services. Disintermediation in various public agencies depends on lowering the barriers to information. The respondents observe that with the Internet revolution, e-Government reduces the extent of personal contact with government officials. Thus application of technology for automating the physical process results in lower costs, increased efficiency, improved business and citizen services, increased transparency and reduced scope for corruption. Respondents observe that disintermediation by means of introducing e-Government enables dissemination of information that has been instrumental in promoting transparency in various public-sector agencies. However, disintermediation cannot substitute for good public management in the absence of other associated measures. Disintermediation cannot improve transparency unless supported at the top. It needs data protection and systems integrity. Overall, it needs to design a more flexible structure and process, increasing coordination between governments, businesses and citizens.

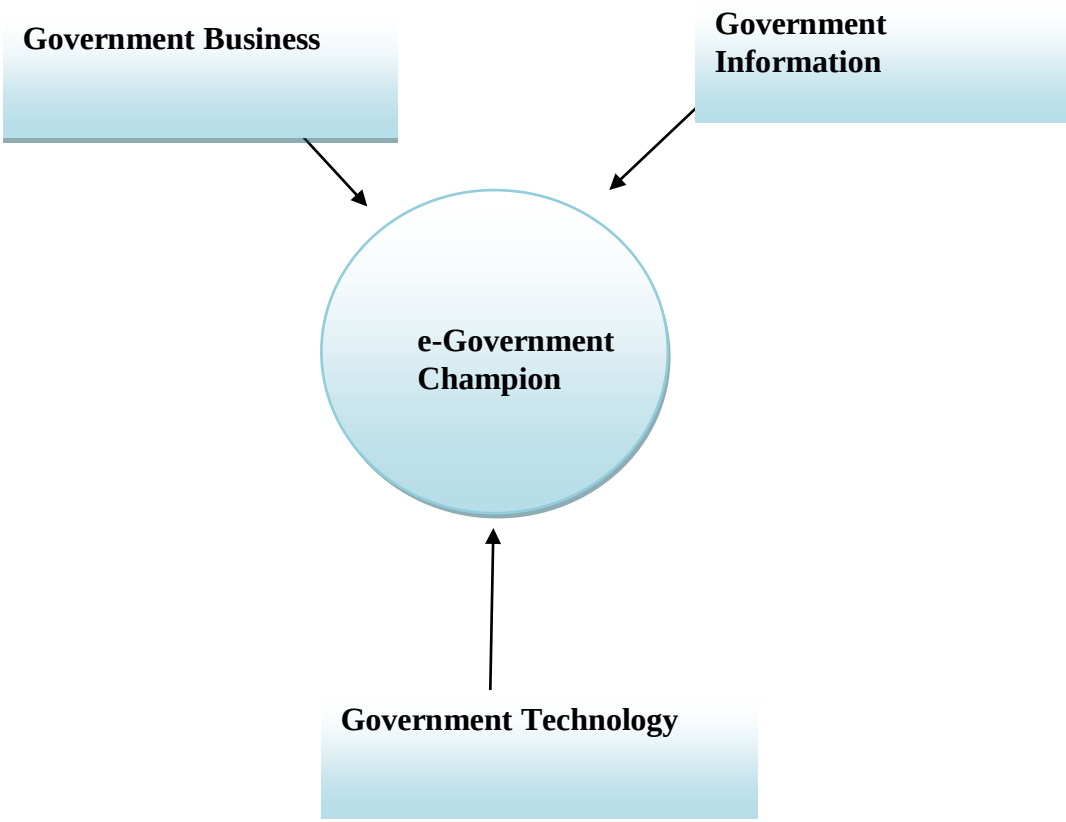
Further, the findings reveal that disintermediation through abrupt replacement of physical presence cannot be practised under the existing state in Bangladesh. It will take time to depend solely on technology as a mean of delivering public services. At present, Bangladesh is not in a position to largely automate the whole process by removing intermediaries from the delivery channels. The widespread recognition of the challenge is the strategic building of national technical infrastructure. Disintermediation may be seen as one-half of a process that may significantly be changed by technology. There is still a need for the physical presence of clients to interact with the public sector.

7.2.5 Subsidiary Research Question 5: What variations in e-Government (result) are found in practice and what effects do these variations have and why?

E-Government in various public agencies in Bangladesh appears to be more widespread now. However, the organisations are not equal in their status of implementation. They have not yet reached all stages of adoption and there is much variety within different agencies at

different stages. The findings reveal that there are variations in results among departments, depending on the nature of services offered and the rules of their businesses.

The respondents agree with Fountain (2001) that variations in outcomes occur due to differences in choices and decisions. The change agents are involved in process changes, which contribute to different outcomes when compared to more conventional approaches. Public managers are the key players in these process changes in the various public organisations. Thus, difference in outcome that would result into efficient delivery of public services is traceable. It suggests that the variations occur first due to effective leadership in the various departments. In tune with Aichholzer and Schmutzer (2000), the respondents view support from the top level as most crucial for e-Government success.



Source: (eGovernment for Development, 2009)

Figure 7.2 E-Government Champion

The respondents observe that, in a conventional top-down bureaucratic system, the role of such leadership is important. Studies in the literature also show that they are the pioneers

who took the leadership role and gave their utmost commitment (Mahmood, 2004; McLoughlin, 2008; Ramanie *et al.*, 2008).

The respondents agree with Sobhan *et al.* (2004) that e-Government projects can be internalised within each organisation through in-house "ownership" and active leadership from top officials. It is a big challenge to build up ownership of the initiative within a public agency since externally imposed initiatives may take time to internalise. It is obvious that leadership commitment (political and administrative) is vital for any reform to succeed. Through innovative e-Government initiatives, some organisations (ministries and their attached departments) with the support of their strong IT human resource bases have developed websites that provide information-based services to their clients, businesses and other government organisations. These websites have also developed a new dimension to offer public services to their clients. The government runs these projects, sometimes with donor funds.

The successful leaders are those who have championed new initiatives, who have vision and have already developed their own thoughts, ideas and are seek support. A senior management with commitment and authority to plan and guarantee sufficient funds is the basic support from a successful leader. Literature also demonstrates that one of the main reasons for the extent of success is the adequate and timely funding made possible by their leaders (Caffrey, 1998; Edmiston, 2003; Norris, 2003). The respondents agree with Sobhan *et al.* (2004) that variation in e-Government results also occur because of the fact that some departments involved with development-related activities obtain a major share of the ADP, which enables them to begin projects for ICT development.

Organisations like the RHD, LGED etc. are favoured by donors as they are looking for championship and support from senior bureaucrats. Apart from this, adequate and timely funding is important for the extent of success of some departments. In tune with Sobhan *et al.* (2004), government initiatives often stop midway for a shortage of funds and delays in exploring more funding. Some organisations are not exposed to this kind of challenge. This is reaffirmed by the views of scholars in the discipline that e-Government projects, by and large, start with sufficient donor financial support, but often face the risk to sustainability after closure of the donor support (Fors & Moreno, 2002; Kabir, 2008). This study thus extends the works of Hoque (2008) by analysing the sustainability of the initiatives. It also highlights the role of donors who continue to fund projects for a certain period of time,

beyond which the government may assume the responsibility of maintaining the projects through the revenue budget. The findings reveal that pioneer organisations appear to be able to sustain their projects beyond the time of donor assistance. Thus the sustainability of ICT projects in those departments is ensured by their policy to include the projects into the revenue budget following completion of donor funding. The findings concur with Sobhan *et al.* (2004) to reveal that a lack of seriousness on the part of some civil servants, inordinate delays in quick implementation of the basic part of the projects and unnecessary duplication of the same job, have wasted time and money, thereby thwarting the very purpose of the project to a great extent.

Findings reveal that, when projects are not launched through internal initiatives, they face much resistance to its realisation. Consistent with this, McClure (2001) has argued that it is the leadership role played by top bureaucrats and politicians that gives the employees their interest and motivation to accept the new ICT systems. Variations in results also occur due to motivation and enthusiasm through incentives and constant pressure from senior-level officials. Respondents also agree with Sobhan *et al.* (2004) that ongoing professional training and awareness building have also supported sustainability.

The key attributes of the websites of some organisations include: searchable databases of wide information and links to other websites. The officials have access to personal computers, the Internet and e-mail facilities. Most of the PCs in the department are connected to the Internet, in a LAN environment. Findings reveal that the capacity of an organisation to ensure sustainability of a project by securing grants and loans from the development partners is important, which is also supported by Hoque (2008) and Sobhan *et al.* (2004). Developing demand from general people, businessmen and the media for the services offered by various department websites also acts as pressure for continuation of services. Departments with some success stories conduct promotion of marketing to enable the stakeholders aware of the electronic service and other usefulness. Respondents concur with Sobhan *et al.* (2004) that awareness-building (of any service-based e-Government project) through marketing is another dimension of variations in results.

The successful implementation of e-Government in some departments signifies a skilled human resource support with technical competence which has been highlighted in previous studies (Ho, 2002; Moon, 2002). The officials in those departments are more ICT-savvy, trained and better IT oriented because of the facilities provided by these departments, which

have a system for ongoing ICT development through training and awareness building for officials. The literature also concurs with the view that this human resource development helps these organisations to offer buy-in for e-Government (Morshed, 2007; Sobhan *et al.*, 2004; Taifur & Chowdhury, 2003). To ensure the best use of ICTs, some departments provide effective training and skill development for the employees, which may result in variations in e-Government functions. Computerisation has substantially improved the internal efficiency of some department through customised software.

Summary of Subsidiary Research Question 5

The respondents observe that variations (in results) among departments depend on the nature of services and the rules of business. Variations in outcomes occur due to differences in choices and decisions. The findings reveal that change agents are involved and public managers are the key role players in these process changes in public organisations. The respondents opine that variations in departments occur for several reasons, the first of which is effective leadership. Championship from the top level is crucial for e-Government success. A senior management with commitment, authority to plan, and sufficient financing, are the underlying criteria for a successful leader. One of the major causes for the extent of success in some organisations is the adequate and timely funding made possible by their leaders. The other reason for variation is the ability of an organisation to guarantee sustainability by securing potential grants and loans from the development partners. The findings also reveal that the relatively successful implementation of e-Government in some departments signifies a skilled human-resource support with technical competence. Public managers in those departments are more ICT-savvy, trained and better IT oriented because of the facilities provided by these departments. This human-resource development facilitates these organisations to make buy-in for e-Government. Moreover, any reform also requires stakeholders' active participation.

7.2.6 Subsidiary Research Question 6. What role does the ICT Task Force play in implementing e-Government? Are government departments authorised by the Task Force or do they have the autonomy to implement the system?

E-Government is a strategic issue that calls for restructuring the state administrative system at the policy level to make the government more transparent, effective and service-oriented. Respondents agree with Nurul Kabir (2008) that it requires top leadership commitment and participation from all stakeholders for e-Government success. The government realised that

they should have some kind of facilitating and guiding role in the spreading of e-Government. Considering the importance of ICT, with the leadership of the Prime Minister, the Prime Minister's Office (PMO) constituted the National ICT Task Force in 2001 with members from major ICT stakeholders including the private sector and industry (Sobhan *et al.*, 2004). Hence the Information and Communication Technology (ICT) Task Force was constituted with the Prime Minister to be the Convener and the Secretary of the Planning Division as the member secretary to make decisions on ICT-based functions. It was the country's apex forum for formulating ICT/e-Government-related policies and strategies.

The status of the National ICT Task Force with respect to enforcing recommendations for implementing ICTc is important. In tune with Karim (2009a), the respondents observe that although the National ICT Task Force is a high-powered committee associated with ICT-related policy guidelines, it could not perform its role as expected. Generally, the Task Force does not take routine IT decisions. On the contrary, public-sector agencies are autonomous, not regulated by the Task Force. The ministries and their attached departments are guided by relevant IT rules and regulations. However, there is an 'Access to Information' (A2I) project, which provides technical assistance to the ministries. This A2I is associated with the national e-Governance vision, but based on local practices (A2I, 2010).

Research findings reveal that public-sector agencies are implementing the projects on their own initiatives. The National ICT Task Force and its role are not very known to most of the departments. Thus the Task Force almost failed to perform its functions. They could have coordinated the whole gamut of e-Government in this context. Findings reveal that e-Government projects are being implemented in isolation in different ministries and lack interministerial coordination. The Task Force was expected to issue necessary guidelines for ICT development of the nation. However, there is disappointment about the effectiveness of the Task Force in the past. Since its inception in 2001, the Task Force has met only five times in nine-year period with its executive committee meeting a little more often (Karim, 2009a).

After the new government came to power in 2009, it restructured the executive committee of the National ICT Task Force and formed a 23-member high-powered task force, renaming it as the 'Digital Bangladesh Task Force' to fulfil the Digital Bangladesh vision by 2021. However, in order to fulfil the vision of Digital Bangladesh, the ICT Task Force needs to perform better than in the past. The Prime Minister pledged in her party's election

manifesto to develop a digital Bangladesh by 2021, which has given great hope to the citizens. Meanwhile, Bangladesh has already gained some experience on digitisation through a few national ICT projects, for example, Chittagong Customs Automation System, Internet selection of Teletalk mobile user, machine-readable digital passport project launched by the previous government, and the successful computerisation of national voter ID.

Support to ICT Task Force (SICT), a publicly funded project, was also initiated in 2003 by the PMO. The SICT project involves implementing various pilot ICT projects using public funds. Other government organisations are implementing parallel initiatives, mainly through donor assistance (Habib *et al.*, 2007; Taifur, 2006a). Findings reveal that the Task Force has to oversee many aspects, among which is the implementation of e-Governance. It will also prepare guidelines to expand and develop ICT and digitisation in the country.

The National ICT Policy 2009 has been approved as the blueprint for Digital Bangladesh. It presents a framework of a policy pyramid to achieve the nation's ICT targets through 306 action plans (MOSICT, 2009). Findings reveal that the government requires to execute these action plans systemically to fulfil the vision of Digital Bangladesh, which is an idea for the use of IT for management, administration and governance to ensure transparency, accountability and responsiveness at every stage of society and the state (A2I, 2010).

It was apparent from the findings that e-Government is considered to be the central theme of Digital Bangladesh. The committee (Task Force) will take integrated efforts to improve the public management system and make it transparent. For the expansion of ICT, the committee will develop a legal framework and suggest on building necessary infrastructure including hardware, software and networks (Karim, 2009b). However, Digital Bangladesh is a continuous development process that may not be achieved within a specific time limit. Digitisation is a way to economic achievement, health, education and improving transparency in governance with democratic participation. The ICT Task Force should be invigorated to develop the roadmap. It will develop an e-readiness plan to assess the prospect of ICT and skilled human resources in the country. Respondents suggest the private sector may also be included to participate in the overall ICT development of the country. In tune with Karim (2009a), the respondents argue that it is the responsibility of the ICT Task Force to coordinate the progress with the relevant stakeholders.

The respondents suggest that the action plans should be reviewed each year. The government should institutionalise these review mechanisms to fulfil the policy objectives. The body to assume that responsibility was constituted by reforming the ICT Task Force to own, promote and implement the ICT policy from the centre. However, rapid ICT developments entail prompt decisions and coordination between the ministries and this may be possible when the Prime Minister is involved. However, this may delay the process if the head of the country has to oversee such operational matters. The respondents suggest that the Ministry of Science and ICT and its subordinate agency the BCC may be empowered to monitor implementation of the ICT policy within the stipulated time frame, which is also acknowledged by Karim (2009a).

Summary of Subsidiary Research Question 6

Findings reveal that the National ICT Task Force is a high-powered body involve with ICT-related policy guidelines, but could not successfully perform its role as expected. According to the respondents, it is duty of the ICT Task Force to synchronise the progress with the relevant stakeholders. Findings reveal that public-sector agencies are autonomous, and not regulated by the Task Force. They are implementing their projects on their own initiative. Although it was the role of the Task Force to integrate the whole gamut of e-Government, the National ICT Task Force is not well known to most of the departments. E-Government initiatives are being implemented in isolation in different ministries and lack inter-ministerial coordination. It was evident from the findings that e-Government is considered to be the central theme of Digital Bangladesh. However, this may delay the matters if the head of the government is to monitor everything. The Ministry of Science and ICT may be held responsible for executing these functions. A combination of these efforts could be the best way when the Prime Minister observes the ICT priorities simultaneously with the Ministry to manage the advancement of ICT through ICT professionals.

7.2.7 Subsidiary Research Question 7: Does e-Government reduce corruption?

E-Government with the application of ICT deserves the attention of the government as it acts as a tool to develop the quality of public services. It can increase the provision of information in public agencies. Apart from this, there is a widespread understanding that e-Government may help in curbing corruption. E-Government activities in the departments

studied have significant impact on improving transparency, paving the way for openness and accountability in government.

Instead of targeting corruption in first phase, the government requires systematic governance by promoting the quality of public services. It is also true that the lobby of the corrupt is very strong. Any action to eliminate corruption will face greater resistance. The respondents argue that reduction of corruption should be an evolutionary rather than revolutionary step, which is echoed in the study by Bhatnagar (2004). In fact, corruption reduction was not the main objective of this reform. The government was willing to explore what changes affected performance and what changes to improve transparency and accountability and overall efficiency in the system have accompanied the introduction of e-Government? With this aim in view, government also wished to see whether enhanced transparency and accountability would impact on reduction in corruption in future. In fact, the cases were studied to highlight the problems with previous manual methods and implementation challenges they are facing now. The new approaches observe the impact on increased efficiency, improved transparency, reduced delivery time, and increased revenue and so on.

Benefits achieved by the users are reduced time and less hassle. The e-Government projects in public agencies include the establishment of websites that offer information, data and notices to stakeholders. The websites and databases developed under the e-Government initiatives have been successful in enhancing transparency in their functions. In order to address the questions of whether and how e-Government reduces corruption, it needs to investigate first whether e-Government increases transparency in the system as increased transparency enables e-Government to reduce the scope for corruption (Kaufmann & Kraay, 2002; World Bank, 2005). The respondents are in conformity with (Mauro, 1995) that lack of transparency and corruption go hand in hand, deemed in some studies as two sides of a coin. Strategies and policies aimed at increasing transparency and, particularly, information dissemination helps in reducing corruption and maintaining economic growth. The findings demonstrate this is how the scope for manipulation has been reduced in those departments. They also reveal that strong political leadership is critical for such databases and websites to serve as effective tools for preventing corruption.

Studies in the literature have acknowledged that, by offering a alternative way for offering public services, e-Government creates competition to develop service standards and lowers

corruption (Iqbal & Seo, 2008; Shim & Eom, 2008). Improving transparency and openness may trigger a reduction in corruption. The literature supports the findings of this study, with ICT as one of the enablers that helps improve transparency in the provision of service and may restrict corruption (Bhatnagar, 2003b; Heeks, 1998). Respondents agree with Heeks (2003b) that ICTs in combination with other factors, e.g. leadership, management, remuneration, and stakeholder participation, can be an important deterrent for corruption. However, the anticorruption effect of ICTs is not beyond question. It can also create new ways and opportunities for corruption. Findings of the study are also supported by other studies that have acknowledged that modern electronic media can at the same time reduce competition in corrupt practices, which may be benefiting public officials who know the system (Wescott, 2003).

Although there are no statistics showing how much corruption has been reduced or how far service levels of public officials have increased after computerising the system, there are indications that may show a reduction in corruption. The respondents concur with Zafarullah and Siddiquee (2001) and Pillay (2004) that corruption is deep-rooted in the political and economic culture of a country. E-Government has the potential to curb corruption, but it alone may not affect the root causes. Automation and computerisation may act as part of a broader attack on corruption, but the attack must be aware of motivations for corruption in public officials. Policy recommendations for employing ICTs in corruption reduction may be illustrated in the following way: significant use of ICTs can hasten greater openness and transparency in the public management in an increasing extent (Shim & Eom, 2009; Tolbert & Mossberger, 2006). The results of this study further reiterate the views of scholars in the discipline that an enhanced degree of transparency will make a positive tangible impact on various arrays of corruption when go along with other aspects of anticorruption effort, reducing corruption to a minimum, i.e. initiating an established remuneration system and career opportunities for civil servants, and increasing the exposure of corrupt practices and provision of punishment through enforcement of laws (Chand, 2005; Cisar, 2003).

Corruption is of various kinds and not all of these can be minimised with success through applying ICTs. Corruptions are multiple, varied and divergent and there are ways to identify it with various techniques of exposure. Findings reveal that irregular money accepted by public officials in offering contract or permits, approving contractors' bills, assessing lower customs and income tax etc. are examples of bureaucratic corruption. Having discussed

increased transparency in the system, this section attempts to address the issue of whether or not e-Government, increased transparency and corruption are linked.

Widespread corruption in developing countries had made the governments consider e-Government as an anticorruption tool. Literature also supports the argument that, although e-Government adoption in Bangladesh is still in a nascent stage, it may become one of the ways to limit corruption over a period of time (Hossan & Bartam, 2010). Other studies also support that Bangladesh can achieve as significant success as other countries in Asia, e.g. South Korea, Singapore, Hong Kong, India and Malaysia (Iqbal, 2009b).

The respondents concur with Bhatnagar (2003b) and Cisar (2003), who argue that small bureaucratic corruption may be minimised through diversified means of high levels of increased transparency and openness created through the application of modern electronic media, effective vigilance and awareness of the people. In general, the respondents in BOI, RHD, CCH, Passport and Immigration, DWASA, and DCC agree with Anderson (2009) that the deployment of the Internet in the administrative set-up in their organisations facilitates enormous degrees of transparency and openness, which may lower the opportunity for government officials to reduce the monopoly in access to data and information and also to extort bribes from the clients who approach them for services. The respondents concur with other scholars in the discipline who argue that the deployment of increased levels of ICTs may foster or strengthen anti-corruption attempts against self-serving government officials (Cisar, 2003; Jain, 2001; Ojha, Palvia, & Gupta, 2009).

Summary of Subsidiary Research Question 7

The respondents in Passport and Immigration, LGED, CCH, DCC, RHD, BOI and other public agencies view ICTs as one of the enablers that help in improving transparency in service delivery and may restrict corruption. Findings reveal that small bureaucratic corruption may be minimised through high levels of transparency and openness achieved by means of modern electronic means. According to the respondents, bribery is the most common form of corruption, which may be either offered by the clients or demanded by the government officials. The respondents state that e-Government offers competition, increases service standards and lowers corruption. Corruption can also be created through over-regulation, which leads the clients to get the service by offering a bribe. It is evident that, if each administrative decision is made available online, with the particulars of concerned

administrators, it would be impractical to make corrupt decision because it may arise suspicions among the people who are already know it through the Internet and other media. By and large, the respondents view that the Internet presence in the administrative dealings in organisations like BR, CCH, DCC, RHD, BOI etc. creates more transparency. Thus, it is hoped that it may reduce the scope for public officials to monopolise access to information and take bribes from their clients. However, the results of this study also indicate that an enhanced degree of transparency will make a positive tangible impact on various arrays of corruption when it is supported by other anticorruption means, reducing corruption to a minimum extent, for example initiating an established remuneration system and career opportunities for government officials and increasing the exposure of corrupt practices and provision of punishment through enforcement of laws.

7.3 Research Question: Does e-Government lead to greater transparency in public management in Bangladesh?

This study examines the effect of e-Government on transparency. It examines whether or not there is any relation between ICTs and transparency at this current state of e-Government in Bangladesh. The respondents in organisations like Passport and Immigration, BR, CCH, DCC, RHD, BOI and others state that e-Government can increase access to information and efficient delivery of public services, which is supported by other studies (Singh, Pathak, & Naz, 2010; Snellen, 2001). The results support that e-Government practice in Bangladesh is still in an early stage. Most of the official sites are very basic in nature. The research question arising from all the positive and negative aspects of e-Government is how this new perspective of governance has influenced the issue of transparency and openness in the government practices in Bangladesh. Overall, this dimension is critical, as it does matter whether e-Government is able to improve transparency and openness based on accountability and fairness (Hossan & Bartam, 2010; Iqbal, 2009b).

The respondents believe that ICT accelerates the pace of decisions, and improves access to information by simplifying and integrate processes. E-Government initiatives in the public sector have had a positive impact in offering better information and services to the public. In tune with As-Saber *et al.* (2007), the respondents observe that currently they remain in the ‘interaction’ or second phase of e-Government adoption. Although service automation or process re-engineering does not take place, human-interface-based delivery channels exist in these departments. Some of the information services are functioning through alternative

delivery channels, e.g. ministry website, mobile phone, radio, television etc. The dissemination of information enabled increased transparency in the provision of services (Teicher, Alam, Gramberg, & Keddie, 2006).

E-Government is expected to alter the cultural attitude to change. According to the respondents, in a developing country like Bangladesh, it is difficult to get a licence, trade permit, work order and pension without offering 'speed money' to the concerned, which is also supported by (TIB, 2008). The existence of corruption in the bureaucracy is very well known. Respondents hold a similar view to Cho and Choi (2004), who observe that the provision of service varies according to the personal position of a citizen. Hence, e-Government introduces a new culture of transparency in the system and ensures equal treatment from bureaucrats.

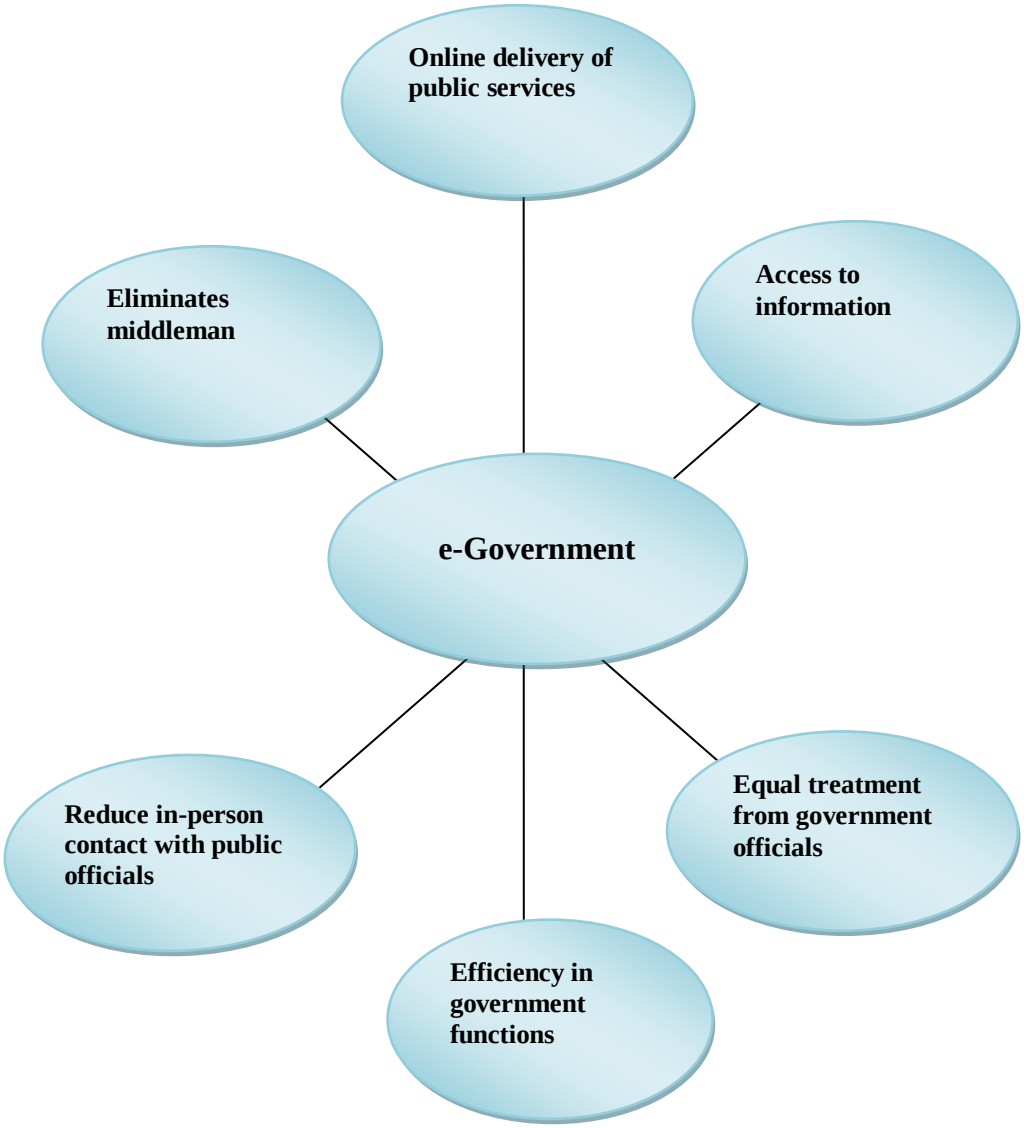


Figure 7.3 Benefits of e-Government for increasing transparency (Iqbal, 2009b)

This study investigates e-Government's effect on transparency in government functioning. The findings reveal that among other modes of transaction G2B and G2C are two important constituents of e-Government in the public sector of Bangladesh. For example, BOST, an online interactive e-Government solution for investors' licence applications was established by the Board of Investment (BOI) to enhance transparency in the administrative practices by minimising delays and avoiding unfair dealing of public affairs. The web-based BOST system allows investors to monitor their application systems. This finding is in conformity with the study of Iqbal (2009b), who also considers BOST to be effective though not as advanced as OPEN in South Korea.

This finding agrees with some studies in the literature that have argued that ICTs themselves cannot bring to an end the misuse of public resources but it is wise to use ICTs in a much better way by creating 'strengthened control mechanism' if the likelihood of disclosure is developed (Cisar, 2003; Pathak, Singh, Belwal, & Smith, 2008). It is not beyond question and the challenges are huge in this process. A practice of transparency is embedded with the governance issues. The respondents also agree with Kaufmann (2002) and Bauhr and Nasiritousi (2010), who observe that the norms and culture of openness to spread through governance structures and functions also require socio-technical capacities for transparency practices.

Findings from these case studies support that e-Government can achieve transparency and openness in the government system when technological integration involves constant engagement between service providers and the users to 'join up services'. E-Government needs to be aligned with the existing business process of an organisation. Integrated service delivery thus refers to the governance of organisational and technical architecture. In combination with other socio-economic and cultural factors like economic infrastructure, education, and rule of law, e-Government, a technological factor may also aid in introducing transparency. Bangladesh as a developing country has to go far to be equipped with ICTs. A lower infrastructure cost is required only initially to improve the existing situation, improve transparency in the system to stop malpractice. From the analysis of these public sector cases, this study found some factors and mechanism of how e-Government helps improve transparency and minimise corrupt behaviour.

Summary for Research Question

Respondents from passport and Immigration, CCH, DCC, RHD, BOI, BR and others hold the opinion that the use of ICTs in public agencies has made significant progress in shaping the prospect of governance of public affairs. Findings from these case studies support that e-Government can achieve transparency and openness in the government system when technological integration involves constant engagement between service providers and the users to 'join up services'. E-Government has to be aligned with the existing business process of an organisation. Integrated service delivery thus refers to the governance of organisational and technical architecture. In combination with other socio-economic and cultural factors like economic infrastructure, education, and rule of law, e-Government, a technological factor may also aid in introducing transparency.

7.4 Summary of Chapter 7

Transparency connotes both the availability of and access to public information for the people. Findings reveal that transparency is a tool to create a sense of responsibility among government officials. E-Government is in an early stage of implementation in Bangladesh. Introducing e-Government practices to public services is one way to improve public-sector transparency. ICTs can minimise the cost of accessing government information through transparency practices. This has resulted in the introduction of e-Government in public agencies for better access to information and enhancement of transparency and accountability. In a transparent environment, individual administrative decisions are made available on the Internet. By and large, the Internet presence in the administrative practices creates more transparency, which reduces the scope for monopolise public decisions and access to information.

To evaluate the progress of e-Government adoption, it is necessary to investigate the 'expectation gap', which is the difference between what stakeholders perceive a reform should be and what the government states is expected of it in implementing a reform. Findings reveal that e-Government faces a variety of challenges across public-sector agencies, where the key challenges remain as institutional, resource related, access-related and legal barriers. Although design mismatch does not seem to be the main cause of failure, a large gap may exist between the project design and public-sector reality. In developing countries, the essence of technology is felt as the association between the government and citizens and establishing transparency and accountability. Political leadership and commitment remain critical for successful implementation in this context. Hence it is mandatory for any e-Government initiative to ensure management support, skilled human resources and effective IT training and support.

Disintermediation enables citizens to gain access to information and services by replacing the middlemen. Findings reveal that disintermediation in various public agencies depends on lowering the barriers to information. However, disintermediation through abrupt replacement of physical presence is not recommended under existing government scenarios.

The findings indicate variations among departments are due to the nature of services and the rules of business. The variations occur for several reasons, the first of which is effective leadership in different organisations. Championship from the top level is crucial for e-

Government success. A senior management with commitment, the authority to plan, and sufficient funds is basic for a successful leader. One of the major causes for the extent of success in some organisations is the adequate and timely funding made possible by their leaders. The successful e-Government implementation in some departments signifies a skilled human-resource base with technical competence. The officials in those departments are more ICT-savvy, trained and better IT oriented because of the facilities provided by these departments. This human resource development support helps these organisations create buy-in for e-Government.

The National ICT Task Force, the apex body for ICT policy guidelines, could not perform its role as expected. Findings reveal that e-Government initiatives are being implemented in isolation in different ministries, which lack inter-ministerial coordination. E-Government is considered to be the central theme of Digital Bangladesh. However, this may delay things if the Prime Minister has to monitor everything. The line ministry may be empowered to monitor implementing such operational matters. A combination of these efforts could be the best way when the chief executive observes the ICT priorities simultaneously with the ministry to manage the development of ICT through ICT professionals.

Findings reveal that small bureaucratic corruption may be minimised through the technique of enhanced transparency and openness accomplished by means of electronic means. Findings also reveal that bribery is the most widespread form of corruption, which may be either offered by the clients or demanded by the government officials.

Significant use of ICTs in various public agencies can hasten greater openness and transparency in increasing quantity. Respondents from Passport and Immigration, CCH, RHD, BOI and others hold the opinion that the use of ICTs in public agencies has made significant progress in shaping the future of governance of public matters. Improved transparency can also be seen from the establishment of department websites for generating information. However, transparency may not be able to automatically bring the desired results. The intelligent application of different techniques of ICTs ought to be incorporated in various strategies of the government for increasing the quality of information and services. A fundamental change in mindset is crucial together with political will and commitment for a change.

The next chapter presents in-depth case studies of implementation of two cases that are considered to be most significant in terms of their success and achievement. Attempts will be made to elicit the causes of variations between these two cases. The chapter will also identify appropriate theoretical aspect and attempt to propose a revised framework for automation in public-sector agencies in Bangladesh.

Chapter 8. In-depth Case Studies of Implementation (Two Cases)

8.1 Introduction

This chapter aims to bring together the findings of two case studies in the light of the research questions raised in Chapter 4. This study undertakes nine multiple case studies. Among these nine cases, this chapter selects the most significant two cases in terms of their success and achievement to undertake in-depth case studies of their implementation. According to the research findings, one may be regarded as the most successful case (Chittagong Customs House) while the other may be termed as the most insignificant one (Dhaka City Corporation). This chapter also identifies the factors for variation in results between these two cases. Then it chapter identifies appropriate theoretical aspect to explain the results. Finally, the chapter endeavours to propose a revised framework for automation in the public sector as a contribution to this study.

Figure 8.1 indicates the position of Chapter 8 in the overall research design of the thesis.

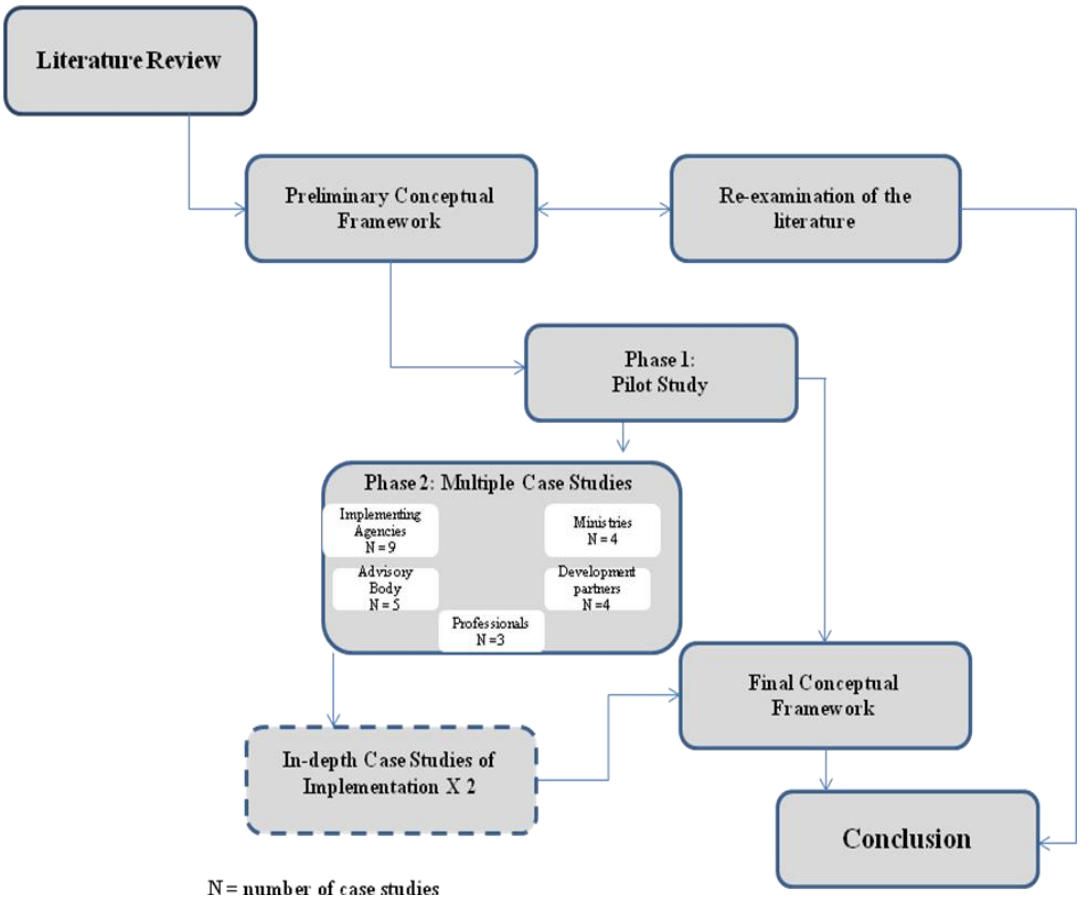


Figure 8.1 Location of Chapter 8 in the Overall Research Design

The purpose of studying these cases is not to highlight them as successes or failures. In fact, the extent of benefits may alter as time progresses with changed political context. These two cases are not presented to demonstrate best practice to replicate, but they could be a source of learning for other e-Government applications in some other contexts. There are choices in how e-Government will be implemented. A first objective, therefore, was to clarify the nature of the decision-making processes that led to choices regarding the use of automation, and the factors that influenced such decisions. A second objective was to know the relationships between these choices and improvement of transparency and accountability in public-sector agencies (Buchanan & Boddy, 1983) in Bangladesh.

Decisions to use technologies were often triggered by management desires for better performance information and improved control of the workflow. The role of 'promoters' within organisations who argued for and supported particular technologies was crucial to their adoption. Technical features of a given innovation do not provide a sufficient basis for predicting the social, psychological, organisational and economic consequences of its application. Much depends on how the technology is used, which in turn depends on the objectives, assumptions and criteria of those who make such decisions (Fountain, 2001).

Each case study addresses the following six questions: First, what was the context of the change and who decided? Second, when did the changes occur? Third, how did the changes occur? Fourth, what was the outcome of this change? What effect did the changes have on performance? Fifth, what changes to improving transparency and accountability in the system had accompanied the introduction of e-Government? Sixth, what effect did the changes have on reduction in corruption in the departments? Then the decision to introduce e-Government/automation in this context was influenced by the following five factors: First, the National ICT Policy 2009, organisation policy, based on the attitude of the department head, towards investment in advanced technology to improve service quality. Second, the establishment of IT departments/MIS involved provided information and advice to senior officials on implementing such systems. Third, the long-term national as well as management goal of improving efficiency and service delivery process through automating the system. Fourth, reduced human contact in accessing public-service delivery. Fifth, the short-term management goal to develop systems to offer more information for improving overall performance leading to citizens' satisfaction.

The government formulated its first National ICT Policy in 2002 to effectively harness the power of ICTs. However, the policy could not achieve the targeted success due to the absence of direction and appropriate plans to attain the objectives set forth in it. The government just approved the National ICT Policy 2009[12] following a thorough review of the 2002 policy. According to Action 31 of the National ICT Policy 2009, e-Government should be introduced in all executive layers of the government to increase electronic service delivery. Then according to Action 99, all public information should be made accessible through suitable electronic means to enable the public to access information in a cost effective manner. The action items have particular outcomes, time limits and actors. Actions 31 and 99 are mid-term items, i.e. to be executed within 18 months to 5 years (MOSICT, 2009).

Various public agencies in Bangladesh are adopting e-Government through automating traditional complex practices and in communicating electronically with citizens. Most agencies fall into the first or second phases in the evolution of e-Government (As-Saber *et al.*, 2006; The Respondent 10, 2009; The Respondent 14, 2008). Public agencies in Bangladesh established their websites and provide information therein, which is the first step of e-Government adoption. Excepting a few, the state of these websites' maintenance is not up to the mark. Most of the departments do not update the quality of information in the website. The application in this context may not be viewed as actual e-Government application since some part of the service delivery is not electronic. Computerisation does not take place in the whole system, but is only partially done. However, some of the applications have delivered benefits to the stakeholders. At this stage of adoption, evidence on the anti-corruption effect of e-Government in the public agencies is virtually non-existent. However, the cases were studied to highlight the problems with previous manual methods and implementation challenges they are facing. Then the new approaches observe the impact on increased efficiency, improved transparency, reduced delivery time, increased revenue and others.

[12] (http://www.mosict.gov.bd/)

The following are the summary and analysis of two case studies:

8.2 Analysis of Chittagong Customs House (CCH)

8.2.1 Organisation Background

Chittagong Customs House (CCH) is functioning under the National Board of Revenue (NBR),[13] a body authorised for earning direct and indirect tax revenue in Bangladesh. The NBR is attached with Internal Resources Division (IRD) under the Ministry of Finance. The Customs wing of the NBR is responsible for making policy on customs duty and related taxes/charges and administration of customs. CCH is located close to Chittagong port. CCH is the single largest customs house with regard to cargo and revenue, employing around one thousand workers (Appendix E).

Automation in CCH is a benchmark, a triumph of e-Government in Bangladesh. The organisation aims to computerise and modernise the customs procedures in CCH. According to the Chief Adviser to the then Caretaker government, adoption of the most modern technique of revenue collection in CCH is an exemplary of development activities within the purview of public-private partnership (New Age Business, 2008). The objective of the automated service was to bring transparency and reduce time for users of CCH and the port. Public-private partnership is the key feature of CCH automation. Private companies, e.g. Chittagong Chamber of Commerce and Industry[14] (CCCI, the largest business association in Chittagong) and DataSoft[15] are selected for designing an e-Government application. It was an agreement to run the project by sharing the risks and returns of the project through Build Own Operate Transfer (BOOT). Hence, a trade body (CCCI), government (CCH) and a technology company (DataSoft) is a unique triangle of this model. Import General Manifest (IGM) and Export General Manifest (EGM) module is facilitating the clearing and forwarding (C&F) agents entry of documents at a reduced cost compared to the old manual system. Apart from helping the C&F, this system enables the exporters and importers to sort out the documents after getting the self-clearing licences. The adoption of the automated system is facilitating the CCH to prevent the evasion of revenues.

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[13] http://www.nbr-ctg.com/

[14] http://chittagongchamber.com/index.php

[15] http://www.datasoft-bd.com/index.php?option=com_content&view=article&id=122:datasoft-automated-chittagong-custom-house&catid=3:news-and-events&Itemid=134

The CCH is one of the chief revenue generating sources of the government. Each year it makes around 150+ billion Bangladesh Taka (BDT) a year from CCH operations (Raihan, 2010; The Daily Star, 2008). Apart from CCCI, other stakeholders including the Bangladesh Garment Manufacturing and Exporting Association (BGMEA), importers & exporters, C & F agents, the Export Promotion Zone (EPZ), shipping agents, NBR, Customs Intelligence, Custom Bond, freight forwarders, Navy, PSI and others related.

8.2.2 Why the Reform?

The main function of CCH is to earn revenues through clearing of export and import documents. The purpose of the case study is to illustrate the strategies, methods and technologies employed by CCH automation in certain areas, e.g. improving efficiency to ensure better trade facilitation, checking evasion of and increasing revenues and, overall, improving transparency and preventing corruption in customs process. To achieve efficiency, transparency and accountability in the overall system, CCH needs to streamline its strategic planning, capacity-building in terms of human resource development and information management.

Automation has been accomplished in CCH in accordance with the government's decision to initiate it in all its departments to ease the manual operation and gain efficiency in increasing efficiency and strengthening accountability. According to Action 71 (short term: to be implemented within 18 months) of the ICT Policy 2009, quick customs clearance of cargos is to be ensured by the NBR.

CCH has a huge interface with citizens and businesses and is perceived to be corrupt (TIB, 2008). The payment of 'speed money' to staff and officers in the process of a 'Bill of Entry' or a file with decisions on assessment of goods is a regular phenomenon in custom transactions. The objectives of the automation of customs procedures were to reduce customs clearance time and to ensure better trade facilitation. The achievement of the objectives hinges on the effective use of ICT. It was hoped that automation will facilitate CCH to check customs evasion and increase revenue-earning in the department. The automation will also expedite measurement of service levels and monitoring of processing delays, and reduce processing time. Overall, automation will result in increasing efficiency, improving transparency, quicker transaction processing and less corruption in CCH.

8.2.3 When was the Change Initiated?

The CCH started the project in 2008 and it is planned to be completed by 2013. On completion, it would be taken over from CCCI and DataSoft and run by its own staff. The department is adopting all necessary steps to recruit IT personnel and procure computer hardware required for smooth running of the system when taken over in 2013.

8.2.4 How did the Changes Occur?

The success of CCH automation lies with the public-private partnership model. CCH with the partnership of CCCI and DataSoft initiated the project for the stakeholders to apply electronic facilities through interfacing. In this project, the Bill of Entry Module (B/E) for electronic submission of customs declaration (direct traders input) by importers/C&F agents, and Manifest Module for online submission of IGM/EGM by shipping agents are implemented. They are also planning to invite other users into the system through building more interfaces (Mozumder, 2009; The Respondent 10, 2010).

CCH has initiated modernising customs administration through huge computerisation and automation of customs processes. It started with the automation of clearance systems. CCH administers more than 50 per cent of total capacity of import and more than 80 per cent of total amount of export of Bangladesh (The Respondent 10, 2009). This is now performed by ASYCUDA++ (Automated System for Customs Data) version 18.d. The main aspects of the ASYCUDA++ include declaration processing; selection of lane (green, yellow, red); assessment of goods; and payment and release of goods and log register of users. Centralised planning and decentralisation include reorganisation of people, practices and physical infrastructure (Hossain, Deb, & Alamin, 2009; Mozumder, 2009; The Respondent 10, 2009). The system has a provision of clarification through exchange of queries and responses between CCH and the C&F.

The function of IGM module was initiated during the first stage of automation. Assessment of duty for import consignments and documentation of export consignments are being performed electronically. This system enables consignees, i.e. C&F agents, to manage the whole export procedures electronically from their own establishment without their physical presence at the CCH. The appraising officer assesses the electronic documents and thereafter approval is forwarded to the C&F online. DataSoft provides networking

configuration, set-up support and software-based solutions for CCH. They deal with the fields of LAN and WAN through fibre optic networks.

8.2.5 The Outcomes of the Reform/ Effect on Performance of the Organisation

E-Government in CCH is mainly classified into G2C (government to citizen) and G2B (government to business) models depending on the type of business. People may download government rules and regulations, application forms for different services, for example tax return submission and renewal of licences. In G2C model, the department interacts with citizens to offer information and services. In G2B model, it interacts with business enterprises (online customs clearance) in more efficient, transparent and inexpensive ways.

Findings reveal that e-Government can bring transparency to CCH functions. This section summarises the findings of the employment of e-Government in improving transparency in these systems. Hence, measures of transparency need to be developed to determine the success of transparency initiatives in the government. To operationalise different concepts, for example transparency and openness, some criteria should be there to measure transparency in the system. Respondents mention that they have developed some standards and simplified the procedures for their clients.

The criteria for enhanced transparency and openness in CCH and DCC can be explained in the following ways.

- To have control over information, which enables decision-making based on available data.
- Exchange of diverse services and information between government and citizens, businesses and other stakeholders.
- Development of departmental database for provision of information for internal use.
- Development of websites for dissemination of policies and other business information.
- Downloading government forms, rules and regulations from the websites.
- Renewing licences, business registration, getting permits and paying taxes.
- Computerisation of internal functions through process automation.
- Track numbers given to the customers for enabling them to know the status of their applications for a service.
- Better service delivery.

- Lower administrative costs.
- Faster and accurate responses to queries.
- Reduced average service delivery time and cost.
- Fewer complaints and more customer satisfaction.
- Customer feedback.
- Simplification of procedures and reducing the number of steps for approval.
- Reducing the number of intermediaries.
- Reducing the scope of applying discretionary authority.

The respondents view that automation, including the deployment of Internet in the administrative set-up, facilitates enhanced transparency and openness that may lower the discretion of public officials in CCH in the access to information and services by the people. Meanwhile, the department has been able to ensure a certain degree of transparency in terms of making customs assessment-related information on the web. The declaring agents having access to the website can know the status of the assessment process and the amount of duty and taxes for a particular import consignment. Online submission of documents and sharing of those by all contribute to improved transparency as under such an environment a particular document cannot be manipulated to the advantage of a customs official or a businessman. Automation in CCH improves the efficiency and transparency in the following way:

Enhanced Internal Efficiency. The adoption of the automated system is facilitating CCH to prevent irregularities and evasion of revenues through increasing efficiency. The new system attempts to streamline and shorten the procedures of the Customs House. It simplifies the lengthy forty-two step process, down to only six steps, and the B/E cost has also been minimised. The supervisors can now check processing delays. An inspector cannot raise unnecessary queries. Dues are collected before and duty drawback goes to a bank account. The international prices of different export/import items are gradually being updated, eliminating the possibility of undervaluation. The automation helps CCH examine international and domestic price and benefits better risk management. Cargo management, auction, banking everything came under the automatic solutions. It has saved 6 days lead time for export (Data Soft, 2010).

Increased Transparency The automation strengthens the information flow enabling the decision-making in CCH. Information is made available to users for facilitating trade and commerce. The G2B transactions in the CCH involve divergent services shared between government and the businesses, including publicising strategies, policies, memos and legislations. Business services offered include getting current business information, downloading government forms, renewing licences, getting permits, and paying taxes. The system has resulted in increased efficiency, quicker transaction processing, and improved transparency in the entire clearing process of the CCH.

The Chairman of Case M views:

The automation authorises CCH to command over the flow of information, which enables decision-making based on available data. Available information on customs procedure enables better trade and commerce. At any rate, the G2B transactions in CCH involve diverse services shared between government and business including provision of policies, legislations, securing latest business information, downloading forms, renewing licences and paying taxes etc.

Controlling evasion and increasing revenue. The automation prevents irregularities and evasion of revenues through increasing efficiency. It minimises cost of doing businesses. Bill of entry (B/E) cost has been minimised from BDT 180 to 50. According to a Taskforce report, the user-friendly automation facilitates CCH to control the evasion of revenue to a minimum of BDT 3.5 billion (Daily Star, 2008; Raihan, 2010) and make the revenue earnings twofold, which at this instant becomes BDT 15+ billion a year. It has also minimised the business cost by 70 per cent and save time by 80 per cent (Daily Star, 2008; Raihan, 2010) for completing customs formalities. Automation minimises human interface. The payment of 'speed money' and the understanding between the C&A and inspectors to evade duty has been reduced.

The Joint Commissioner of Case B states,

Timely service delivery and the degree of transparency may indicate the reduction in corruption. If we do not get the service on time, we have to think about other way of having services; we try to offer a bribe, which is corruption. Reduction in corruption reflects in reduced average service delivery time and cost, fewer complaints and more customer satisfaction etc. In the past, people had to move after their file with decisions on assessment of goods in the process of Bill of Entry, which took a long time to get a decision. Now, chances are low to take extra money from the businesses as we minimise the steps and simplify the process. So, there is no unexpected delay.

Value added services and client satisfaction. Improved business services facilitate to increase the level of customer satisfaction and thus symbolise a better business opportunity.

8.3 Causes of the Success of CCH. Lessons Learned and a Framework for Introducing a Successful Automation

The following lessons were learned from this study of CCH automation and can be useful for other organisations of this kind.

Strategic Partnership

An excellent combination of PPP and BOOT is a sustainable way to automate the CCH functions. A unique triangle of a trade body-government-technology company emerges from this project (Data Soft, 2010; Sharma, 2007). This is thoroughly a local initiative. During the inception of the project, the computerisation and automation in customs administration was relatively at a lower stage in terms of automated processing of custom declaration and other customs procedures, thereby unable to meet the growing demands of quick customs clearance of import and export consignments required for effective collection of taxes and trade facilitation. Therefore, automation of customs procedures was required without any delay, considering that it might have taken a long time for the formalities required to initiate the project with government or donor funds. As one of the key stakeholders, the task of automation has been assigned to CCCI, given that it would bear all the expenses associated with automating the system and also collect service charges from other stakeholders to meet the cost incurred by it. This is a zero-debt and full-payback financial arrangement (Data Soft, 2010).

The advantages of PPP in CCH relate to the access to private finance, project management skills and reduced operational risk for the public sector (Allen *et al.*, 2001). This will eventually result in entrepreneurship and innovation through optimum utilisation of public resources and quality service delivery to the general people. This partnership is not only for obtaining resources but also for delivering quality services and facilitating knowledge and technology transfer among these organisations (Taifur, 2006a). Hence, the latest success in PPP in Bangladesh is this automation in CCH. Apart from developing infrastructure, PPP is also used for promoting e-Government in many countries including Bangladesh. The World Bank (2007) views that, in accordance with the country assessment matrix on potential of

PPPs in e-Government projects, Bangladesh is one of the developing countries where potential for PPP in e-Government is high.

CCH has been successful to initiate the automation through developing a win-win relationship between the government and different private parties, who would run the project by sharing the risks of the project through a BOOT scheme. It is an integrated system of processing export and import documentation. This project may not have been financially viable if private involvement was not there.

The BOOT model has several advantages:

- In the BOOT model, the CCH obtains the advantage of the service provider's (DataSoft and CCCI) funding needed for initiating a new venture.
- CCH secures access to modern technology, skills and expertise and finances from the BOOT provider.
- BOOT allows the automated project to be implemented very effectively. The project may not be affected by inadequate funding, a lack of skills or project management capacity.
- It saves time since the service provider is expected to be more specialised in the respective fields. DataSoft (BOOT service provider) combines the people, the processes, and the technology and offers services by means of outsourcing.
- Accountability for the project design and service delivery is high providing, once the performance targets are not achieved, the implementers may be liable.
- The issues of corporate structuring and costs are a minimum in a BOOT system since project financing; ownership and operation are the duties of the BOOT administrator.
- An essential feature of the BOOT is that it permits most of the risks to be transferred to the private sector (Raihan, 2010).

Leadership

Findings also reveal that championship from the top is crucial for e-Government success in CCH. CCH has been the pioneer in adopting the automation because of the strong leadership (political and administrative) role and their utmost commitment. During the process, CCH had to face greater internal resistance to its execution (Mozumder, 2009; The Respondent 10, 2010). Therefore, it was the leadership role played by top bureaucrats and

politicians to encourage the stakeholders for their motivation to introduce the modern clearing system.

Capacity Building/Human Resource Development

Ongoing professional training and awareness building have also been reasons for the success. The automation in CCH signifies a skilled human resource support with technical competence. Public managers in this department are more ICT-savvy, trained and better IT oriented because of the facilities provided by the department. This type of human resource development facilitates the organisation to make buy-in for e-Government.

Capacity Building/Information Management

Computerisation has largely increased the internal efficiency of CCH through customised software. Works done manually in the previous system used to take three to five times longer than the automated systems. The absence of human intermediaries in dealing with government reduces the scope for manipulation in the department. Disintermediation in CCH is the result of high transparency in those citizens and businesses are aware of their rights and demands. Computerisation replaces physical effort and manual skills, increase the rate at which physical operations can be carried out, improve consistency in CCH work flow and output, and generate information that can be used by human operators to improve control (Taifur, 2006a).

Employment Generation

The revenue increase from CCH enhances the income of the government to finance various development projects for the welfare of the nation. People will immensely be benefited as provision for work will be increased by undertaking these developmental works, and various projects in local areas will also get momentum. The services provided by means of G2B transactions also facilitates development of businesses, specially the small and medium enterprises (SMEs), where streamlining application procedures to facilitate the approval of SME requests will boost business development (Taifur, 2006a).

Hence, some revolutionary changes have taken place in CCH operation and revenue collection, increasing revenue for the government to a large extent wherein the unnecessary steps have been decreased to a good extent, saving time, hassles and embarrassment to

business people. The reduction of uncalled for steps has geared up business and quickened imports/exports. Overall, the system has resulted in increased efficiency, quicker transaction processing, improved transparency, and less corruption. An automated Customs House is not a matter of choice; rather it is a matter of necessity now.

8.4 Analysis of the Case of Dhaka City Corporation (DCC)

8.4.1 Organisational Background

Dhaka City Corporation (DCC) is a self-governing entity responsible for performing the functions of the city. The whole area is divided into different wards, each represented by an elected ward commissioner. The city Mayor is elected through people's vote for every five years.Working under the Ministry of Local Government and Rural Development (LGRD), DCC was divided into ten zones to achieve the objectives of decentralisation.[16] There are more than five thousand employees working in DCC (Appendix F).

DCC is responsible for managing the city. Its primary role is to provide various services to the citizens within its limited resources (Akhter, Islam, & Hasan, 2009). DCC has computerised its internal functions to minimise irregularities and bring dynamism into corporation activities, e.g. trade-licence management, holding-tax management, issuance of birth certificates, inventory control and so on. It was expected that computerisation will also carry out these functions easier and faster for citizens decision makers. DCC is responsible to maintain the urban civic needs of the citizens living in the Dhaka city. Because of its citizen-centric nature, it needs to explore the prospects of introducing ICTs in its delivery of services.

To fulfil the objectives of the National ICT Policy, the government has initiated changes in the existing system of DCC as it is running in a traditional way, manual filing is still there, there is no sophisticated data base and citizens are not served in a more efficient way. The policy, in fact, aims at strengthening the use of more technology in public offices like DCC. The adoption of the policy/strategy is part of the government's objective of implementing e-Government in all ministries and public agencies in a bid to increase efficiency bring about transparency and minimise the scope for corruption.

[16] Information can be viewed on (http://www.dhakacity.org/)

Citizens and businesses faced many difficulties while dealing with the department, including bribery and harassment and also having to make frequent visits to get a trade licence or birth certificate. The approval of a licence or issuing certificate was used to delay with the intention of taking irregular money from the clients. Moreover, there was no effective complaint mechanism and officials were not easily accessible. In the payment of taxes/rentals/advertisement fees in public areas, people need to visit the right municipal department to have a demand note and then rush to the bank for payment. Apart from this, DCC was losing revenue due to the collusion between the staff and the payer to lower the demand. Further, there was also the question of inability to send notices to debtors for non-compliance.

8.4.2 Why the Reform?

Automation of the functions of the DCC was essential for minimising irregularities and bring dynamism in the organisation (Newagebd., 2010; The Respondent 14, 2010). E-Government is perceived by management to contribute to a number of different goals. The most pervasive reasons behind the automation of the functions of DCC, however, concern better information dissemination about and control over workflow processes and service delivery.

Objectives were significant contributors to technological change and included desires to support DCC on any ICT-related activities. The main objective was to take a new initiative for phase-by-phase computerisation of DCC businesses through systems analysis and design to develop and implement the computerised application systems. DCC has initiated the use of ICTs in its planning and daily activities to minimise irregularities and increase efficiency in trade licence management, holding-tax collection, inventory control, and other community functions (Draft Strategy Report, 2009; The Respondent 3, 2008). The main purpose of automation in DCC was to increase the productivity and transparency in the functions to reduce the scope for bribery and nepotism, thus reducing illegal trade.

8.4.3 When was the Change Initiated?

The project was launched in about 2005. However, some applications, for example online trade licence management, holding-tax management and issuance of birth certificates are expected to be completed by 2011.

8.4.4 How did the Changes Occur?

A cluster of applications to address certain internal efficiency issues together with a user-friendly website to offer online citizen services would enable DCC to ensure customer satisfaction. For computerisation of various functions, an Oracle-based integrated customised software solution is being implemented under a client server network environment. This includes a number of activities of DCC, e.g. Personnel Management & Payroll System, Trade Licence Management System, Holding-Tax Management System, and others.

DCC has been undertaking a network of fifty computers in its head office and a database that is operating already. The computerisation will make electronic trade licence management, holding-tax collection, and other functions easier and faster for citizens (Parveen, 2005). A GIS-based application (to be implemented by 2012) will run from the DCC server for planning and development of its functions, e.g. the number of households in the area for municipal tax collection etc., interfacing the application with other related activities, for example e-procurement and grievance redress etc. (Draft Strategy Report, 2009).

Trade licence management, holding-tax payment and issuance of birth certificates are being performed through a computerised system, though not fully online. Business people may inquire about their licence status and advertising space available for lease, and citizens can put grievances/complaints. DCC trade licence features include an online application that is safe and secured. Applicants will get authentication during processing. This is a quick and easy three-step procedure. DCC serves automated email to the respective applicants with the progress status. Quick preview, edit and print options are also there. DCC has already completed the process but is yet to receive permission from Bangladesh Bank (the central bank) to initiate trade licence management electronically.

Currently, through a computerised holding-tax management system, DCC collects revenue, maintaining a banking ledger with the banks through Intranet. Automation makes a change in maintaining the bank ledger through Intranet. In addition to the increase in revenue, the online network between DCC and the bank simplifies the function and reducing the time it takes. Licence fees will be accumulated by the trade licence management and holding-tax

through the holding tax management system from ten zonal offices. The zonal offices will be connected step by step to the network.

8.4.5 The Outcome of the Reform/ Effect on Performance of the Organisation

Computerisation in DCC improves the efficiency and transparency in the following ways.

Increased Internal Efficiency. Now people can apply for a trade licence online, which is processed by DCC immediately. People can also search the existing trade licences in Dhaka city by company name. Applicants can submit their necessary documents, e.g. photographs, articles of memorandum, articles of incorporation and the balance sheet, without delay through the website. Automated email is served to the respective applicant with the progress status. Quick preview, edit and print options are also there. All these enable the applicants to receive a quick response, which avoids long waiting in the process. Computerised holding-tax management in DCC creates more efficient ways of collecting revenues. Businesses also are prompt with this service because of an efficient and hassle-free channel to interact with DCC, as they often faced many administrative roadblocks while interacting with the department previously. Computerisation of some internal functions may reduce the approval time of registration/licence applications from couple of weeks to a few days. The benefits to the citizens include more responsive and quicker service and more birth certificates issued. Most of the internal processing is screen-based now, which improves efficiency in DCC functions. Thus it signifies the impact of making decision-making processes transparent. The absence of intermediaries may increase the level of transparency in the administrative processes.

DCC's payroll management system has been developed through the integrated personnel management information system. While ICTs may not be able to stop the misuse of public resources, they might enable it to be exposed, when they are applied through strengthening control mechanisms.

Increased Transparency. Information on various DCC activities can be accessed from the website. Rules and regulations are made transparent through its online presence. The system publishes a variety of information about the services, permits and licences issued by DCC. Birth registration, building permission, and trade licence forms are available in the website. Most of the internal processing is screen based, which in turn increases efficiency in DCC functions. Thus DCC shows the impact of making decision-making processes transparent. Corruption may be minimised by increased transparency in administration and

effective interaction with citizens. The absence of intermediaries can minimise the scope for corruption.

The Chief Executive Officer of DCC says:

Deployment of e-Government in the administrative proceedings in DCC introduces transparency. Over the next few years when e-Government attains an advanced stage; will minimise the discretion of public officials to monopolise access to accurate information and prevent illegal practices.

Improved services and customer satisfaction. The benefits to the citizens include more responsive and quicker service, including more birth certificates issued. Business people are also happy with the efficiency of the service, which attempts to remove blockages to interacting with the administration. The automated services enable the applicants to receive a quick response, which avoids long waiting in the process. DCC management can view these statistics making the monitoring more effective. Most of the internal processing is screen based, which leads to enhanced efficiency in DCC functions.

Checking evasion and increased revenue. Holding-tax management in DCC creates more efficient ways of collecting revenues.

Reduced scope for corruption. Automation in DCC shows the impact of making decision-making processes transparent. Corruption may be minimised by increased transparency in administration, effective interaction with citizens and the absence of intermediaries. Reduction in corruption in DCC can be visible in terms of better service delivery which is manifested through reduced delivery time and cost. According to the respondents, measuring reduction in corruption is difficult, hard to cost it. However, they assess the reduction in several ways: by notifying things on-line, degrees of standards, i.e. how faster services being delivered, on-line based financial management system, minimising bureaucratic hassle etc. Following computerisation, DCC increase billing, tax collection. Automation enables them to increase revenue in their departments. Before automation took place, a large gap was there between the targets and the actual collection of revenues. The extent of changes occurs after automation is explained in the following quote by the System Analyst of DCC:

In the payment of taxes, rentals, and charges for commercials in public premises, people had to visit the right urban department to have a demand note and then rush to the

bank for payment. Apart from this, DCC was losing revenue due to the collusion between the staff and the payer to lower the demand. Further, there was also the question of the failure of sending notices to debtors for non-compliance. Holding-tax management in DCC creates more efficient ways of collecting revenues. Businesses also are prompt with this service because an efficient and hassle-free channel to interact with DCC, as they often faced many obstacles while interacting with the department previously.

Thus it is hoped that in the near future bureaucratic corruption in DCC may be effectively minimised through the technique of enhanced efficiency and increased transparency achieved through modern electronic media.

8.5 Variation in Results between CCH and DCC

The success of e-Government requires basic change in government functioning. It also depends on how citizens view the government's role. There is no definite strategy that would fit in all instances, but some factors may be regarded as critical for successful implementation. According to the findings, the CCH was regarded as the most successful case while the DCC was termed as the most insignificant one. Although the performance of the DCC was lower than that of the CCH, some discernible achievements were also evident in the department which may be termed as best practices. Variations in outcomes occur due to differences in choices and decisions (McLoughlin *et al.*, 2004). 'Processual' perspective is adopted by change agents themselves, which will contribute to different outcomes when compared to more conventional approaches. A 'Processual' perspective is important in terms of shaping organisational outcomes of change in a particular context and in terms of the shaping of the socio-technical dimensions of change. Most importantly, public managers are the key agents at the centre of the process of shaping e-Government (Fountain, 2001). From the analysis of these two cases, it seems the automation in DCC did not flourish in the same manner as in CCH. It might be because DCC may lack the capacity to use suitable method and design techniques to develop an appropriate ICT application. The weakness could also be the lack of skills and capabilities in DCC. The following are the major causes of variations in results between CCH and DCC.

1. Leadership

Leadership and commitment represent as critical for successful implementation of e-Government in Bangladesh. The respondents from CCH and DCC observe that the leaders' commitment and interest largely contributed to achievement of success despite many

bottlenecks in the process. Findings reveal that variations in results occur between CCH and DCC due to the nature of the leadership role. During the inception of the CCH project, the computerisation in customs administration was relatively at a lower stage in terms of automated custom declarations and other custom processes. Automation of customs clearance was required without any delay. It was a long waited demand of business community and other stakeholders to computerise and modernise the customs process in CCH. For automation success in CCH, the most critical is the support from the political and administrative leadership to act as project champion.

The Joint Commissioner (Automation), CCH opines:

> *A leader in an organisation is the key to initiate any change. Successful adoption of ICT mainly depends on the role of the head of the department. The leader (political and administrative) has to be motivated to bring some changes in their departments. A project cannot succeed owing to the lack of interest from the leader. In fact, the administrative head is the key person to shoulder and materialise all these.*

It is true that the organisational context (purpose, modus operandi and clientele) of the CCH and DCC are different. However, top-level political and administrative support is lacking in DCC. DCC has apparently been failed to commit to resources, staff and moral support for these initiatives. It has to obtain such a political commitment and support from the national leaders. While a national level political decision has been successful to automate the customs procedures in the CCH, the national level decision, on the contrary, for fully automating the system was not there in DCC. An effective role of national level leadership was missing there which may be the cause for their less impressive performance compared to CCH. The automation may check the scope for corruption existing in the manual system. Automation in DCC, therefore, faces resistance to its execution (Parveen, 2005). It is the leadership role played by politicians and top bureaucrats that motivates the employees to accept the automated systems (McClure, 2001). It is true that at the very outset, resistance was also there in CCH. During the adoption, CCH had to face greater internal resistance to its execution. Thus variations in results occur between these two cases due to motivation and enthusiasm through incentives and constant pressure from top bureaucrats.

2. Organisational Factors

Organisational values in DCC may act against technological developments. It may be detrimental to electronic services as the bureaucratic hierarchy can be challenged through

the intervention of technology (Fountain, 2001). A lack of organisational demand remains in the department, which may be the cause of a lack of organisational culture, management strategy and employee attitudes within DCC compared to CCH. The respondents identify the legacy of government processes established over a long time as another barrier in DCC. Public officials in DCC failed to identify the obstacles and barriers from both supply and demand sides and cater the design according to their demands; and the obsolete mindset of senior officials and resistance to change from vested quarters are also evident in DCC. In relation to this, the Chairman of National Board of Revenue comments:

> *The legacy of government process established over a long period of time may act as a barrier. E-Government entails significant changes in organisational set-up, which may lead to resistance in the change process. The organisational factor could be one of the key barriers to e-Government adoption. In order to optimise the potential, organisational culture, management strategy and employee behavior and attitudes within the organisation must be synchronised. The attitude and changes in people's mindset is most important among all.*

3.Process Reform

For introducing e-Government the government selects departments that have maximum contact with citizens/businesses. Some departments are also perceived to be inefficient and corrupt. It is important to the success of e-Government to know that e-Government is not mere computerisation of the existing inefficient practices. The adoption of new processes and relationships with the citizens needs to be considered. CCH has already computerised the back end, and is chosen for automation as the implementation effort is less there. Like CCH, DCC could not effectively streamline the processes while inefficiencies need to be identified and eliminated before automating the system. Process re-engineering should precede automation (Taifur, 2006a).

Online payment in the public sector in Bangladesh has still not been implemented. Therefore, payments are still made by traditional ways of cash or cheques in DCC transactions. No electronic payment gateway has been developed in DCC till now. For online trade-licence management and other functions, they are yet to receive the approval from the Bangladesh Bank. Compared to CCH, DCC could not produce significant results in terms of its e-Government deployment. In DCC's moves to openness, however, delivery of services still remains one-way. DCC could not effectively focus the projects from the

stakeholders' point of view. The department provides its citizens with information on services and forms to be filled in but does not collect them online.

Projects in DCC lack clear goals with regard to increasing transparency, stakeholders' participation, minimising bureaucratic complexities, and saving money. Establishment of standards and benchmarks to assess the achievement of the projects are also lacking there. Further, short and long-term development planning with expected cost, income and deadlines are inadequate in DCC. More importantly, DCC failed to consider multi-technology approaches for many communities in the city to enable them to use the Internet.

4.Strategic Investment

The underlying reason for the extent of success in some departments is the adequate and timely funding made possible by their leaders. Variations in results occur because of the fact that some departments involved with development-oriented activities, obtain a major share of the ADP, which enables them to implement projects for ICT development (Sobhan *et al.*, 2004; The Respondent 12, 2008). Since it has very much shortfalls in financial and infrastructural facilities, DCC needs financial and logistic support from government and the donors (Tawhid, 2004).

5.Strategic Partnership

Partnership or collaboration among government bodies, private entities and NGOs can be useful in crafting reforms and expedite the implementation process (Hossan *et al.*, 2006; Taifur, 2006a). Experts in e-commerce, information technology, marketing and management may advise government policy makers. The success of CCH automation lies with the paradigm of the PPP model. Thus CCH has been successful to initiate the automation through developing a win-win relationship between the government and different private-sector players. The success is due to stakeholders' active participation in CCH automation. Private companies (CCCI and DataSoft) are chosen for designing the application where software development, training of staff, data entry and maintenance are outsourced to the private sector. Thus a strong partnership has been developed on BOOT models in CCH (Raihan, 2010; The Respondent 10, 2009).

6. Stakeholder Participation

The success in CCH is also due to stakeholders' active participation in the automation. Private companies provide technological support, training of officials and maintenance of the project. CCH with the partnership of CCCI and DataSoft initiated the project to ease the users to apply electronic facilities through interfacing.

The Chairman of National Board of Revenue comments:

> *Public-private-partnership is performing well particularly with e-Government projects through offering new knowledge and skills, financial support, and performance accountability. Private sector may offer cost-effective and smart solutions for e-Government success. However, government needs to be careful while allowing the private partners to take care of e-Government and public service delivery within the purview of public-private-partnership. A regulatory framework should be there to ensure the effective adoption of e-Government practices.*

7.Collaboration and Coordination

There is a lack of coordinated efforts in capacity-building in DCC. Very limited initiatives are taken to improve services through outsourcing, private partnership, BOT (Build-Operate-Transfer) etc. (Chowdhury, 2005; Tawhid, 2004). There is, however, no PPP arrangement for automation in DCC. Partnership is not only for obtaining resources but also for delivering quality services. A partnership arrangement in DCC projects may facilitate knowledge and technology transfer among organisations. Creation of incentives for private-sector participation in the reform programs is lacking in DCC. Failure of making partnership in DCC may restrict them to be well equipped with IT needs to ensure transparency and accountability in their functionalities. Moreover, cooperation and coordination between DCC, ministries and other departments is very crucial in this regard.

8.Source of Fund

One of the reasons for the extent of success in CCH automation is the adequate and timely funding arrangement made possible by means of strategic partnership with the private sector. Variations also occur (between these two organisations) due to the fact that CCH is the single largest customs house in terms of cargo and revenue. It has a huge interface with citizens and businesses**.** As one of the key stakeholders, CCCI has been assigned the task of automation in CCH given that it would bear all the expenses associated with automating the system. This project may not have been financially viable if private involvement had not been there. Donor support is also an enabling factor in this regard. So far, departments

handling donor-supported programs may successfully implement the initiatives than those who cannot afford. It is reflected in the following comment of the Joint Commissioner (Automation), CCH:

Funding is always a constraint in a developing country like Bangladesh but is not the main hindrance. For successful completion of a project, partnership and stakeholder direct involvement is important. Government may need to consider strategic investment by means of partnership with other sectors for new knowledge and skills, financial support, and performance accountability.

9. Human Resource Development

Ongoing professional training and awareness programs are also important for the success in CCH automation. An efficient and effective implementation of e-Government in CCH indicates a skilled human resource base with technical competence, unlike the situation in DCC. CCH signifies a skilled human resource with technical expertise. The officials in the department are more ICT-savvy and better oriented to IT because of the facilities provided by CCH.

10. Information Management

As compared to DCC, computerisation has largely increased the internal efficiency of CCH through customised software. Disintermediation removes the time delay caused by intermediaries there. CCH has already computerised the back end and chosen for automation. Policy-level insight and technology are also the causes of variations between these two departments.

11.Customer Satisfaction

In terms of degree of implementation, there are differences between these two departments. CCH seems very committed and successfully progressing towards implementing the project. They perform their functions more efficiently and cost effectively, businesses are better served, transparency in the system is improved and the scope for corruption is minimised. Customers remain consistent with the service they provide. Hence, CCH can go close to their clients if they can provide the right service at the right time. Customer satisfaction is their highest priority. Research findings by Almas Uzzaman and Yusuf (2011) reveal that the automation in the CCH has resulted into simplification of overall customs procedure. In this research, one of the stakeholders from the business community said:

Significant progress has been made in the efforts to simplify customs procedures. Introduction of Pre-shipment Inspection (PSI) has improved the situation to some extent (Interviewee 10, 2006-07).

Concerning delays in CCH, one official from a customs brokers' association commented:

AASYCUDA ++ system is in operation in customs houses. The introduction of a single administrative document (SAD) for export and import and Direct Trader Input (DTI) facility for traders to lodge import declarations electronically has made export-import declaration easier (Interviewee, 2006-07).

The time required for Customs clearance has also been minimised, and the quantity of import declarations made in two days or less has improved roughly about 25 per cent per month. 'Green channel' imports is performed without any physical verification and with nominal documentation tests (Bhattacharya and Hossain, 2006). The reduction in the number of signatures required in the procedure is a major improvement in comparison to other developing countries. According to Weerakoon, Thennakoon and Weeraratne (2005, p. 271), 'The decline in the number of signatures required for an export and import **clearance, from 25 in 1999 to five in 2002,** indicates the degree of progress in the direction of trade facilitation'.

8.6 Application of Theory

Fountain's Theory: Organisation and Technology

On the basis of this study's findings, Fountain's (2001) theory helps explain the e-Government phenomenon in the cases studied. This study attempts to apply Fountain's theory to interpret the findings to see how useful it is in this context. Findings reveal that CCH is likely to accommodate Fountain's theory in implementing e-Government in the organisation. This theory acts as an analytical framework to study the information-based changes in both CCH and DCC. It has been mentioned earlier that, in terms of degrees of implementation, there are differences between these two organisations. While CCH seems to be successfully progressing towards introducing automation, DCC could not succeed that much as compared to CCH. This section attempts to show how both of the organisations accommodate Fountain's theory in the respective departments.

Fountain's theory emphasises how ICT can be adopted and implemented in an organisation by the public officials. It is the main focus of the theory. Fountain mainly emphasises the

institutional perspective that focuses on e-Government structure and policy. The theory also stresses the relationships of formal and informal institutions, i.e. the role of institutional norms, laws, regulations and networks in implementing ICT in public organisations. Precisely, it pulls out the role of public servants working within institutionalised settings.

This framework illustrates the roles played by key actors in CCH automation, for example, political and administrative leadership, public officials, private bodies and IT developers. Fountain's technology enactment necessitates considerable knowledge and skill of the actors to establish a networked governance system. The framework highlights the processes of how ICTs can be applied by institutional actors (public servants) in CCH in the following ways.

Fountain reckons there are two main issues in e-Government to consider. First, top-down hierarchy and the second is the integration of the program.

The main theme of the theory is that it seeks progress on the first agenda. It is the leadership role played by politicians and senior-level bureaucrats to motivate the stakeholders to adopt the modern customs clearing system. Automation has been accomplished in CCH in accordance with the government's decision to ease the manual functions and achieve efficiency in improving transparency and openness and strengthening accountability in the system. CCH with the partnership of CCCI and DataSoft initiated the project to enable the stakeholders to use online facilities by interfacing. Customs clearance automation is performed by ASYCUDA++ (Automated System for Customs Data). CCH could differentiate itself (from DCC and other public organisations) due to motivation and enthusiasm through incentives and constant pressure from political and bureaucratic quarters.

By the process of enacting, technology is customised according to the requirements and the environment of an organisation. This enactment means the use of IT in an organisation transforms the interim objective of that technology and tries to adjust it to the organisational form.

One of the dimensions of e-Government is its mutual interaction with the management and organisational framework. This interaction of 'technology' and 'organisation' may be referred to as a 'two dimensional' approach (Badham, 2005, p. 126). According to Fountain (2001, p. 12), the introduction of 'objective' technology, e.g. the Internet, networking systems and telecommunications, hardware, software and digital devices, do not 'transform' the institutions of the state, instead, the technology and institutional arrangements are

complementary to each other and 'connected reciprocally'. They are mutually dependent, having 'causal effects on the other'. Technology has to be developed, configured according to the norms, values, routines and practices of the organisations. The integration of technology implies both technical and social consideration, which is 'sociotechnical'. Integrated service delivery refers to the governance of organisational and technical architecture. The actual outcomes of 'technology' depends on its 'enactment', which is the contextual organisational conditions influencing the decisions about the deployment of the technology. In CCH automation, the technology is customised according to the requirement and the environment of CCH. The use of IT in CCH transforms the objective of that technology and adjusts it to CCH environment. This is thoroughly a local initiative by local experts. In contrast, organisational values in DCC may be detrimental to electronic services as bureaucratic hierarchy is under threat through intervention of technology in DCC. A lack of organisational demand may exist in DCC. In order to optimise the potential, the organisational culture, management strategy and employee attitudes within DCC need to be tuned in. The respondents identify that the legacy of government process established over a long time may become a barrier. Hence, it is expected that public officials in DCC will be able to identify the barriers from both supply and demand sides and cater the design according to those demands; and, more importantly, the obsolete mindset of senior officials needs to be changed.

An institutional perspective of e-Government stresses the internal workings - the infrastructure and capacity of the organisation. It draws out the role of the widely shared professional behaviour of public servants working within institutionalised roles and settings.

According to Fountain (2001), e-Government necessitates a reorganisation (organisational change) and 'institutional transformation' of the state. 'Enacted technology' is the mutual interaction between technical and organisational factors. Information technology and organisational arrangements are mutually interdependent (McLoughlin *et al.*, 2004). Institutions and organisations shape the technology and vice versa. However, the task of technology enactment must not be left to IT departments; public officials should be the key enabler of technology. The institution or organisation composes the enactment of information technology (Fountain, 2001). Fountain's theory is basically about 'the embeddedness of government actors in cognitive, cultural, social and institutional structures that influences the design, perceptions, and uses of the Internet and related IT' (Fountain,

2001, p. 88). According to Fountain (2001), public managers are the key agent at the centre of the process of shaping e-Government.

CCH is a big organisation. In order to computerise and modernise the custom procedures, CCH needs to streamline its strategic planning, capacity-building in terms of human resource development, and information management. CCH is the largest government automation project in Bangladesh. Adoption of modern taxation system in CCH is an exemplary of development activities under public-private partnership. The project is implemented by local IT experts (DataSoft Systems Bangladesh Ltd), who catered the design to the needs of CCH. According to Fountain's theory, technology is developed, configured based on the norms, values, routines and practices of CCH.

The automation in CCH signifies a skilled human resource base with technical competence. Public officials in the departments are more ICT-savvy, trained and better IT oriented because of the facilities provided by the department. CCH has a system for ongoing ICT training and awareness building programs for public managers. This human resource development facilitates the organisation to offer buy-in for e-Government. Computerisation has largely enhanced the internal efficiency of CCH through customised software. Works done manually in previous system took three to five times longer than the automated systems.

Fountain contends that the effect of e-Government initiatives is not to sweep away bureaucracy but to restructure it. It requires an analysis of need and an investigation of new means of inter-departmental collaboration.

The success of CCH automation lies with a new means of inter-departmental collaboration, the paradigm of the PPP model. Partnership or collaboration among government bodies, private entities become useful in crafting reforms and expediting the implementation process (Raihan, 2010; Sharma, 2007; Taifur, 2006a). Experts in e-commerce, information technology, marketing and management can advise policy makers in introducing the use of ICTs in the CCH. Stakeholders' active participation is crucial (Akhter *et al.*, 2007). PPP is a key feature of CCH's e-Government strategy. Private companies (CCCI and DataSoft) are selected for designing the application, software development, training of officials and maintenance functions. A strong partnership has been developed on BOOT models. However, there is a lack of coordinated efforts in capacity building in DCC. Initiatives taken are very limited to improve services through outsourcing, private partnership, BOT models

etc. There is, in fact, no such PPP arrangement for automation in DCC. Cooperation and coordination between DCC, ministries and other departments is also lacking. It is expected that collaboration through PPP will eventually result in entrepreneurship and innovation through optimum use of government resources and improved service delivery to citizens. Partnership in CCH is not only for obtaining resources but also for delivering quality services. A partnership also improves knowledge and technology transfer among organisations (Taifur, 2006a).

Institutional perspective is drawn mainly from institutional economic turn and provides the study of government use of ICT in a manner that it can enhance the country's development.

The increased revenue from CCH and other departments enhances the income of the government to finance various development projects for the welfare of the people. Most people will benefit and the provision of work will be increased from undertaking these developmental projects, and other projects in the local areas will also get momentum. The automated system checks irregularities and evasion of revenues and taxes. It is expected that increased revenue earnings in CCH will eventually lead to the country's economic development (Taifur, 2006a).

According to Fountain's theory, initiatives need to be integrated to let the citizens notice a positive difference in a complex iterative process.

As the implication of Fountain's idea, a positive difference is visible there in CCH. Some revolutionary changes have taken place in the department's operation and revenue collection, increasing revenue for the government to a large extent. In this process, unnecessary steps have been decreased to a great extent, saving time, hassles and embarrassment to business people. The automated system checks irregularities and evasion of revenues and taxes. The better business services help increase customer satisfaction and thus indicate better business opportunity. Compared to the previous system, CCH now performs its functions more efficiently and cost-effectively, businesses are better served and transparency in the system is improved. Regarding imports, the CCH automation has been unique in minimising the steps required for the customs clearance from 25 steps of pre-automation stage to only seven. This simplifies the whole process to enable the stakeholders to use it without any hassle. Initiatives are taken for active involvement of the stakeholders for its successful implementation. The key role of the stakeholders in the supply chain

management could have been hampered if the system is not supportive for submissions of declarations, electronic payments of duties and taxes, and so on. Thus the IGM and EGM Module, and the Bill of Entry Module have been designed to intensify the role of the stakeholders in the system (Hossain *et al.*, 2009). Hence, CCH can have a good relationship with their clients if they provide the right service at the right time. Customer satisfaction is their highest priority now.

Fountain's theory contributes to explore the challenges when technology is embedded with bureaucratic complexity and a broader scope for work.

E-Government is not just computerising the existing inefficient processes. The introduction of new practices and interactions with the citizens/businesses need to be considered. CCH had to explore the challenges for enacting the technology in the existing bureaucratic complexity. CCH is still striving to explore the challenges to embed the technology. The department has already computerised the back end, chosen for automation as implementation effort is less there. DCC could have streamlined the processes before putting them online. Thus inefficiencies need to be identified and eliminated before automating the system in DCC.

8.7 Revised Framework for Successful Implementation of e-Government in Bangladesh

Table 8.1 presents the revised conceptual framework which was introduced in Chapter 4. The revised conceptual framework has been able to identify reasons such as environmental and stakeholder pressures as key drivers for e-Government adoption in this context. Until and unless the environment is conducive, public-sector reform will not be able to achieve the targeted outcomes. The major problem is the leadership and commitment from the top and stakeholders' active participation and collaboration through strategic partnership. This section develops a framework that comprehensively discusses the introduction of strategic partnership and collaboration with the public and other sectors as a function of a series of contingent factors, thereby predominantly building on the scholarly work by Fountain (2001).

Based on the weaknesses of existing governance and constraints in the successful implementation of public-sector reforms, this section proposes (in Table 8.1) a revised framework for e-Government implementation in the public sector in Bangladesh.

Following the intensive analysis of these two cases (CCH and DCC); a framework for a successful implementation of e-Government projects in public agencies in Bangladesh is presented in Table 8.1. This framework comprises three major dimensions: strategic planning, capacity building and information management

Some of the major underlying activities in each of these areas are listed in the second column of the table. The corresponding strategies/techniques and technologies are presented in columns 3 and 4, respectively.

Strategic Planning. Public-sector agencies sometimes need big capital, resources, skills and expertise. Available ICT infrastructure may also be lacking there. They seem to lag behind in the application of ICTs, for example EDI, Intranet, Internet, Extranet and ERP (Gunasekaran & Ngai, 2003). Despite their rigid structure and bureaucratic nature, public organisations can be advanced with strong political and administrative commitment. Because of the limited budget provision for technology and skills, a strategic alliance is important to enable them to succeed in automating their business processes (Gunasekaran & Ngai, 2003; Raihan, 2010; Sharma, 2007). Public-sector agencies also lack strategic planning and development of policy and strategy. In order to cope with globalisation and rapid change, they ought to consider long-term sustainability. For instance, public agencies like DCC may develop partnership with private entities, depending on their core competencies and citizen demand.

Groupware and shared information systems, e.g. WWW, Internet, EDI and ERP will strengthen organisational strategy formulation capacities through the provision of information based on stakeholder needs and infrastructure for delivering their services. Top-level leadership support is crucial for the formulation of this strategies and initiatives (McClure, 2001; Sobhan *et al.*, 2004).

Capacity-Building. Capacity-building and capacity-planning are concerned with the availability of resources including human-resource management, training and skill development. Strategies for example make or buy decisions and outsourcing, can be used to maximise the utilisation of capacity and minimise the total expenditure of services. Technologies such as ERP can also be used in capacity-planning, with the objective of delivering quality services with the least possible investment.

Information Management. Information management is associated with offering correct information on service performance and on the utilisation of resources for value-adding services. The information systems are also used for assessing the performance of, and regulating the operations in a value chain. Data collection, analysis, processing, retrieving and preservation of data are part of information management. Strategies and techniques, for example groupware, IT/IS, shareware, data-mining and data-warehousing, may be applied for information management (Gunasekaran & Ngai, 2003). The expertise and technologies of information may include e-Government, e-commerce, EDI, ERP, Internet, WWW etc. These information systems facilitate the integration of different linkages along an organisational value chain.

Table 8.1 A Framework for Successful Implementation of e-Government

Function	Activities	Strategies/techniques	Technologies
Strategic planning	Development of organisational policy/strategy	Comprehensive planning, forming alliances, outsourcing, selecting criteria for partnership, gaining support from political and administrative leadership, continuous improvement	Shared information systems such as WWW, the Internet and email, EDI, ERP
Capacity-building	Human resource development, training and skill development	Make or buy decisions, minimising costs, maximising capacity	ERP
Information management	Performance measure and metrics, data collection, processing, reporting	IT/IS, shareware, data-mining, data-warehousing, intranet, extranet	e-government, e-commerce, EDI, Internet, WWW, ERP

Adapted from (Gunasekaran & Ngai, 2003)

8.8 Summary of Chapter 8

This chapter has presented an in-depth case studies of implementation of two cases (the most successful and the other is the least successful one) to assess the variation in results between them. The following are the basic causes of variation in results between CCH and DCC. These are the KSF (key success factors) and lessons learned from the analysis of these two cases, can be useful for other organisations of these kinds.

Leadership. For successful automation in CCH, the most critical is the support from the political and administrative leadership to act as project champion. The automation may check the scope for corruption in the manual system. Both CCH and DCC had to face great internal resistance to its execution. It is the leadership role played by politicians and top bureaucrats that motivated the employees to introducing the new systems. CCH has been the pioneer in adopting the automation because of its effective leadership role and utmost commitment.

Process Reform. Process re-engineering should precede automation. It is crucial for the success to know that e-Government is more than computerising existing inefficient practices. The introduction of new practices and interactions with the citizens is also critical. CCH has already computerised the back end, chosen for automation as implementation effort is less there.

Strategic Investment. The underlying reason for the extent of success in CCH is the adequate and timely funding made possible by their leaders. Variations in results occur because this department is associated with development-related activities and obtains a major share of the ADP, which enables them to implement projects for ICT development.

Strategic Partnership. An excellent PPP is the key to the success of CCH automation. A unique triangle of a trade body government technology company emerges from this project, which is thoroughly a local initiative. Stakeholders and private entities are chosen to design applications, software development, training of officials and maintenance. Hence collaboration, cooperation and coordination among various departments are crucial for an effective change.

Capacity-building/Human Resource Development. Ongoing professional training and awareness-building have also been the reasons for the success. The automation in CCH signifies a skilled human resource support with technical competence. Public managers are more ICT-savvy, trained and better IT oriented because of the facilities provided by the department. This human resource development facilitates the organisation to make buy-in for e-Government.

Capacity-building/Information Management. Computerisation has significantly increased the efficiency of CCH through customised software. Works done manually in the previous system took three to five times longer than the automated system. Findings reveal that the absence of human intermediaries in dealing with government may reduce the scope for corruption in CCH. Disintermediation in CCH is the result of high transparency in those citizens and businesses are conscious of their rights and demands.

Employment Generation. The revenue increment from CCH enhances the income of the government to finance various development projects for the benefits of citizens. People will be immensely benefitted and the provision of work will be increased from undertaking these developmental projects. The services obtained by means of G2B transactions also facilitate business development, especially the establishment of SMEs.

This chapter further recognises that this study applies Jane Fountain's (2001) theory as an appropriate theoretical aspect to explain the results. An in-depth study of these two cases reinforces elements of Fountain's theory particularly among the drivers and impediments of e-Government implementation and its impact on public-sector reform through introducing transparency and openness in the system. This study seeks to find out the applicability of Fountain's theory in this context. It primarily develops on this theory. This study then develops a revised framework that comprehensively discusses the application of strategic partnership, collaboration and coordination between the public and other sectors as a function of a series of contingent factors thereby predominantly building on the scholarly work by Fountain (2001). The discussion about the key success factors highlights the factors responsible for successful implementation of e-Government across public sector agencies in Bangladesh. This necessitates strong political will and commitment for e-Government success.

The next chapter summarises the key findings, narrates the existing governance scenario, and describes the critical determinants for successful implementation of e-Government in this context. The chapter will also elaborate the study's contribution to the body of knowledge and make recommendations for public-sector organisations and suggest future directions.

Chapter 9. Conclusion

9.1 Introduction

The previous eight chapters have provided an introduction to the research, a comprehensive literature review, and the methodological design applied. Chapter 6 presented the research findings for each research question. Chapter 7 provided a discussion of the theoretical underpinnings related to this research. Chapter 8 offered an analysis of two cases for an intensive study of two most significant cases in terms of their success and achievement, identified appropriate theoretical aspects to explain the results and proposed a revised framework for automation in public-sector agencies in Bangladesh. This final chapter provides concluding remarks including a discussion of the key areas. The chapter is structured as follows. Section 9.2 discusses the outline of the research. Section 9.3 discusses the key findings. Section 9.4 provides a description of the current e-Government scenario, identifying the weaknesses and constraints in the implementation process. Section 9.5 discusses how the study contributes to the body of knowledge both theoretically and methodologically. Section 9.6 describes the implications. Section 9.7 recognises the limitations of the research. Section 9.8 suggests future research directions and recommendations.

Figure 9.1 indicates the position of Chapter 9 in the overall research design of the thesis.

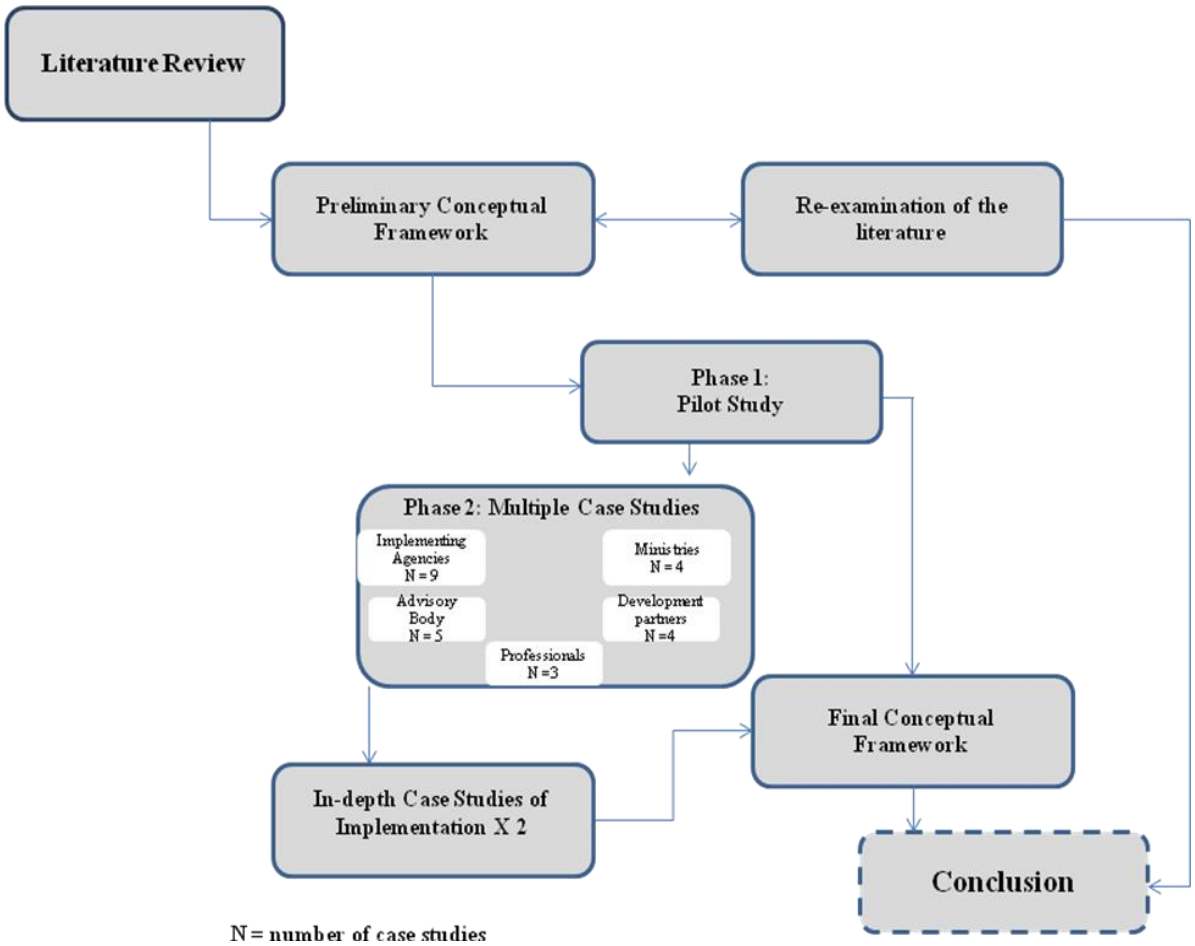

Figure 9.1 Location of Chapter 9 in the Overall Research Design

9.2 Outline of the Research Process

While some studies have been undertaken on the evaluation of the effect of public-sector reform, the empirical studies examining the achieved outcomes of the initiatives and the sustainability of the impact of e-Government in developing countries are scanty. Further, studies on issues like e-Government's impact on increasing transparency and openness in public administration, which is necessary for a better understanding of the reforms in the public-sector, have been lacking. Given this, the objectives of this study were to explore whether or not the e-Government initiatives taken by various public-sector organisations in Bangladesh have achieved the expected outcomes so far; how e-Government has contributed in creating the public management system more transparent and open, enabling the objectives of good governance; and to what extent it transforms government businesses, provides better public services and citizen participation in a developing country context. The

study attempted to address these questions by evaluating the perceptions of the implementing public agencies, policy makers, public officials and stakeholders like development partners, professionals and advisory bodies.

This study is unique in examining the outcomes of the effect of e-Government on transparency and openness in Bangladesh. In fact, there is no comprehensive study assessing the impact of e-Government in the light of existing problems and constraints in the implementation process. This study attempts to provide an investigation within the existing national as well as public-sector initiatives.

The thesis has discussed the reform initiatives taken by the government since 2001, when major initiatives have taken place. Since then it has gained momentum during the caretaker government period (2007-2008) and then with the advent of the new democratic government in 2009. This thesis has therefore attempted to focus on the major initiatives in terms of formation of the National ICT Task Force in 2001 and reorganising its structure and renaming it in 2009, and the formulation of the National ICT Policy in 2002 and its amendment in 2009, and has discussed the prospect of the promulgation of the 'Digital Bangladesh 2021' vision, and other changes and made to the initiatives as appropriate.

The review of the literature on the issues of governance, good governance, transparency, corruption and e-Government explained the theoretical underpinning of the research problem and facilitated the design of the conceptual framework of the study in Chapter 4. It is difficult to trace the performance of the e-Government due to a number of factors including leadership, government policy, strategy, rules and regulations, resources, knowledge and skills and infrastructure (Sobhan *et al.*, 2004; Taifur & Chowdhury, 2003). To address this problem, the empirical study adopted a qualitative approach and triangulation of multiple sources of data. Two sets of interview protocols (questionnaire) were applied for implementing agencies, policy makers, and stakeholders, for example development partners, professionals and advisory bodies. In order to gain a deep insight into different perceptions of qualitative data and to validate and confirm the findings, a series of in-depth face-to-face interviews were conducted with policy makers, senior public officials and representative from development partners, professionals and advisory groups. The data were collected during late 2008 to early 2009 and early 2010.

9.3 Key Findings in Relation to Research Questions

This section summarises the findings of this research to answer the research questions presented in Chapter 4. This thesis addressed one research question and seven subsidiary research questions covering issues such as the effect of e-Government on enhancing transparency and openness, the drivers and impediments of the implementation of the process, the effect of design-reality gap, the effect of disintermediation, and the role of the National ICT Task Force in the overall process. The findings also revealed strategic, institutional, operational, financial and legal factors are driving the process. Specifically, the results highlighted the role of institutional factors (political commitment, administrative leadership and organisational structure) as the most critical for its successful implementation.

Research Question. Does e-Government lead to greater transparency in public management in Bangladesh?

In order to summarise the findings of the research question, it is necessary to sum up the findings of the subsidiary research questions in the following ways.

Subsidiary Research Question 1. What is understood by transparency in public management in Bangladesh?

The respondents view transparency as the availability of information in the website regarding government functions and delivery of services. Transparency offers the opportunity for citizens to directly participate in democratic decision-making. Respondents suggest that transparency in the form of right and access to information is essential for good governance. Transparency does not only imply the web presence of information, it also signifies its access to the general public.

Subsidiary Research Question 2. How does e-Government increase transparency?

Government websites are the primary means of generating information to citizens. Public organisations, for example CCH, DCC, Passport and Immigration, BOI, RHD and others have established websites and databases that provide substantial information available to the stakeholders. These have been instrumental in enhancing transparency in their operations.

The automation in CCH ensures a certain degree of transparency in terms of making customs assessment-related information in the web. The declaring agents have access to the website; they can know the status of the assessment process and the amount of duty and taxes of a particular import consignment. Online submission of documents and sharing of those by all contribute to increased transparency as under such an environment a particular document cannot be manipulated to the advantage of a customs official or a businessman. Next, computerisation enables DCC to publish a variety of information about the services, permits and licences. Birth registration, building permission, and trade licence forms can be downloaded from the website. Computerised holding-tax management in DCC creates more efficient ways of collecting revenues.

The website in the Department of Passport and Immigration provides a wide variety of information including government forms, rules and regulations, which have created increased level of transparency in the system. The ability to monitor the progress of passport applications by citizens removes discretion to delay and makes the procedures simple and transparent. In BR, the CSRTS and an informative web portal provides information regarding train fare, train schedule and make the system transparent. The passengers also get information regarding train routes, ticket fares and availability of seats by sending an SMS to a particular number. The enhanced transparency eliminates the need to use a middleman to get a ticket with extra money. Improving citizen service delivery helps increase productivity by minimising time wasted standing in queues and seeking information. The BOST has improved transparency in BOI functions by means of providing information on BOI processes and practices, policies, legislations and allows monitoring of the status of an application for a permit or licence. The website in RHD offers information, data and notices to stakeholders. CMS improves transparency and accountability through access to information and knowledge-sharing in the department. The databases of the projects, contractors and tenders disseminate huge information, which may also reduce the scope for manipulation.

Subsidiary Research Question 3. What constitutes success in the implementation of e-Government? What is failure? Does e-Government design mismatch hinder the implementation process and, if so, how?

What underlies success or failure according to most of the respondents is the difference between expectation and reality. The respondents hold the view that the design-reality gap is

not the major cause of failure. For e-Government success, the holistic view of the organisation, its culture, system and employees need to be synchronised. The respondents from the case studies have acknowledged several key factors critical for e-Government, including institutional, resource related, accessibility and legal factors. Research findings concur with the studies of European Commission (2003), which views legal, social, technological or institutional factors as barriers to e-Government development. These factors are context dependent and may act against both demand and supply perspectives of e-Government (Modinis Study, 2007). The study recognises seven major barriers to e-Government as:

1. Leadership failures: Lack of leadership might cause sluggish progress of e-Government.
2. Financial inhibitors: E-Government initiatives may suffer from lack of funding and inappropriate procedures of cost-benefit analysis.
3. Digital divides and choice: Disproportionate skills and access may restrict the benefit of e-Government. Failure to assess the requirements of the stakeholders may also hinder the adoption of e-Government.
4. Poor coordination: Lack of coordination and integration may obstruct the establishment of e-Government networks and services within governance, administrative and geographic peripheries.
5. Workplace and organisational inflexibility: The achievement of benefits of e-Government may be restrained by inflexibilities in transforming public management systems, and organisational structures to enable them for effective electronic networking capabilities.
6. Lack of trust: Security and privacy concerns and lack of trust of government can challenge confidence in e-Government.
7. Poor technical design: Lack of interoperability or interface difficulties to e-Government services illustrates the practical flaws that may become operational obstacles to e-Government systems.

The findings also agree that legal aspects and legal frameworks can support or obstruct e-Government (Australian Government Information Management Office, 2003; OECD, 2003b). The study identifies eight legal foundations of the seven barriers that may expedite or impede e-Government development as follows.

1. Administrative law acknowledges some formal agreements that create legal ambiguities and obstructions for certain e-Government services.

2. Authentication and identification: If systems for checking identities of online users are too costly and clumsy, they may become barriers.
3. Intellectual property rights (IPR): The protection of creative works is important. Lack of safety may harm flexibility in e-Government applications.
4. Liability laws: Addressing new forms of responsibility in online relationships among government, businesses and citizens.
5. Privacy and data protection rights: Promoting or obstructing the exchange of information in e-Government functions.
6. Public administration transparency, for example freedom of information laws may augment costs and provision of access to government information as well.
7. Interrelationships between public management, citizens and other ICT players: Right to access online services or agreement between public administrations and ICT suppliers.
8. Re-use of public-sector information: May increase complex legal issues for the provision of information from different organisational contexts.

According to the respondents, technology is important, but technology alone cannot ensure success unless a strong political commitment is there. Government requires a vigorous e-Government strategy and action plan for its success. Respondents also view failure is due to: first, lack of government's concrete and comprehensive policy framework along with time frame and adequate resource allocation; and second, the obsolete mindset of senior officials and resistance to change from vested quarters. Findings reveal that organisational culture is one of the key barriers to e-Government. In order to optimise the potential for e-Government, organisational norms and culture, management strategy, employee mind-set and attitudes within the organisation need to be tuned.

Organisational barriers are linked to both attitudinal and structural factors, for example the acceptance by the top management of the strategic benefits of the concepts and lack of coordination between functional units. Further, e-Government entails significant changes in organisational set-up, which may lead to resistance in the change process. Then according to the respondents, the lack of skilled IT professionals is another major barrier that restricts success. The findings reveal digital divide as a potential barrier to these initiatives. The accessibility of the Internet is important. In order to succeed, the issue of accessibility and affordability should be considered. Finally, awareness is considered to be the most significant issue. The respondents have identified it as a major barrier to impact on

accessibility. Overall, strong leadership and commitment represent the most critical for success of e-Government in Bangladesh. Simultaneously, it is mandatory for any e-Government project to guarantee management support, skilled human resource bases and quality IT training and support.

Subsidiary Research Question 4. Does disintermediation improve the extent of transparency?

Replacing the services of middlemen, disintermediation enables the citizens to get access to information and services directly. Application of technology for automating the physical process results in lower costs, efficiency, transparency and improved business and citizen services. Nonetheless, the departments at this stage are not ready to undergo 100 per cent disintermediation. The question of displacement of human reasoning in the public domain may be addressed in that there is a continuing need for human presence and informed intervention in the effective application of computing and information technologies. The respondents agree with Buchanan and Boddy (1983), who observe that the organisations replace physical effort and manual skills, increase the rate at which physical operations can be carried out and generate information that can be used by human operators to improve control. Thus their information handling and control capabilities complement, rather than replace, human information-processing and decision-making skills. Further, allowing stakeholders direct access to government transactions by removing human intermediaries may cause some business obligation to citizen-clients, and may also need a more flexible structure and process, and increased coordination between governments, businesses and citizens. It is because of the sophisticated fabric of government-stakeholder relations in e-Government that Fountain (2001) has noted the importance of identifying stakeholders and incorporating their requirements in the advancement of e-Government initiatives.

Findings from the case studies indicate that personal contact is still significant in this public-delivery system. Touch points cannot at this stage be totally reduced. Although the absence of human intermediaries helps increase efficiency and transparency, which may in turn limit the scope for manipulation, it will take time to reduce human contact and depend on full automation. Disintermediation cannot substitute for good public management or internal controls in the absence of other associated measures. It needs data protection and systems integrity. Overall, it needs to aim at an integrated strategy and avoid a piecemeal approach in order to make it successful.

Subsidiary Research Question 5. What variations in e-Government (results) are found in practice and what effects do these variations have and why?

There are variations in results among departments due to several factors. Variations in results depend on the nature of services offered by the departments and the rules of business. It suggests that these variations occur first due to effective leadership. It is obvious that both political and administrative leadership commitment is vital for any reform to succeed. The initiatives and leadership of the heads of the departments have contributed to the successful implementation of e-Government. Next, the extent of success depends on adequate and timely funding made possible by the leaders. Variations also occur because of the fact that some departments associated with development-related activities obtain a major share of the ADP, which enables them to introduce projects for ICT development. Government initiatives often stop midway due to shortage of funds and delays in exploring further funding. The findings reveal that pioneer organisations have the ability to sustain their projects beyond the time of donor assistance. Thus the sustainability of ICT initiatives in the departments is ensured by their policy to switch over the projects to revenue budget following completion of donor assistance. Variations also occur because of enthusiasm through motivation and constant pressure from top bureaucrats. Ongoing professional training and awareness building have also been the reasons for sustainability.

Subsidiary Research Question 6. What role does the ICT Task Force play in implementing e-Government? Are government departments authorised by the Task Force or do they have the autonomy to implement the system?

The National ICT Task Force is a high-powered committee dealing with ICT-related policy guidelines. Findings reveal public-sector organisations are autonomous and are not regulated by the Task Force. They are implementing their projects on their own initiatives. The National ICT Task Force and its role are not well known to most of the departments. Hence, there is disappointment about the effectiveness of the Task Force. The new government already declared the vision of a 'Digital Bangladesh', which is an idea of using IT for management, administration and governance to ensure transparency, accountability and responsiveness at all levels of society and state. E-Government is considered to be the central theme of Digital Bangladesh. Findings also reveal that advancement of ICTs relates to prompt decisions and coordination among ministries and departments, which depend on the active supervision of the Prime Minister. However, this may delay things if the head of

government checks everything. The line Ministry for Science and ICT and its subordinate agency BCC can be empowered to implement the overall ICT development within the stipulated time frame in the policy.

Subsidiary Research Question 7. Does e-Government reduce corruption?

Since e-Government is in a very initial stag in Bangladesh, there is no concrete evidence of a reduction in corruption in these organisations. According to the respondents, reduction in corruption in fact cannot be measured at this stage of implementation. However, the organisations could perceive the potential of e-Government to prevent corruption through introducing transparency and accountability in their functions. Government websites are the primary source of providing information to citizens. The organisations e.g. BOI, CCH, DCC, RHD, LGED, Passport and Immigration, BOI and others have established websites and databases that provide huge information to general people, monitoring organisations, development partners and government officials. This information has been instrumental in enhancing transparency in their operations. Overall, the deployment of the Internet in the administrative set-up facilitates enhanced transparency and openness that can minimise the monopoly of government officials to access information and to extort bribe from clients.

Findings reveal that ICT may be applied to combat corruption if information is made available online. If administrative rules and practices are publicised in the departments' websites, there will be no scope for overregulation and disorganisation. E-Government adoption in these departments facilitates people's access to information and public services, which may have some impact on corruption reduction. This information being offered is tender notification and procurement, electronic submission of complaints, people's participation through feedback and comment on draft legislation, computerised licencing and registration, automation of customs clearance, computerised holding-tax management, machine readable passports and visas (MRPs and MRVs) and so on.

According to the respondents, small-scale bureaucratic corruption could be minimised through diversified means of high and enhanced levels of increased transparency and openness created by the use of modern electronic media, effective vigilance and awareness of the people. Findings demonstrate that irregular money taken by public officials in offering contracts, approving contractors' bills, assessing lower customs and income tax etc. are examples of bureaucratic corruption. In general, the deployment of the Internet in the

administrative set-up facilitates enhanced transparency and openness, which in turn may lower the monopoly of public officials in CCH, DCC, Passport and Immigration, DWASA, and BOI to access information and to extort bribes from clients. Thus the deployment of increased level of ICTs may strengthen anti-corruption attempts against self-serving asset acquisition by public officials.

Summary of Findings on the Research Question

The findings from these case studies support that e-Government enables the organisations to improve the level of transparency in the bureaucracy. The integration of technology implies both technical and social consideration, which is 'socio-technical'. E-Government can achieve transparency and openness in the government system when technological integration involves constant engagement between service providers and the users to 'join up services'. For its success, e-Government has to be aligned with the existing business process of the public organisations. Integrated service delivery thus refers to the governance of organisational and technical architecture. The actual outcomes of 'technology' depend on its 'enactment', which is the contextual organisational conditions influencing the decisions about the deployment of the technology.

Discussion with bureaucrats, policy makers, donors and professionals in Bangladesh found that the former system has had scope for manipulation, which can delay service provision for seeking extra money. The respondents opine that some mechanisms should be there to check these. The government organisations need to cross-check the systems so that citizens can lodge their grievances against these activities. This, according to the respondents, will make officials more accountable to control injustice. Bangladesh as a developing country has to go far to be equipped with modern ICTs. It is mandatory for a high infrastructure cost for e-Government. However, the respondents view that the infrastructure cost is required only initially to improve the existing situation, to improve transparency in the system to stop malpractices. From the analysis of these public-sector cases, this study reveals some ways and means to improve transparency, openness and accountability through introducing e-Government. In combination with other socio-economic and cultural factors like economic infrastructure, education, and rule of law, e-Government, a technological factor, may also aid in introducing transparency in Bangladesh. The automated government systems are seen to cause significant changes to make the systems transparent and open.

However, information cannot bring transparency and openness unless some methodical alterations are executed to bring out effective systemic change, i.e. change in the whole process, change in the demand, and change in the attitude of the leaders with a view to attaining the goal (Fountain, 2001; Sobhan *et al.*, 2004; Teicher, Hughes, & Dow, 2002). It is noteworthy that some changes brought in by the cases studied appear to be unique to achieve the ends. However, there are also some cases that did not succeed to the desired level. Since e-Government is a new concept to many of the policy makers, it is quite natural that they make some mistakes in the preliminary attempts. There are some factors responsible for the variations in results among the cases and some important lessons can be learnt from these for future implications so as to better understand the factors that contribute to constraints to implementing e-Government. Policy makers and implementers need to learn from failure. They need to examine the risk factors associated with the processes, check the defects and resolve them accordingly.

9.4 Constraints and Weaknesses of the System

Studies in this field are few and the literature is based mainly on anecdotal evidence instead of systematic evaluation of e-Government initiatives. The literature is limited on thorough evaluation of several e-Government projects. Information is in the form of practitioner reports, government documents and white papers (Grant, 2005). Despite many success stories around e-Government, the accomplishment is not straightforward and unconditional. The government seems to be supportive on ICT development for the nation. Hence, the scope for mass participation and the potential for collaboration and partnership to bring noticeable changes are significant. The changed processes ought to be correctly adopted to ensure sustainable outcomes.

Yet the potential for e-Government has not been achieved due to various factors, i.e. poor human, organisational and technological infrastructure, and also because of the improper approaches adopted by the donors, vendors and the government (Morshed, 2007). A strong political resolve and bureaucratic commitment are essential to attain the goals. Finance should not be a major issue as government in this context is very much in favour of allocating a budget (in addition to other foreign assistance) for IT. However, the lack of skilled manpower and adequate training is a major constraint. Organisations excelling in these areas have gained much success. Those that lack these, however, cut a sorry figure. Further, the case studies corroborate that most successful cases possess user-friendly

software applications facilitating the automation of the system. Most importantly, proper managing and maintenance support is critical for e-Government success. An effective hardware system, capacity-building and efficient management facilitating a holistic approach are inevitable for significant achievement. Those who are the pioneers also engage themselves in creating awareness among the users about the significance of e-Government. It is expected that politicians will react positively in accordance with public demand already created by e-Government implementation in those departments.

Technological efficiency and effectiveness is not the major issue. The main concern in this is to consider how the users, especially outreach groups can make the best use of it**.** E-Government originates from transnational agencies (development partners) to create the governance system transparent, but the applicability in terms of right strategies needs to be considered. Although the government needs to develop strategic partnerships to continue its effort, it cannot perform in the absence of pragmatic grass root policies (Hossain, 2005). The government needs to build up strategic partnership to continue its effort to utilise ICT for development. Government adopted some important initiatives in IT sector to strengthen and speed up e-Government with the active support of some international development partners, for instance UNDP, World Bank, USAID, KOICA, CIDA, and SIDA and so on. The strategic partnership, however, suffered some setbacks and could not work with much success as expected. The international agencies are financing the projects in banking sector reform, human resource and infrastructure development, policy formulation, and so on. Although they have similar purpose to improve ICT facilities in Bangladesh, it is often difficult to co-ordinate with them as they are working separately with different approaches. Moreover, most of these development partners have their own interests and conditionalities in approaching the governments in developing countries. Governments must take it into account before making any commitment with them.

E-Government has enormous potential to ensure efficient, transparent and responsive services to the citizens. Overall, it may solve the accessibility issue despite many debates around the problem of the digital divide. People's pain in getting services conveniently from public agencies can be resolved by introducing e-Government. Online provision of information, submission of applications and lodging complaints saves time and cost and raises accountability of the government. These are the impacts of e-Government that provide people with a greater opportunity to actively participate in the governance practices. However, the path is not straightforward and not free from problems. Lack of skilled

manpower, mindset and right attitudinal orientation of the government officials and general public, inadequate infrastructure, lack of awareness and shortage of funds may obstruct the progress. Public-private partnership for securing financial resources, creating awareness through public interactions, workshops and seminars, effective legislation and strategic partnership involving stakeholders could be the best ways to achieve the success. Good policy and a regulatory framework, right infrastructure, trained human resources, collaborative efforts with the civil society, and citizens' active participation are essential to improve the excellence of public services.

9.5 Contribution to the Body of Knowledge

In answering the research questions outlined in Section 9.3, this thesis adds to the literature within the issues of governance and the IT domain and makes a distinct theoretical and methodological contribution.

9.5.1 Contribution to Theory

From a theoretical perspective, the findings have sought to apply a combination of key e-Government theories of scholars like Bhatnagar, Jane Fountain, and Weill and Ross. These theories help explain the e-Government phenomenon in Bangladesh. This study attempts to apply the theories to interpret the findings to see how useful these are in this context. Based on the findings of this study, it has emerged that Fountain's (2001) theory in particular explains the implementation of e-Government in the cases studied. Following the description and analysis of the findings in Section 9.3, this section attempts to provide a normative dimension of the findings of the study based on Fountain's theory. Although Fountain's theory is built on the context of developed economies in general, it elaborates e-Government phenomenon in the cases studied. Fountain's theory acts as an analytical framework to study the information-based changes in the public organisations. The theory will assist the practitioners to understand how a framework that produces particular outcomes in a specific context can be applied in a different context through the process of technological enactment.

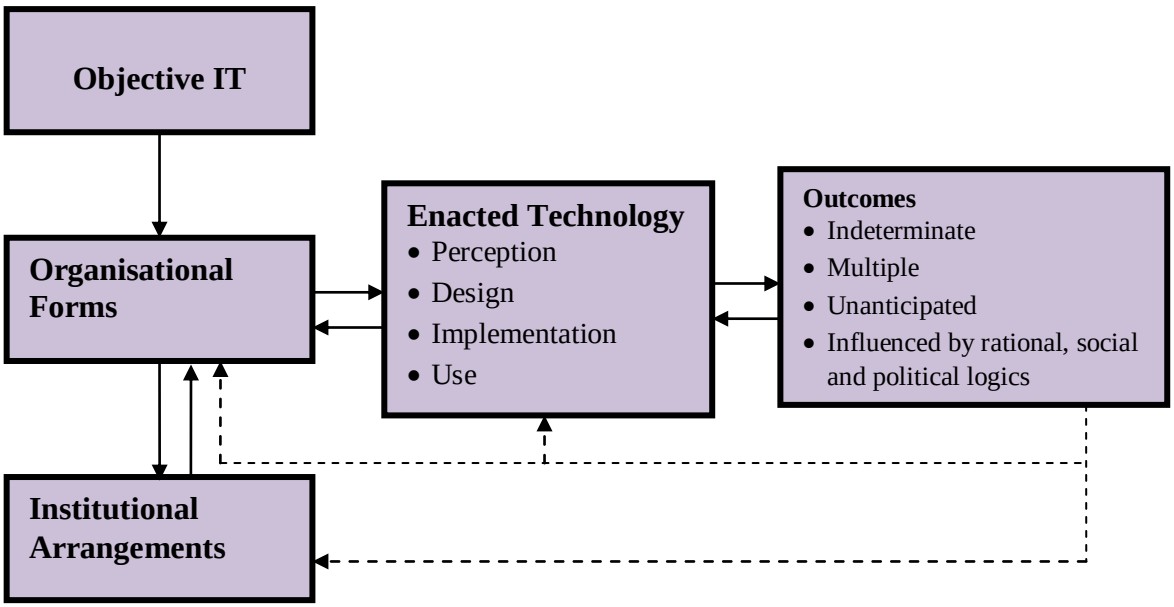

Figure 9.2 Fountain's Model of Technology Enactment (2001)

According to Fountain (2001), public officials are the key role players in technology enactment in integrating the provision of public services. This framework will enable government officials to administer the governance of organisational and technical architecture as the basis of production and delivery of public services (McLoughlin, 2008). Technology enactment largely depends on the extent of information infrastructure, architecture and design to better suit the requirements of a particular context. However, this will require modification of the design process involving a wide range of users in procurement and implementation, which also ensures appropriate governance structures to protect the public interest. It highlights the significance of integration at the infrastructural level for a sustainable result. Policy makers have to understand that the shift to procurement of infrastructural resources instead of structural resources requires reforms in public procurement processes (McLoughlin & Cornford, 2006). It is expected that this framework will assist public managers to uphold the public interest and avoid dependence on outsourcing of technical governance of the system.

The findings reveal the problems and issues faced by various public agencies. Research findings reveal that similar technology may have different results in different organisations.

The findings suggest that these issues may need to be considered more than at an individual level. The adoption of shaping the technology in this context may be hindered due to embedded institutional norms and values in the agencies. While applying Fountain's theory to this context, there may be some degrees of difficulty with changes because of the factors of strategic planning, capacity-building and information management of the respective agencies. Problems inherent in system integration as technical, organisational and managerial; overall, it is a socio-technical integration. The following are the reasons why the degrees of difficulties occur in the public agencies. In tune with Smith (2009) and McLoughlin *et al.* (2004), the findings reveal the following are the reasons for degrees of difficulty with changes in various departments.

First, choices, preferences and decisions about its deployment in a particular context, which depend on institutional and organisational conditions of different organisations. E-Government initiatives vary according to the authority and commitment of diverse implementing agencies. Technology is enacted by organisations embedded with significant characteristics, for example constitutional provisions, departmental models of organisations, public sector cultures, procurement, governance, development, implementation and use, budgeting systems, and requirements for public accountability linked to hierarchical structures. Case study reveals that in order to computerise and modernise customs procedures, CCH was in need of streamlining its strategic planning, capacity-building in terms of human resource development, and information management. Thus it was a national level decision made by the political leaders and policy makers to streamline the custom clearance procedures in CCH. The project is implemented by local IT experts, who catered the design to the needs of CCH. Technology has to be developed and configured based on the norms, values, routines and practices of the organisations. Thus organisational factors influence IT management in CCH. It is not unlikely that the structure of the government may not allow it to adapt itself to changes in the environment. Resistance was also there in CCH against the automation. If it could not adequately communicate with the outside world – in a different manner, if the department did not have a strong information system – it is clear that the likelihood of inviting a crisis in the system could have been high.

The skill of the suppliers and public-sector managers implies the capability of the managers in different organisations to understand the socio-technological aspect of organisational behaviour. Findings reveal that the prospects for change through ICT depend less on technology and more on the relation with the stakeholders in CCH, RHD, and LGED

and so on. For example, the application of ICT in CCH in particular, depends on the intricacy of interactions within departments where technology is applied through interaction between the skill of the suppliers and the public managers. Findings disclose that through such interaction 'objective technology' (hardware and software) turns into 'enacted technology' (those features of available systems that organisations choose to apply). Along with staff involvement, all these need to be aligned.

Shared interests and perceptions of the users and the designs and uses in a particular setting also guide the initiatives. Sometimes users may remain ignorant to the appropriate use of technology. Technological outcomes depend on stakeholders and the context of use regarding how to fit stakeholder inputs into the design procedure. Findings from the case studies in CCH reveal that stakeholders, e.g. Chittagong Chamber of Commerce and Industry (CCCI, the largest business association in Chittagong) and DataSoft are actively involved in designing e-Government application, staff training and maintenance of the automation project in CCH. The service users directly participate in the new multiagency arrangement. It is a unique triangle of a trade body-government-technology company emerges from this project

Institutional and legal barriers to sharing information. Public agencies may lack adequate regulatory provisions and laws for sharing information. They need to verify their own legislation to check if it limits the exchange of information. Findings reveal that public agencies should effectively implement the *Right to Information Act 2009* with no delay in offering individuals the right of access to their information. Hence, privacy principles also provide citizens and stakeholders with a right to access information. Public agencies thus need to be prudent in collecting and sharing information to develop citizens' rights to access information, and grievance procedures for breaches of privacy emerging through the process of sharing information.

Difficulties of policy makers in determining relevant issues. Policy makers may have difficulties in gathering knowledge on important issues and the potential of the information revolution. They need a great deal of authentic knowledge of IT markets, economic and social developments, which is critical for the success of a government IT policy and strategy. Findings reveal a lack of relevant information of an appropriate quality to resolve identified problems in a number of cases like DCC, BR and others. Despite the existence of

knowledge, decision makers sometimes are unable to properly apply it, which hampers behaviour and understanding.

Abrupt changes in the attention and interests of decision makers. It is expected that the decision makers would be able to evaluate alternatives and make decisions on diverse matters. Decision-making encompasses uncertainty and risk, and decision makers are averse to taking risks. The insufficiency of the leaders can cause crises in IT management. A lack of certain requisite skills, a deficiency in observing environmental changes and gathering information about them, and a lack of experience in explaining and considering a crisis have been identified in DCC, which may be regarded as indicators of a lack of leadership contributing to the failure of its automation projects.

Gap between promise and delivery by the suppliers. IT suppliers may lack the vision to minimise the gap between the promise of IT and what they actually offer to customers. They need to enable the customers to manage all the people, processes, applications, security, networks and databases that create their computing environments. The IT suppliers in CCH (DataSoft Systems Bangladesh Ltd) have successfully built their solutions for a common architectural foundation that allow customers (CCH) to integrate all IT resources. This will enable the CCH to not only react to events, but also effectively manage their IT to initiate new business opportunities.

Large and complex projects difficult to manage. Such projects involve mass people or a combination of different skills and expertise with individual interests. They also involve high financial risk and often demand outside sourcing of materials and equipment. These kinds of projects involve scheduling, budgeting cost, financial plans for major expenses and risk management. Findings reveal such kind of difficulty for project managers in RHD to manage the projects when a schedule becomes so complex upon the completion of the project supported by the donors. It may also happen when an IT person shifts from a technical role to act as a team leader in a large, complex project. Beneficiary thoughts are largely affected by management's ability or inability to handle such implementation problems.

Lack of coordination among agencies and arrangements. Findings reveal the coordination function between DCC, BR and other agencies is ineffective. Many of the projects relied on project management structures sponsored by expatriate technical advisers.

In most cases, there is an inability to transfer management skills to local staff through expatriate advisers. This may result in a lack of integration of the project implementation and may work against sustainability. Overall, coordination mechanisms in DCC did not perform as expected; a lack of coordination may probably be the root cause of delays and failures of many projects.

Communication problems between managers and IT personnel. Management of IT in the government depends on cooperation and communication between all involved since key decisions are essentially attained by consensus. An adequate working arrangement needs to be reached to bridge the differences in preference. In order to succeed, IT management environment needs to have effective channels of communication and formal procedures for resolution of any management conflict if arises. Findings reveal the fact that projects with better performance, like CCH and LGED, have a much better level of clarity regarding attributions of the managers, and a direct communication flow between the project manager and his technical team. Communication is the key to success in any relationship and, due to its absence in DCC and DWASA for example, conflict often arises and problems remain unresolved. When sharing news about unwelcome change in the organisations, leaders should pay attention to the critics and sceptics to accommodate their messages. The leaders should not impose the change on employees or colleagues without briefing them.

The revised framework (in Chapter 8, Figure 8.1) will help develop ideas about how to handle such problems. It is expected that this framework will provide an opportunity to compare existing trends at different levels in public organisations. Fountain's (2001) analysis on the effect of ICT on government is conducted to illuminate the issue that, despite the differences among various government agencies, her work is complementary. The findings also concur with the studies of McLoughlin *et al.* (2004) and Smith (2009), who view that problems in organising the use of ICTs lie in the very structures and strategies of governments. This case study reveals how some public-sector organisations have been dealing with these complex issues. Bringing about changes in the public sector is difficult and highly political due to complexities embedded in the organisations. Findings reveal that risks and dilemmas remain in the form of intra and inter-organisational relationships in public services. Public managers and system suppliers require new ways of thinking, involving the opportunities offered by digital technologies.

The revised framework suggests that harnessing technological innovations depends on the public-private relationship in the design and management of information architecture, which is more than a technical instrument, and which is virtually a substantial form of governance. Privacy, security of information, highly complex procurement, i.e. the complexity and multi-faceted nature of the process of defining infrastructure, has to be well understood. It is extremely important at this stage to engage a wide range of stakeholders. Outsourcing architecture should be outsourcing of policy making, which necessitates political leaders and public managers to be cautious to uphold the public interest.

The framework is developed to understand how interventions can more effectively be made to reshape the development of socio-technical systems. This will guide public managers to know how to shape the unpredictable organisational dynamics of change involved. This will help public managers in solving the problem of defining an infrastructure that supports the process of partnership formation in the creation of public-service infrastructure. The framework will enable the public managers to understand about integration in a real-world situation. This will also help the practitioners in knowing integration as a result of decisions for devolution, policy integration, governance and procurement.

Public managers need guidance in sorting out of policy and governance issues while dealing with better integration of ICT-enabled public services. This framework may help public managers to uphold the public interest and avoid dependence on outsourcing of technical governance of the system. Finally, the framework will offer a model of the value chain within which those components that need to be under public governance for reasons of trust and democratic control could be identified.

9.5.2 Methodological Contributions

A number of lessons can be learned from the empirical investigations of this study, which is relatively new research into the public-sector domain in Bangladesh. This thesis is an exploratory qualitative study that included nine case studies using diverse data sources such as interviews, document analysis, site visits and participant observation. From a methodological point of view, this study provides some contributions as follow. First, this study differentiates itself from the previous studies in the literature by collecting data across nine cases (government agencies) including not only the implementers but also the stakeholders, for instance advisory bodies, representatives from development partners, and

professionals. The case study approach and in-depth interviews have investigated deeply into the research context, enabling a deep understanding of the impact of e-Government practices. This study employed a two-phase data collection technique. The first phase of interviews was completed in Bangladesh in 2008, with follow-up interviews conducted in 2010. This provides an opportunity to examine the effect of e-Government practices (on transparency and openness) in different public-sector agencies. Such a cross-sectional approach has contributed to the richness of the data and, consequently, the research findings. For example, political commitment: the respondents suggest that for e-Government to succeed, a change in mind-set is crucial, along with political will and commitment for a pragmatic change (Imran, 2006; Sobhan *et al.*, 2004).

Further, the cross-case analysis of this study allowed additional data richness. This also allowed comparisons and contrasts between the cases. The qualitative findings from the cases have contributed to the formulation of a revised conceptual framework that may provide a detailed understanding of ICT-led e-Government implementation in the public sector. In addition, this study applies analysis techniques, for instance the editing approach (Crabtree & Miller, 1999), together with thematic analysis (Boyatzis, 1998) in an inductive study. Finally, this study employs the usefulness of supplementing the N-vivo program along with the editing approach.

9.6 Implications of the Research

To examine the effect of e-Government on transparency and openness, this study emphasised assessing the information and services offered by e-Government in Bangladesh. This study also identified the effect of a number of factors critical for its successful implementation. There is a need for developing an effective framework, which is necessary for advancing e-Government development. This thesis presents a framework based on Fountain's (2001) theory. Findings reveal that Fountain's framework with some modifications can be applied in a developing country like Bangladesh. This framework dictates that e-Government is all about knowledge management and organisational learning. Involving various aspects in an emerging e-Government using a case-study approach in different public sector organisations as a way of testing the framework is proposed. This framework also focuses on strengthening the back-office operations (Homburg & Bekkers, 2002) and internal factors, along with analysing external factors (IT infrastructure, human capital) in a developing country context (Koh *et al.*, 2005), and introduces e-Government in

a national context, for example in government departments (Hu *et al.,* 2005). This is new research in this area. This study has considered the evaluation of the effect from the views of public officials: how they observe e-Government, their awareness and experiences of its impact. This type of respondent could be the best to determine the factors critical for e-Government to effect transparency and openness. Further, it is important to explore the extent of relations between e-Government policy makers and public officials.

The government faces new opportunities and challenges on how e-Government can make changes in the society. Although the government has designed its National ICT Policy and e-Government Strategy, the absence of a comprehensive framework to guide how to use and deploy the technology leads to ineffective strategies. Hence, a holistic approach in the planning stage offers an important guideline for successful implementation. The study has a number of implications, the first of which can be drawn from the way existing governance is improved through introducing ICT-based e-Government practices.

This thesis has proposed a set of strategic factors affecting the implementation of e-Government in Bangladesh as a tailored implementation framework that may help policy makers to comprehensively plan e-Government initiatives. As discussed in Chapter 2, these factors are classified into four interrelated components: institutional, resource, access, and legal (Rashid & Rahman, 2010) and can resolve various challenges that remain in this process. According to the findings, there are some points that can help policy makers to effectively plan the initiatives. It is worth mentioning that considering all these factors in the planning stage, with proportional investment, can lead to acceleration of the development of the concept. The framework can also be applied elsewhere (like the private sector, NGOs and civil society) with necessary modifications. As there is an increasing need for the developing nations to streamline their governance practices and public service delivery, this study involving e-Government championship with stakeholder active participation, collaboration and partnership with other sectors would offer valuable guidance to policy makers, development partners and professionals.

The study has found that for the success of e-Government, the governance practices should be improved and leaders ought to be committed. Political commitment and leadership is critical to the whole gamut of e-Government. Second, this is a relatively new reform initiative, which necessitates awareness building among the public officials and the common people to know about the efficacy and benefit of it. Finally, some factors are responsible for

the variation in results among the cases and some important lessons can be learnt. No developing country is thoroughly equipped to adopt a comprehensive e-Government practice (Bhatnagar, 2004). However, e-Government can be introduced for public services to be offered electronically and provide substantial benefits in enhancing transparency and openness in the system. Instead of waiting for total readiness, developing countries may learn by doing.

9.7 Limitations of the Research

Although this thesis makes a contribution to the body of knowledge of the application of ICTs in public management, the researcher acknowledges the limitations of the study.

This study was based on a supply perspective in which the service providers' view was taken into account. Yet the perspective of service recipient was not considered due to limited time and accessibility of the users of e-services in Bangladesh. Findings reveal that, depending on the existing ICT infrastructure, departments go for partial instead of complete electronic service delivery. However, some of the applications have attributed a number of benefits to the stakeholders. Therefore, the limited study was based on service provider views.

Case studies have been applied in this research and provided empirical evidence of the effect of e-Government. There is no statistical inference across the study. However, the value of case-study research, as stated by Yin (1994) depends on the ability to provide 'analytical generalisation' as opposed to that of a survey, to introduce 'statistical generalisation'. In analytical generalisation, the researcher is 'striving to generalise a particular set of results to some broader theory' (Yin 1994, p. 36).

The sample of cases for this study could be drawn from other developing countries or from different sector contexts that are falling behind in e-Government adoption. Doing so will enhance the generalisability of the findings, but generalisability of the results should be done with caution as case-study research lacks the ability to statistically generalise beyond the case investigated (Eisenhardt, 1989). The analysis for this study was based on in-depth interviews and data from nine cases (nine public-sector organisations). The researcher, in this case-study method, has relied on inferences to make analytical generalisations based on observations and perceptions of the respondents at a particular point of time. According to Yin (2003) respondents could design their responses to be agreeable to the researcher and

protect self-interest. The researcher, therefore, has realised that the in-depth interviews conducted as part of the data collection method may be subject to bias and sometimes poor recollection.

In order to increase reliability and offset the biases, the researcher developed interview protocols for both public officials (implementing agencies) and stakeholders (development partners, advisory bodies and professionals), edited and compiled through pilot study and audit trail to triangulate data. An audit trail signifies the extent to which a researcher can demonstrate neutrality of the research interpretations. This was performed by recording and storing all data, notes, and preliminary developments of findings. Cross-case analysis was performed to develop a more accurate, consistent and reliable representation of the phenomenon under investigation.

The issue of reliability was also noted as a limitation of qualitative research methods. There are four major issues of reliability: subject error, subject bias, and observer error and observer bias. Acknowledging these issues, the researcher can develop strategies in the research design to reduce their effects. For instance, interviews were conducted face-to-face on location with respective organisations in order to build rapport with the respondents. The officials with appropriate experience and involvement in e-Government implementation were selected to obtain more accurate data from the interviews. The researcher also interviewed experts and professionals to assist with increasing reliability and validity of the findings.

Examining government documents, reports, attending an international workshop and a National ICT Policy Steering Committee meeting were also applied as a method of building trust with the respondents and triangulating the data. The application of an interview protocol and triangulation helped minimise the effect of observer bias in this regard. The following section provides suggestions for future research, which may possibly overcome some limitations.

9.8 Future Research Directions

This study has offered a useful basis for future research. It suggests several ideas for undertaking future research and may also qualify the limitations of the study identified in Section 9.7.

Future study on e-Government may progress in the following ways.

The findings from the current study have revealed several areas for future research. First, the research provides a comprehensive conceptual framework based on qualitative data analysis. It may be suggested that some forms of quantitative analysis of the framework can be performed in order to know the degree to which e-Government affects transparency and openness and the extent to which various challenges affect successful implementation.

For future research, it may be recommended to monitor the progress of the proposed framework. It may need to customise the existing implementation schemes according to the framework. This probably will lead to generating new ideas for e-Government implementation. As constraints and challenges remain in the process, future research in this area can focus on determining the barriers and how ICT can be employed to overcome these.

Findings revealed that, at this stage of adoption, evidence on the anti-corruption effect of e-Government in the public agencies is virtually non-existent. The cases were studied to highlight the problems with previous manual methods and implementation challenges they are facing. Then the new approaches observe the impact on increased efficiency, improved transparency, reduced delivery time and the resultant effect on increased revenue and so on. Hence, a number of benefits are achieved by the users in regard to reduced time and hassle and increased transparency and openness in the government system. However, after a considerable period of time when e-Government reaches maturity in this context, future research may be undertaken to assess its anti-corruption effect from the perception of both the service provider and the service user. Transparency initiatives have to bear fruit at various levels. It is recommended that future researchers will follow up by measuring the long-term efficacy of these efforts. From the perspective of statistical generalisation, this study could provide a direction that the practitioners may apply during the implementation, enabling future e-transformation to be compared and benchmarked. Thus it is hoped that, following an advancement of e-Government implementation over a period of time, there will be scope for future intensive research with the recipients of e-services to cross-check the results of the study.

Since e-Government practices in the public sector are in a nascent stage, it is quite early to evaluate its effect on reducing corruption. It takes an organisation a reasonable time to

assess the outcomes of the changes as these have an impact on softer issues like organisational cultural changes, dynamics of relationships and trust building etc. (Hu *et al.*, 2005; Jansen, 2005). Therefore, longitudinal qualitative studies could be an appropriate method to assess the impact of e-Government across these 'softer' attributes. This study has also signalled the lack of leadership and e-Government championship in the public sector. Identification of leadership commitment is important for successful implementation of the initiatives, and demands future research.

As the growth of ICT is ever increasing, this ICT-led governance model could also be applied to those sectors as it addresses the lack of good governance, transparency in terms of flow and access to information, and the creation of awareness. Further research could be undertaken in other public agencies that are relatively less ICT-driven compared to the pilot organisations. The results could be compared with the present study to evaluate the effect of e-Government practices in different environments. Finally, the effect of the factors critical for e-Government can be more closely investigated. With the vision of Digital Bangladesh, which is gradually expanding towards achieving its goals, the opportunity to examine the influence of such factors persists. Such research will offer significant insights for future ICT development. A longitudinal study will allow the government to develop strategic initiatives for the rapid ICT growth.

This thesis proposes a number of recommendations as below:

- Political leaders should play a positive role in creating an enabling environment. Thorough discussion and dialogue with the head of the government is important for public-sector reform for improving delivery of services.

- Public servants associated with reforms should be provided with high-level access to policy makers to eliminate obstacles in a timely manner. The political leadership should be there to signal support.

- There are many systemic problems that may be the cause of inefficiency in the government. Short duration and unexpected and abrupt transfers of officials happen quite often in the public administration in Bangladesh. Public servants should be given a considerable time for their contribution. Especially, senior civil servants should continue their tenure till some outcomes are achieved. For instance, the sudden transfer of the

then Chairman of NBR in 2009 may seriously affect the automation in CCH during its inception. The government should handle the issue of short tenures for public officials by executing the provision to stay for minimum periods and let them do their best for the sake of the IT in the respective departments. Exceptions will only be allowed by approval from a higher body.

-The government needs to promote greater competition in service delivery across sectors by adopting effective regulation. Public-private partnership performs well, particularly with e-Government projects, through offering new knowledge and skills, financial support and performance accountability, adoption of PPP models may be encouraged. The private sector may offer cost-effective and smart solutions for e-Government success. However, e-Government and the delivery of public services should not be left arbitrarily to the whims of the private partners within the purview of the PPP (Raihan, 2010; Sharma, 2007). A regulatory framework should be there to ensure the effective adoption of e-Government practices.

- Ensure interdepartmental coordination for information-sharing and more effective implementation.

-The Right to Information Act should be effectively enforced through training of officials in-charge of information-sharing and citizen-friendly service delivery. The role of civil society is important in this, which may be allied with the initiatives of the government. Independent audits may be performed to monitor the flow of information that should be routinely released through the websites.

-A citizens' charter should be strictly followed. This could be a useful way of generating information to citizens on how best a service can be used. Staff and user consultation should be ensured before framing charters.

-In order to make it sustainable, there should be some regular evaluation to assess the effects of the reforms, i.e. whether or not an enhanced level of increased transparency and openness created through modern electronic media, effective vigilance and awareness of the people may have any impact on reducing corruption in the public sector.

-The government needs to maximise political support across parties for their initiatives to facilitate their long-term sustainability. When political support is strengthened, ICT development initiatives will be more effective. In the absence of opposition, much greater risks remain there. Regular dialogue with opposition parties should be there during formulation and implementation of the initiatives.

9.9 Final Summary

This final chapter has summarised the findings to answer the research questions, discussed the problem in the existing public management system, its constraints and challenges and has proposed a framework to address these issues. It has highlighted the implication of the research and its contribution to current literature and has also discussed methodological issues and areas for future research.

This exploratory and descriptive research has aimed to provide an empirical study on the use of ICT-based e-Government practices in different government organisations in Bangladesh. Based on a review of extant literature and a qualitative study, this thesis has investigated the effect of e-Government in the public sector; how it has been affected by the introduction of ICT-enabled e-Government to advance traditional public service provision and access to information, and may, under some circumstances, reduce the scope for corruption.

The respondents state that some of the e-Government applications in Bangladesh have attributed a number of benefits to the stakeholders. Implementation of e-Government in this context is still in a preliminary stage and yet to fulfil its potential despite many obstacles in the process. However, it is evident from the findings that e-Government can bring transparency into public management and politics.

Findings have drawn the conclusion that the deployment of the Internet in all matters of public administration creates more openness and transparency, hence, may limit the scope of public officials to monopolise access to relevant data and information and extort bribes from their clients who need to approach the government for services. The tremendous advancement of the Internet and other technological means create public managers more open, responsive and accountable to their clients. From the analysis of the public-sector cases, this study found some factors and mechanisms for how e-Government helps improve

transparency in the system. Significant use of ICTs in various government agencies may hasten greater openness and transparency in the government in increasing quantity. However, transparency may not be able to automatically bring the expected results. The intelligent application of different techniques of ICTs ought to be incorporated in various strategies of the government for the provision of quality public services. A fundamental change in mindset is crucial together with political will and commitment for change.

In conclusion, the thesis has pinpointed the scarcity of research on the effect of e-Government on transparency and has attained its objective of enhancing the understanding of this public-sector reform initiative, investigating the influence of the national initiatives on this reform. Overall, this thesis highlights the critical factors for e-Government and proposes a framework based on Fountain's (2001) theory for successful implementation of the e-Government strategies in a developing country like Bangladesh.

Thus the main objectives of the study are to investigate:

1. The current state of transparency and openness in the government systems in Bangladesh
2. The current state of the use of ICTs/e-Government in various public agencies in Bangladesh.
3. The role of ICT in increasing transparency and openness in the public management in Bangladesh.

First, offer a brief outline of the research process, second, summarise the research findings obtained from the qualitative data to answer the research questions presented in this thesis, third present the current governance and e-Government scenario, identify its weaknesses and constraints in the process and then propose a model based on research findings as a contribution of this research to theory development, and fourth, discuss the contributions, implications, methodological issues and further areas for research.

Based on the findings, it has emerged that Fountain's (2001) theory in particular explains the adoption of e-Government in the cases studied. Although Fountain's theory is based on a developed country context, it also contains some relevance in a developing nation like Bangladesh. Fountain's theory is applied in this research to interpret the research findings. It acts as an analytical framework to study the information-based changes in the cases studied.

By the process of enacting, an attempt is made to customise the technology according to the needs of their environment. This enactment implies the application of IT in an organisation transforms the interim objective of that technology and accommodates it to the organisational form.

Fountain (2001) who believes innovation is incremental, explains her theory in a conservative way. Incremental innovation is reorganising the way of doing businesses. Her theory is truly based on the Anglo-American context, where institutional embeddedness is crucial. The shaping of the technology is in fact hindered due to embedded institutional norms and values in the public agencies. On the other hand, institutions may not necessarily be embedded with the technology where the system is too bureaucratic and too rigid. In this context, however, actors who have the authority to shape the reform initiatives are very important.

Fountain's theory helps explore the challenges when technology is embedded with bureaucratic complexity in order to give a broader scope for work. Her theory may be suitable as it is about the institutional perspective of e-Government, which focuses on the internal workings and draws out the role of the widely shared professional behaviour of public servants working within institutionalised roles and settings. Fountain (2001) argues that the task of technology enactment must not be left to IT departments; public officials should be the key enablers of technology. Her theory is basically about 'the embeddedness of government actors in cognitive, cultural, social and institutional structures that influences the design, perceptions, and uses of the Internet and related IT' (Fountain, 2001, p. 88). Findings also reveal that public managers are the key agents at the centre of the process of shaping e-Government. They can counter some of the issues (institutional embeddedness with that of technology) delineated in her theory. Thus Fountain's (2001) theory can also be applied with some modifications. As a matter of fact, institutional and technical factors appear to be the major two constraints of e-Government implementation in this context.

The design reality gap and effects of other institutional barriers in the public-sector organisations may restrict the realisation of expected benefits and undermine the introduction of e-Government. Although the studies of McLoughlin *et al.* (2004) and Smith (2009) conform with the developed country situation, findings of this research agree with these studies, which reveal key problems when public organisations can frustrate initiatives because of the cultural barriers inherent in the public sector. Fountain identifies organising

the application of ICT in government is hard not only for developing countries but also for developed countries (Heeks, 2005a; McLoughlin *et al.*, 2004). Initiatives in technology are often thwarted by authority, feasibility and value. The commitment at the top and the skills and staff involvement at different levels need to be aligned. Findings show that the benefits of the outcome depend on the ability of different organisations to manoeuvre strategies that entail restructuring organisational practices.

Findings concur with Heeks (2005a) that these externalities can be of different forms, e.g. 'disciplinary externality' may happen when the designer originates from a different work domain than that of the users. The educational background, departmental culture, even 'language' of the designer, appears to be different from the user of the application. This in turn may create problems if the stakeholders' context is misinterpreted by the designers. Given the e-readiness in Bangladesh, a large gap may exist between the project design and public-sector reality. Since e-Government projects are mostly imported through technology transfer and donor assisted programs, design mismatch may take place if the implementers do not have the requisite knowledge of ICTs.

This study has presented a comprehensive conceptual framework, which also takes into consideration the effect of ICT-enabled e-Government on the provision of public services, transparency and openness. It is the intention and hope that this study provides valuable insights into working within these prospective and challenging circumstances. Implementation of e-Government necessitates crafting strategies that affect the structures and processes of the government. Government use of information in policy making and providing citizens' services and opportunities for democratic participation is a highly challenging and daunting task. It demands a large amount of scarce resources, money, skills and the commitment of the political as well as public-sector leaders and managers.

The findings reveal that infrastructural resources can be appropriated in different user domains and contexts subject to modification of the design best suited to that context. The solution needs to be based on available techniques that are related to both social and technical issues of the adoption and implementation. The information system is developed to perform a particular function to fulfil a specific requirement of the user of a particular context. Fountain's (2001) theory forms the analytical framework to study the information-based changes in different public organisations where the mutual interaction of e-

Government technologies with the management and organisational framework is the key issue.

This framework suggests how to face these challenges. If the institutional barriers are to overcome, success of e-Government largely depends on the motivation of the organisations in their pursuit of the outcomes. Weak governance of ICT in different public agencies is the cause of failure or poor outcomes. Governance and capability are the main factors for variation among different public-sector organisations. Leadership and commitment from the top to steer efficiency and effectiveness of the initiatives is important. Next, resources in terms of funds, skills and the right calibre are essential to improve agency capacity to manage ICT. This framework suggests that state-of-the-art management of public agencies is essential to manage ICT in the public sector. Results of this thesis highlight that technology and institutional arrangements are complementary to each other and are mutually dependent.

Drawing on adoption of e-Government and its effect on increasing transparency and openness this thesis has attempted to identify the key factors responsible for its successful implementation in a developing country like Bangladesh. Based on the framework proposed, this thesis has highlighted that institutional, resource, access and legal factors are critical. The case of CCH in particular signifies government's clear vision of the technology adoption. The institutional arrangements of the CCH shaped the implementation of e-Government. It is true that 'reconfiguring' the institutional arrangements, in which e-Government technologies are embedded, is not easy. It needs to engage management, operational and technological capabilities at different levels of public organisations. Finally, while recent literature on e-Government has portrayed IT as a tool for reforming public administration, this thesis divulges that the norms of traditional cultures, routines and standard operating systems appear to be the major obstacles towards government transformation.

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Appendix A

E-Government as a tool to promote transparency and openness: the case of Bangladesh

For Group 1 (Government Officials)

Section A: Use of e-Government services

1. What do you use the Internet for?

2. Which phase do you think your department is at present in terms of e-Government evolution?

3. What is the mode of your e-Government initiatives in your department?

4. Do you think e-Government practice in your department provides information according to user needs? Is the information useful, relevant and timely?

5. Is the information accurate and up-to-date? Is the website easy to use?

Section B: e-Government and Transparency

6. What is the present status of transparency in your department? Can citizens and/or businesses after the adoption of e-Government in your agency follow the decision-making process and reasons why a particular decision has been made?

7. What according to your view are the factors affecting the transparency in your department? What are the problems for lack of transparency?

8. How do online tools increase transparency? Do you think ICT/e-Government has the potential to facilitate the achievement of greater transparency and how?
9. Should e-Government in your department play a central role in developing transparency and accountability?

10. How much progress do you think your organisation has made towards achieving increased transparency and accountability?

Section C: e-Government and Corruption

11. What do you think corruption to be? Please cite some examples.

12. Is there any impact of e-Government on reduction of corruption in your department?

13. What would indicate to you that corruption had been reduced?

14. Do you think there is any link between transparency and corruption? If so, please describe that link. Do you think e-Government can minimise corruption by improving transparency in your department; if so, how; if not, why not?

15. How would you assess whether e-Government implementation was successful? How would you determine its failure?

16. What according to your view are the main causes of its success and/or failure?

17. Are e-Government models designed basically for developed countries applicable and effective in Bangladesh? Have you observed any design mismatches? If so, please describe them.

18. Is there any serious hindrance regarding the reduction of corruption due to e-Government
design mismatch? If so, please explain how.

19. Do you think absence of human intermediaries in dealings with government (disintermediation) can reduce the scope for corruption? If yes, how and to what extent?

20. Have you notified differences in e-Government implementation among departments? If so, what differences, what effects have they had and why?

21. What are the causes of these variations in e-Government implementation?

22. Is there any difference in outcome due to these variations in e-Government implementation?

23. What have been your observations and experience of the role of the ICT Task Force?

24. What is the role of the ICT Task Force in e-Government implementation?

25. Is your department authorised by the ICT Task Force or you have the autonomy to implement the projects? What difference does this make? Please explain.

For Group 2 and 3 (Professionals, donor agencies and advisory bodies)

E-Government as a tool to promote transparency and openness: the case of Bangladesh

Section A: Use of e-Government services

1. As a development partner and actively associated with the projects of the Bangladesh government, what do you regard as the major phases the introduction and development of e-government. Which phase or phases do you think ministries and their attached departments have reached in terms of e-Government evolution?

2. Do you think e-Government practice in various government agencies provides information according to user needs? Is the information useful, relevant and timely?

3. Is the information accurate and up-to-date? Are the Ministries and their attached Departments' websites easy to use?

Section B: e-Government and Transparency

4. How do you assess the status of transparency (availability of information in the web) in the agencies you support? What is the present status in each case?

5. In your view, what are the factors affecting the transparency in those agencies? Are there problems for lack of transparency? If yes, please describe them.

6. Do online tools increase transparency? If so, how? Do you think ICT/e-Government can improve the level of transparency and how?

7. Should e-Government in the agencies play a central role in developing transparency and accountability? If so, please describe why and how.

8. How much progress do you think the agencies have made towards achieving increased transparency and accountability/

Section C: e-Government and Corruption

9. What do you think corruption to be? Please cite some examples.

10. In your view, what is reduction in corruption?

11. What would indicate to you that corruption had been reduced?

12. Do you think there is any link between transparency and corruption? If so, please describe that link. Do you think e-Government can minimise corruption by improving transparency in government agencies in Bangladesh?

13. How would you assess whether e-Government implementation was successful? How would you determine its failure?

14. What according to your view are the main causes of its success and/or failure?

15. Are e-Government models designed basically for developed countries applicable and effective in Bangladesh?

16. Is there any serious hindrance regarding the reduction of corruption due to e-Government design mismatch?

17. Do you think absence of human intermediaries (disintermediation) in dealings with government can reduce the scope for corruption in various government agencies?

18. Have you notified differences in e-Government implementation among departments? If so, what differences, what effects have they had and why?

19. What in your view are the causes of these variations in e-Government implementation in government departments?

20. Is there any difference do you think in outcome due to these variations in e-Government implementation?

21. What variations in e-Government outcomes do you think are found in practice? Please explain the effects and the reasons for them.

22. Do you think supporting (financially and technologically) the government in its e-Government initiatives is worthwhile?

Appendix B

Case Descriptions

Case A: Department of Passport and Immigration
The Background/Context of the Reform

The Department of Passport and Immigration[17] issues passports to general people. The validity of passports is ten years. Issuance of passport and other functions are regulated by the Bangladesh Passport Order, 1973, and the Bangladesh Passport Rules, 1974. The passport form can be secured without charge from all regional offices in Bangladesh and foreign missions overseas. The forms can also be obtained from the website of the ministry and the department. The department has one-stop desks for passport modifications or corrections. Information in the passport can also be revised or updated within a day. Meanwhile, the government has implemented machine readable passport (MRP) and machine readable visa (MRV) as per guidelines of the International Civil Aviation Organisation[18] (ICAO), which will lead the country a step forward to a digital Bangladesh (Bdnews24.com, 2010).

In this department, the previous manual file-processing system involved several steps, and took couple of months to make a decision. Most importantly, the speed of decision for a passport or visa issuance was dependent on the whims and fancies of the employees concerned. Clients' requests were addressed slowly. Most often service seekers moved with the file and obtained the decision after paying speed money for expediting the process. Thus the system was very cumbersome and was very difficult to get a passport without paying any illegal gratification. Thus an integrated e-Government practice was needed to simplify police verification and authentication of birth certificate to expedite the process (Iqbal, 2009a; The Respondent 1, 2008).

According to Action 63 (short term: to be implemented within 18 months) of the National ICT Policy, online issuance/renewal of passports should be enabled by the Department of Passport and Immigration (MOSICT, 2009). Bangladesh passports are hand-written with photo and signature posted manually which have always been prone to forgery. Further, the

[17] http://www.dip.gov.bd/

[18] http://www.icao.int/

absence of a database also caused the illegal issuance of multiple passports for one person. According to the ICAO, all its member countries would have to issue MRP and MRV.

Why the Reforms had been Initiated in the Department

Reforms in the department were initiated:

- To increase the efficiency of the passport administration and to create it more service delivery based
- To simplify the systems of obtaining passport and visa within a reasonable time
- To enable the process to be more convenient and hassle free
- To minimise or eliminate harassment by middlemen and prevent corruption
- To stop forgery that is likely to happen with manual passports
- Because without automation MRP and MRV cannot be introduced.

When the Reform was Initiated

The reform was initiated in 2006.

How the Reform had been Initiated

The automation process establishes rules and procedures to be available on the web. Provision of information on the web creates accountability by publishing documents to the public to resolve their complaints against any corrupt action. Through process automation, some internal department functions are computerised which offer significant benefits. The department has built their own databases for internal use. People are given a track number to enable them to know the progress of their applications for passports and visas.

Outcome of the Reform

Computerisation in the department leads to standardised procedures for delivery of passports and visas: enables citizens to monitor the progress of passport applications; removes discretion to delay processing and makes procedures simple and transparent.

Automation in the department cuts down processing times improves quality of decision-making and lowers corruption. It automates routine matters, e.g. workflow and file numbering. Employees can now perform more value-added work. Discretion to expedite or slow the movement of the file is minimised. As a whole, file-processing time has been reduced. Under this system, each applicant will obtain the service within the specified time.

Applicants will be able to apply online and track the service. Although the focus of reduction in corruption is not on IT but on simplification, increasing internal efficiency and transparency in the systems and active interaction with citizens.

Case B: Chittagong Customs House (CCH)

The Context of the Reform

CCH[19] is functioning under NBR, the department which is authorised to collect direct and indirect tax revenue in the country. CCH is the largest single customs house with regard to cargo and revenue. Automation has been accomplished in CCH in accordance with the government's decision to initiate it in all its departments to ease the old manual procedure and achieve efficiency in reinforcing accountability and reducing corruption. CCH has a huge interface with citizens and businesses and is perceived to be corrupt (TIB, 2008). The payment of 'speed money' to staff and officers in the process of 'Bill of Entry' or a file with decisions on assessment of goods is a common phenomenon in customs transactions. According to Action 71 (short term: to be implemented within 18 months period) of the ICT policy, quick customs clearance of cargos be ensured by NBR.

Why this Reform

- To automate the customs procedures and to reduce customs clearance times in order to ensure better trade facilitation
- To facilitate international trade through quick customs clearance of export and import cargos
- To control the evasion of revenues and irregularities through greater efficiency, improve transparency, reduce corruption and speed up transaction processing.
- To facilitate measurement of service levels, monitor processing delays, and reduce processing time
- To minimise corruption by reducing the scope for payment of 'speed money'.

When the Reform was Initiated

The reform was initiated in 2008.

[19] http://www.nbr-ctg.com/

How the Reform had been Initiated

The whole procedure of Import General Manifesto (IGM) module is being applied during the first stage of automation. Duty assessment for import cargoes and documentation of export cargoes are performed electronically. This system will enable a consignee, i.e. C&F, to manage the whole export process electronically from their own premises without physical presence at the CCH. The appraising officer assesses the electronic documents and thereafter approval is forwarded online to the C&F.

The e-Government Project features include:

- PPP with no GOB funding
- Build-own-operate and transfer (BOOT)
- Centralised planning while implementation is decentralised
- Rearrangement of people, practice and physical infrastructure
- Planned, designed and developed by local IT experts
- Stakeholders' direct involvement.

The system has a provision of clarification through exchange of queries and responses between CCH and the C&F.

The Outcome of the Reform

This automation enables shipping agents, freight forwarders and stakeholders to send IGM and EGM electronically from their premises. Apart from the C&F, this system also enables the exporters and importers to manage documents after getting the self-clearing licence. The automation facilitates CCH to check the evasion of revenues benefits the businesses from harassment and prevents illegal business. Overall, the system has resulted into increased efficiency, improved transparency, quicker transaction processing and less corruption.

Case C: Dhaka Water and Sewerage Authority (DWASA)
The Context of the Reform

DWASA[20] is responsible for collecting water and sewer bill payments. Individual citizens are expected to pay the utility bills at the office of the department or a national bank designated by the authority. In other words, every citizen needs to personally visit the offices and stand in long queues to pay their bills, a long-winded and painful affair.

[20] www.dwasa.org.bd.

Corruption was rampant. Billing payment could not be made online, which is waiting for permission from the central bank (Bangladesh Bank). According to Action 80 of the ICT policy, the electronic payment gateway will be made for inter-bank electronic transactions. It was hoped that network between the banks and government departments will be established and online payment can be made soon. However, according to Action 56 (short term: to be implemented within 18 months) of the ICT policy, payment of utility bills will be enabled through mobile phones, banks, ATMs or other service centres from any location at any time of the day. Meanwhile, the new government, formed in early 2009, has declared Digital Bangladesh Vision 2021 in their election manifesto, which aims at building a flourishing society by 2021 through applying ICTs. According to that decision, DWASA has almost completed automation of its activities.

The department has already initiated bill payments by short message service (SMS) through mobile operators. The SMS billing system will eliminate long lines involving extended waiting time for the customers. The scope of e-Government at present may not be adequate to have a macro-level impact since e-Government investments here are mostly small. In a resource-constrained nation like Bangladesh, where nearly forty per cent of the people on an average earn less than one dollar per day, extending access through computers seems to be unrealistic (Chowdhury, 2010; The Respondent 2, 2008). On the contrary, the profusion of mobile phones has made mobile phones the most inexpensive technology for the people and an inevitable option for provision of service delivery for government organisations. As an integral component of its agenda to strengthen a digital Bangladesh, the government has located and embodied the mobile technology as a cardinal mode of online service delivery to the public.

Why this Reform

In order to increase revenue earning, cut system loss and realise arrears, DWASA felt the need to computerise the whole billing system. The following are the reasons for initiating the reform in the department.

- To increase efficiency and transparency in the billing process, cut down on payment time, improve the bill payment system and faster recovery of payments

- To create billing software, prepare water and sewer bills, consumer ledger, bank reconciliation and provide basic hardware and software.

When the Reform was Initiated

The department initiated the reform in 1992.

How the Reform had been Initiated

DWASA has computerised the whole billing system, but back-end computerisation is still ongoing there because of bureaucratic delays. The department outsourced IT services to make ready a monthly payment system known as Computerisation of Water and Sewer Bills, Bank Reconciliation and Consumer Ledger on BOOT Basis.

Salient features of the online billing system are:

1. Centralised database system through Virtual Private Network (VPN).
2. Web-based application (users will run the application from their web browser).
3. Full consumer account statement will be available in department's website.
4. Automatic generation of bills for metered connections if no meter reading is available for metered connections and non-metered connections.
5. While entering a new meter reading, the system will validate the consumption with earlier average consumption. If consumption varies by more than fifteen per cent, the system will automatically provide a signal to the concerned zonal head to confirm the reading.
6. The system will print two copies of bills instead of four copies – a consumer copy and a WASA copy.
7. Automatic generation of disconnection notice and alarm notice for consumers for outstanding payments, also a 'no demand certificate' at the end of the calendar year for consumers having no arrears.
8. Self billing and instalment system will be stopped.

Outcome of the Reform

DWASA[21] billing forms are available in the department's website. Customers can get information on their billing online. Online tender publication is also in progress. The computerisation started gradually from one zone to all zones. After computerising the system, water bills are issued monthly while it was done bi-monthly in the previous manual system. Through the department websites, subscribers will now be able to know about their subscription information, the amounts due, bill payment status and payment history.

[21] www.dwasa.org.bd.

Benefits of the online billing system include:

- It reduces hassle, cost and time spent for paying utility bills.
- Increases revenue earning and transparency in billing system. Bills can be paid in any authorised bank/branch with a list of bank branch names are to be printed on the back page of the bill form.
- Maintains computerised billing ledger.
- By downloading billing information from the website customers can pay the bill by SMS/Pay Centre which lowers the hassle in billing payment.
- Consumers can also receive bills through e-mail.

Case D: Local Government Engineering Department (LGED)
Context of the Reform

To represent LGED[22] as a performance and result-oriented organisation, the need for e-Government was felt. LGED possesses a performance-driven culture that enables it for a change management and reform initiative. LGED has many projects funded by various donor agencies, which necessitate LGED to report on project progress. Thus performance is evaluated on predetermined work plans and a set of inputs and outputs. This causes the deployment of ICTs in LGED to strengthen a result-based management.

Why this Reform

- To strengthen local government and institutionalise good governance up to the last tier of local government
- To increase organisational efficiency and manage risks
- To facilitate planning, designing and implementation of development projects facilitate and quicker decision-making
- To enhance transparency in the system.

When the Reform was Initiated

The department began to computerise the system in 1992.

[22] http://www.lged.gov.bd/

How the Reforms had been Initiated

The organisation has developed its own website and performs most of the functions through customised software, e.g. Management Information System (MIS) for personnel administration, Geographic Information System (GIS) to offer general spatial information and support for development planning and monitoring and Decision Support System (DSS). One of the first initiatives of this unit was introduction of a digitised base map of Bangladesh using satellite imagery. LGED has also established the first time ever GIS portal of Bangladesh for browsing maps and other useful spatial information (Taifur, 2006b; The Respondent 7, 2008). Basic computer hardware, networking and standard software exists at the Headquarters (HQ) and field offices. LGED has developed its ICT and MIS involving all functional needs of various departments and projects to facilitate holistic planning for applying ICT as a decision support tool. A central data centre was established at the HQ using a fibre-optic backbone. All the computers in the HQ are interlinked with it. A broadband DDN connection, a FTP (file transfer protocol) and an online emailing system are also set-up at the HQ. Security precautions are being taken to restrict access and data corruption.

Outcome of the Reform

The reform has pioneered government functioning and provided access to information to citizens. A well-designed MIS ensures no deviations from standard practices, and enables data-mining and benchmarking to identify inefficiencies. The digitised base map is used for planning of new schemes. The adoption of ICT in LGED eases improved transparency and increases the pressure to deliver, thus minimising the risk of corruption. A digitised base map of the country using satellite imagery was developed.

The project requirement of at least simple progress-reporting on the use of project funds and performance against a prefixed timeline has prompted development of MIS systems. For a long period LGED has developed a varied repository of data and information on agriculture, fisheries, environment, land management, transportation, livelihoods, primary education and health care etc. These databases are a rich source of baseline information on various areas of development. Over the last decade LGED developed various MIS packages which are applied in different projects. This enables a fully integrated solution required to achieve the requirements of LGED. The outcome of the ICT and the MIS is the establishment of an

integrated, workflow-based DSS that is both modular and scalable and based on web technologies.

The IDSS is expected to render the following outcomes:

- Online Progress Monitoring System (PMS)
- Online data sharing with field level by deploying FTP service
- Spatial interface: GIS
- Non-spatial interface: MIS
- Monitoring and Evaluation System (M&E) involving the key performance indicators for input, outputs and outcome monitoring
- E-procurement.

CASE E: Roads and Highways Department (RHD)
Context of the Reform

RHD[23] under the Ministry of Communications receives a huge allocation from the government's development budget in which the foreign aid component is also higher. It is a big organisation with permanent staff and also burdened with about an equal number of temporary lower-level staff who were primarily employed in some projects but continued to stay with support from the trade union or other vested interest groups. Although records did show a competitive bidding system, local contractors for the construction of roads and highways are normally selected through hidden negotiation. The letting of contracts for major public works is the source of corruption (TIB, 2008).

Why this Reform

- To increase the efficiency and effectiveness of maintenance and management of the national road works
- To enhance transparency and accountability in RHD functions
- To facilitate quicker decision-making
- To minimise corruption.

When the Reform was Initiated
The department initiated the reform in 1999.

[23] http://www.rhd.gov.bd/

How the Reforms had been Initiated

The e-Government initiative involves the development of a website that provides diverse information, rules and regulations, data and notices to stakeholders. The website includes personalised access, detailed information on the department, updated information about the zonal functions, contractor database, tender database, schedule of rates database, and project monitoring system (Taifur, 2006b; The Respondent 11, 2008).

RHD's management systems are designed as a set of databases. The MIS is the part of it and is accessible through the RHD website. In addition, it has developed two management systems. First is the Road and Bridge Asset Management System (RAMS), a map-based system to streamline the planning of its maintenance and rehabilitation works. GIS is its basic maintenance management system, an updated map of RHD network. This is available in digital computerised form. By linking the information on the assets (roads, bridges and culverts of total value $US7.4 million), GIS enables it to analyse and display the impact of management decision. The second is the Central Management System (CMS), which is an advanced maintenance system used by RHD headquarters and all 64 field divisions. It is used as a day-to-day management, control and monitoring tool for the contract and projects of RHD. This also encourages discipline in the financial practices and performance of RHD. This links with both physical and financial reporting. The CMS has four program modules. Among them the Internet-based CMS web module is a comprehensive information flow showing the latest performance data on all ongoing contracts and projects of RHD. It is known as a powerful management and analytic tool. It is quick and easy to access updated information on any work contract to have details on both physical work and financial transaction progress. The Financial Management Unit (FMU) is a financial management reform process in RHD. Its main function is to run the RHD budget committee. The FMU is working under the office of Director, Audit and Accounts.

The Outcomes of the Reform

The department has built up the MIS for institutional development. RHD is the pioneer government institute to initiate e-Government in the country. The department website provides various technical and administrative information including data and information on roads and bridges, personal data, financial project information, various manuals, standard test processes, design standards for roads and bridges and management plans for each area. The RAMS combines all current databases and analytical processes. The RAMS map is the

basic feature that brings all information and helps in decision making as to where to allocate funds for maintenance and development.

Reporting directly on all physical and financial progress of all RHD field divisions improves the accountability and efficiency of all field divisions. On basis of standard items and rates, more accurate estimates can be prepared consistently by the CMS. Complete tender documents can also be prepared with less error. Thus the CMS helps in avoiding duplication of effort and reducing wastage. It helps eliminate routine iterative tasks of the employees and helps in finding better ways to plan and execute works. All documents and certificates (including payment certificates) can be produced quickly. In-built control of the CMS lessens the scope for faulty contract and financial entries.

The CMS improves transparency and accountability through access to information and knowledge-sharing. It is used as an effective management tool through the web modules, it monitors RHD function externally. External auditors can also perform partial financial audits from outside. Further, FMU also improves the transparency and accountability of the financial transactions in RHD.

CASE F: Dhaka City Corporation (DCC)
The Context of the Reform

DCC[24] is responsible to maintain the urban civic needs of the people living in Dhaka city. To fulfil the objectives of the National ICT Policy, the government initiated changes in the existing system of DCC as it was running in the traditional way. The policy aims at strengthening the use of more technology in DCC. The corporation provides municipal services for instance issuance of trade licences, collection of various types of business and property/holding tax, birth certificates and others. Previously, citizens and businesses faced many difficulties while dealing with the organisation, including bribery and harassment and making frequent visits. DCC was losing revenue because of the complicity between the staff and the payer to lower the demand. There was no effective complaint mechanism and officials were not easily accessible. For the payment of taxes/rentals/charges for commercials in public premises, people require to visit the right municipal department to have a demand note and then rush to the bank for payment. Further, there were also the

[24] (http://www.dhakacity.org/)

inefficiency and incapacity to send notices to debtors for compliance. According to Action 71 (short term: to be implemented within 18 months) of the ICT policy, online issuance/renewal of trade licences will be implemented by DCC.

Why this Reform

- To apply ICTs in the planning and daily activities of DCC to minimise irregularities and increase efficiency in trade licence management, holding-tax collection, inventory control, and other corporate functions.
- To increase the productivity and transparency in the functions as scope for bribery and nepotism is expected to reduce.
- To develop a geo-database and other databases for planning and decision-making
- To establish and maintain Intranet and Internet accessibility.

When the Reform was Initiated

The project was launched in about 2005 and is still ongoing. However, it is expected that some applications, e.g. online trade licence management, holding-tax management and issuance of birth certificate will be completed by 2011.

How the Reforms had been Initiated

A cluster of applications to address certain internal efficiency issues together with a user-friendly website to offer citizen services online would enable DCC to ensure customer satisfaction. For computerisation of various functions, the Oracle Based Integrated Customised Software Solutions is being implemented under a client server network environment. This will include a number of functions of DCC, e.g. Personnel Management and Payroll System, Trade Licence Management System, Holding-Tax Management System and so on. The computerisation will enable trade licence management, holding-tax collection and other functions of DCC easier and faster for citizens (New Age Metro, 2005).

However, a GIS-based application (to be implemented by 2012) will run from the DCC server for planning and development of its various functions, e.g. the number of households in the area for municipal tax collection and others, interfacing the application with other related activity, e.g. E-procurement and grievance redress etc. (Draft Strategy Report, 2009). The holding-tax payment, trade licence management and issuance of birth certificates are being performed through a computerised system though not fully online. Business people

may inquire about their licence status and advertising space available for lease, and citizens can lodge grievances/complaints.

Currently, through a computerised (but not online) holding-tax management system DCC collects revenue, maintaining its banking ledger with the banks through Intranet. Automation makes a change in maintaining the bank ledger through Intranet. The online network between DCC and the bank simplifies the function and reduces time greatly. Moreover, revenue collection is also increased.

The Outcomes of the Reform

Information on various DCC activities can be accessed from the department website. Rules and regulations are made transparent through its online presence. The system publishes a variety of information about the services, permits and licences issued by DCC. Holding-tax management in DCC creates more efficient ways of collecting revenues. Businesses also are prompt with this service because it is an efficient and hassle-free channel to interact with DCC as they often faced many administrative roadblocks while interacting with the department previously. Computerisation of some internal functions may reduce the approval time of registration/licence applications from a couple of weeks to a few days.

The benefits to the citizens include more responsive and quicker service, e.g. more birth certificates issued. The management can view these statistics, making monitoring more effective. Most of the internal processing is screen based, which increases efficiency in DCC functions. Corruption may be minimised by improved transparency in administration, active interaction with citizens and the absence of intermediaries. The role of technology is an enabler here, particularly in establishing a transparent tracking system for permit and licence applications.

CASE G: Bangladesh Railway (BR)
The Context of the Reform

Bangladesh Railway[25] is the main transportation agency of the government. It extends over a route of 2855 kilometres with a total of 34,168 regular employees. Railway management was assigned with a board till 1982, including a chairman and four members. For the ease of administrative matters, the Board was eliminated and its activities were delegated to the

[25] http://www.railway

Railway Division of the Ministry of Communications. Later in 1995, the routine functions of the Railway was split from the Ministry and vested with Director-General from the Railway officials. A nine-member Bangladesh Railway Authority (BRA) was constituted for policy guidance with the Minister for Communications as its Chairman. Computerisation of railway reservation and ticketing was done for people's convenience as many homebound people go through the hassle to purchase train tickets before big festivals (Eid ul Fitre and Eid ul Azha) every year.

The fast growth of mobile technology enables a low-cost alternative to the Internet based e-Government. In BR, SMS is used as an alternative to e-Government functions. For instance, railway booking and information regarding tickets is made available through SMS, which is the easiest way of sending and receiving small messages. BR has introduced an electronic ticketing service to minimise the suffering of passengers through convenient manouvres. Grameenphone's 'Mobitaka' service enables travelers to book or buy online tickets by mobile phones 10 days before their journey (The Daily Star, 2010b).

Why this Reform

- To make railway ticketing procedures simple and transparent
- To reduce processing time
- To improve citizen service delivery and increase productivity by minimising time wasted standing in queues and seeking information
- To help prevent the malpractice of touting tickets
- To eliminate the middlemen and lower corruption.

When the Reform was Initiated

The department computerised the system in 1996. They initiated SMS ticketing in 2010.

How the Reforms had been Initiated

Initiatives have been taken in the form of the Computerised Seat Reservation and Ticketing System (CSRTS), Computerised Wagon Control System (CWCS) and Bangladesh Railway Automated Support System (BRASS) with an informative web portal to generate information regarding train fare, train schedule and citizen charter to the door step of the citizen. The CSRTS is running on a Build Operate Transfer (BOT) basis, which provides

facilities for forward and return reservation from one railway station to thirty other selected stations.

A passenger approaches the point of sale (POS) and requests the booking clerk for the ticket for a specific time, for some destination, class and number of seats. The booking clerk puts an inquiry and examines the availability of the seats according to the travel date, class and target station and issues the ticket according to the traveler's confirmation. The traveler may also choose an alternative. Before issuance of the ticket, the traveler needs to pay the train fare fixed by BR. Generally, four categories of tickets are issued based on traveler need including regular, on-quota (standing), remote joining and return tickets. If any interruption occurs during issuance of the ticket, the booking clerk may withdraw that ticket. The traveler may demand a refund according to the ticket refund rules mentioned on the back of the ticket.

With regard to SMS ticketing, any passenger may book seats and transfer credits through an SMS from all over the country. After completing credit transfer, the passenger obtains an SMS notification with an ID number. For an e-ticket, citizens need to press *133# on their mobile phones and enter a menu that creates windows for the customers to provide useful travel information following successive instructions (The Daily Star, 2010a; The Respondent 6, 2008). The software used for this enables mobile phone operators to verify whether the purchaser has sufficient credit in the mobile phone account and subtract the money from it. BR keeps ten per cent of tickets kept for e-ticketing whilst the mobile phone company disburses the seats earlier.

The Outcomes of the Reform

The CSRTS for BR offers sophisticated technological standards. The high technology and infrastructure guarantee efficiency and strength. It has potential to develop a framework to enable operation of the CSRTS throughout the world by the world wide web (Daffodil Computers, 2010; The Respondent 6, 2008).

The travelers can also obtain information regarding train routes, ticket prices and availability of seats through an SMS to a particular number. The department website also publishes similar information. The BR online database is applied for the SMS ticketing. Electronic and SMS information make railway ticketing procedures simple and transparent and reduce processing time. Improving citizens' service delivery eases increased

productivity by minimising time wasted standing in queues and seeking information. SMS ticketing facilitates travelers to avoid the hassle of approaching the station at busy times and waiting in long queues. It also eliminates the need to get a ticket with extra money from a middleman and thus lowers corruption.

CASE H: Board of Investment (BOI)

The Context of the Reform

BOI[26] was created by the *Investment Board Act 1989*. It is the principal private-investment promotion agency of the nation, supporting investment from internal and external sources to expedite the socio-economic development of the country. The Act mandated BOI to provide diversified services to accelerate industrial development of the country. Thus current functions of BOI can be categorised as investment promotion, investment facilitation and policy advocacy. It was felt that potential investors need to be better informed through online registration application for foreign, joint venture and local investment, for online work permits, foreign loan approval and land allotment recommendation. To efficiently perform all these functions it was crucial to automate the internal functioning of BOI. According to Action 64 (short term: to be implemented within 18 months), online registration and work permits for foreign investors should be enabled by BOI.

Why this Reform

- To improve the investment environment and simplify the investment process in Bangladesh
- To facilitate the registration and permit process
- To offer easy, one-stop access to information about laws, rules and regulations governing business activities in Bangladesh
- To increase overall efficiency in the registration system to increase foreign investment and promote the national image.

[26] www.boi.gov.bd/about-boi

When the Reform was Initiated

The department initiated the reform in 2005.

How the Reforms had been Initiated

For a direct interface with citizens (investors), BOI has created an Internet portal that provides information on strategies, policies and legislations and allows monitoring the progress of an application for a permit or licence. Another example is the development of an informative website and LAN within BOI as well as sophisticated e-Government software applications that include a service tracking system providing the progress of different registration processes (Taifur, 2006b; The Respondent 12, 2010). It has undertaken the investment-related Information Management System, FDI Flow Information Management System, Work Permit Information Management System, Foreign Credit Information Management System and Industrial Survey Information Management System etc. Many officials and staff are well-trained for basic computer work. Databases for various services have been developed. The online service tracking system (BOST) is an interactive e-Government application in BOI. This workflow management software assists the investors to track their service requests by using a track number to follow up the process electronically. BOI has simplified and reduced the registration process from six to four steps. The functional units of its website are Investors Information, Received Service Request, Execution Level Information, Personnel Information, Service Category Information, Admin. Module and MIS Reporting.

Outcomes of the Reform

The information provided by the website is very useful. Information regarding the most basic business licences and other facilities is also available in the website. This makes procedures simple and transparent and reduces processing time and cost by making the business registration and provision of services fast, efficient and less corrupt. This enables BOI to reduce the degree of uncertainty for the investors. Implementation of e-Government enhances the image of being investor friendly and the removal of intermediaries may provide the incentive for increasing investment in productive resources.

Case I: Dhaka Metropolitan Police (DMP)

Context of the Reform

Maintenance of law and order has been a challenge for the government. It was crucial to equip the police with sophisticated information systems to combat crime. Bangladesh Police is a vital institution where computerisation is importantl for modernising the department. As in other developed countries, standard procedures in maintaining updated crime records in computer databases was almost nil in this department. Moreover, government functions need to be computerised at the moment not only to improve efficiency but also to curb corruption (The New Nation, 2007).

Bangladesh Police declared a 'Strategic Plan 2008-2010'. In 2005, they initiated the Police Reform Programme (PRP) aiming to increase the efficiency and effectiveness of the police. The 'Strategic Plan 2008-2010' was endorsed by the PRP (The Independent, 2008; The Respondent 5, 2008). This strategic plan outlines their vision, mission, core values and future priorities. They have the vision to work in partnership with the community and to become a trusted partner. Among the five, the first strategy is organisational reform, which is the foundation of other priorities. The second is community policing to foster the relationship with the community and design operational priorities to address community needs. The proposed strategies are the cornerstone for the reform in police.

The government plans to implement e-policing to five police stations of the capital. This is because records are kept in different offices throughout the country; there is no effective device to prove past crime records of a criminal or a suspect. Further, there is no integrated system to put all those records together and enable their access from any location. The existing process of manual verification of fingerprints is also cumbersome, lengthy and subject to human errors (Taifur, 2006b; The Respondent 5, 2008).

E-policing equips the technologically backward law-enforcement agency with a modern Internet facility. This enables people to record cases electronically, replacing the need for physical presence at mostly emplacement police stations. Bangladesh Police has decided to implement this in phases. In this connection, initially, it has aimed to automate and computerise the system in five police stations within the greater DMP [27]on a pilot basis.

[27] http://www.dmp.gov.bd/

According to Action 58 (short term: to be implemented within 18 months) electronic filing of general diary (GD) and first information report (FIR) should be enabled electronically by the Bangladesh Police (MOSICT, 2009).

Initiating GDs has been integral to all police stations for every event occurring under the geographical jurisdiction of each and every police station round the clock. Every case has to be referred to the officer-in-charge (OC) of the said police station (PS) for proper recording. Under the existing system, all GD entries were recorded manually in the PSs. However, at the moment, all the occurrences have to be recorded online to save time, enabling hassle-free GD entry which in this context used to involve public hassles, irregular practices and undue political influences.

Why this Reform

The department has initiated reforms:

- To guarantee rule of law and order in the country
- To create efficient and effective services to restore the image of the police
- To maintain updated records about criminals and suspects in police databases
- To quash crime and terror in the capital city through better police communication
- To ensure equal treatment regardless of social and economic status or political affiliations
- To develop a safer and secure environment based on respect, human rights and equity to justice through police reform, and transforming it from a colonial form of government order to a public service.

When the Reform was Initiated

The department initiated the reform in 2006.

How the Reforms had been Initiated

A fibre-optic metropolitan area network (MAN) connecting more than 50 police institutions in Dhaka city which is based on:

- Interactive police website with updated list of top criminals, press releases, searchable database of unidentified missing persons
- Software for information on criminals/suspects for intelligence work
- Software for digitally verifying fingerprints instantly

- WiMax wireless technology is being installed at the police station of each city

To obtain the service, citizens need to log on to http://www.dmp.gov.bd and click the link "Citizen's Help Request" for registering a GD. Initially, 41 police stations under the DMP will offer this electronic service (Bangladesh Economic News, 2009; The Respondent 5, 2008).

The department of international airport immigration adopted e-immigration which is an electronic embarkation-disembarkation (ED) card fill-up system for prompt immigration services. A passenger, incoming or outgoing, needs to complete filling-out his/her ED card in immigration website (www.immi.gov.bd) upon which receives an Immigration Service Code (IS Code). According to the existing law, it is the individual's responsibility to offer all information to airlines, and the carrier's duty is to offer the travelers' information required on the ED card to the immigration authorities (The Immigration Police, 2009; The Respondent 5, 2008).

Outcomes of the Reform

DMP is being digitally equipped to become a more effective and modern crime fighting force. The police force will be empowered to counter crime with a blitzkrieg which will enable two officers to communicate one-to-one, keeping secrecy before a sudden raid. The police control room or HQs will also monitor the progress of a case. Further, this will enable high officials at the HQs to execute video-conferencing with a detained person in any police station.

E-police is a pilot project to develop information systems and interconnected police stations in Dhaka city to empower the force. By adopting information technology, DMP initiated online GD registration to offer legal services to the citizens (The Daily Star, 2010c; The Respondent 5, 2008). Online filing of GDs benefits citizens for the loss or forfeiture of passports, bank cheque books, ID cards, certificates or any other documents, credentials and for obtaining information on various crimes. This will enable citizens to register a GD to reduce the hassle of record-keeping, and a database for charge sheets or FIR and a secret web-based database of criminals of particular areas covered by the police station will also be improved. The duty police officials within their jurisdictions will be connected to the database at the police station via Internet phone.

A GIS will be developed for crime mapping and identifying areas with crime incidents and criminals. They computerised the MIS for inventory control systems. All police stations will get the Internet and their own websites. An electronic register will be developed to keep records and statistics of arrests, attendance of officials, accounts of the police station etc. Everybody can use this website to get their information status. As a consequence, corruption in the police force will also be minimised. Police HQs can control all information as and when required.

Appendix C

MONASH University

August…, 2008

EXPLANATORY STATEMENT

Title: E-Government as a tool to promote transparency and openness: the case of Bangladesh

This information sheet is for you to keep

Secretary
Ministry of Communications
Government of the People's Republic of Bangladesh
Bangladesh Secretariat
Dhaka-1000
Ph:

Dear Mr. …,

My name is Nahid Rashid. I am conducting a PhD research project with Dr. Ken Coghill and Dr. Ian McLoughlin, Associate Professor and Professor respectively in the Department of Management Monash University, Australia. I will be writing a thesis of about 100,000 words to fulfil examination requirement of the PhD degree. Australian government has funded me (through Australian Leadership Award), to conduct the research.

I am writing to you requesting your participation in the research. I have collected the names and contact details of your organizations names and from your official web site. I would like to interview you or your nominated official regarding implementation of e-Government in Bangladesh. I am approaching you because of your experience as well as your involvement in the adoption and implementation of e-Government in one of the prime ministries in the government of the People's Republic of Bangladesh.

The aim/purpose of the research

The purpose of this study is to assess the effect of e-Government as a tool for promoting transparency and openness in the government systems. The aim of this Study is to examine the way e-Government makes a significant contribution in enhancing openness and transparency within the government system, which in turn, is likely to achieve the broader objective of good governance. In doing so, it investigates whether and if so, to what extent e-Government transforms government businesses, provides better public service delivery and citizen participation and addresses corruption in a developing country context. The Study also aims at examining the issue of corruption in government machinery in Bangladesh and the role of e-government to prevent corruption with an impact on transparency and openness.

Possible benefits

Most developing countries are using ICT to modernise and increase internal efficiency as well as improve service delivery. The focus of e-Government is largely on improving administrative efficiency and reducing administrative corruption. E-Government is about a process of reform in the way governments work, shares information and delivers services to external and internal clients. The resulting benefits can be less corruption, increased transparency and greater convenience.

Theoretically, this research will contribute to knowledge on the effects of e-Government in achieving the objectives of good governance, making public management more transparent, efficient, and also managing corruption. Practically the research findings will provide some implications for the decision makers in the countries in question to streamline administrative systems and improve the delivery of government services.

What does the research involve?

The study involves semi-structured face to face interviews. The interview will be recorded (hand notes and or audio taped). The research seeks only to get insights of the policy makers and senior managers' experiences.

How much time will the research take?

The interview may last about 30-35 minutes and can be conducted, during August-October, 2008 at a place convenient to both of us.

Inconvenience/discomfort

During face-to-face interview, no personal/financial information will be asked for. Therefore, it is very unlikely to cause stress, inconvenience or discomfort. I will take every possible step to avoid any undue minor inconveniences.

Payment

No payment or reward will be offered, financial or otherwise, to participate in the interview.

Can I withdraw from the research?

Taking part in this research is voluntary and you are under no obligation to consent to participation. However, if you do consent to participate, you may withdraw prior to having approved the interview transcript (submission of data).

Confidentiality

The collected data will only be used by the researcher for academic purposes. Your name/identity or position will not be referred or disclosed in any way while publishing articles or research papers using collected data.

Storage of data

Storage of the data collected will adhere to the University regulations and kept on University premises in a locked cupboard/filing cabinet for 5 years. A report of the study may be submitted for publication, but individual participants will not be identifiable in such a report.

If you agree to participate, please sign the attached consent form with your contact details or back by email to nahid.rashid@buseco.monash.edu.au or contact me on telephone (613) 9905 8604; fax (613) 9905 5412 or contact Dr. Ken Coghill, Associate Professor on (613) 9903 1532; fax (613) 9903 2718

Results

If you would like to be informed of the aggregate research findings, please contact me on +613 9905 8604 or fax (613) 9905 5412 or email to nahid.rashid@buseco.monash.edu.au

If you would like to contact the **researcher** about any aspect of this study, please contact the main supervisor:	If you have a **complaint** concerning the manner in which this research Project number is being conducted, please contact:
Dr. Ken Coghill, Associate Professor Department of Management Faculty of Business and Economics Monash University Caulfield Campus Building N 27 Sir John Monash Drive, Caulfield East Victoria 3145, Melbourne, Australia Tel: +613 9903 1532; Fax: +613 9903 2718 Email: ken.coghill@buseco.monash.edu.au	Md. Abdur Rahman Sarker Managing Director National Bank Limited Head Office 18 Dilkusha C/A Phone: 88-02-9561201 (Office) Fax: 88-02-9569404 Email: mdnbl@bol-online.com

Thank you in anticipation of your support.

Yours sincerely,

Nahid Rashid
PhD Candidate
Department of Management, Faculty of Business and Economics,
Monash University, Clayton Campus, Building 11 (Menzies Building), Level 8, Room#S829
Wellington Road, Clayton, Victoria, 3800
Melbourne, Australia

Appendix D

MONASH University

Standing Committee on Ethics in Research Involving Humans (SCERH)
Research Office

Human Ethics Certificate of Approval

Date: **21-August-2008**

Project Number: **CF08/2278 - 2008001166**

Project Title: e-Government as a tool to promote transparency and openness: The case of Bangladesh

Chief Investigator: Dr Kenneth Coghill

Approved: From: 21-August-2008 to: 21-August-2013

Terms of approval

1. The Chief investigator is responsible for ensuring that permission letters are obtained and a copy forwarded to SCERH before any data collection can occur at the specified organisation. **Failure to provide permission letters to SCERH before data collection commences is in breach of the National Statement on Ethical Conduct in Human Research and the Australian Code for the Responsible Conduct of Research**.
2. Approval is only valid whilst you hold a position at Monash University.
3. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval and to ensure the project is conducted as approved by SCERH.
4. You should notify SCERH immediately of any serious or unexpected adverse effects on participants or unforeseen
events affecting the ethical acceptability of the project.
5. The Explanatory Statement must be on Monash University letterhead and the Monash University complaints clause
must contain your project number.
6. **Amendments to the approved project:** Requires the submission of a Request for Amendment form to SCERH and must not begin without written approval from SCERH. Substantial variations may require a new application.
7. **Future correspondence:** Please quote the project number and project title above in any further correspondence.
8. **Annual reports:** Continued approval of this project is dependent on the submission of an Annual Report. This is determined by the date of your letter of approval.
9. **Final report:** A Final Report should be provided at the conclusion of the project. SCERH should be notified if the project is discontinued before the expected date of completion.
10. **Monitoring:** Projects may be subject to an audit or any other form of monitoring by SCERH at any time.
11. **Retention and storage of data:** The Chief Investigator is responsible for the storage and retention of original data
pertaining to a project for a minimum period of five years.

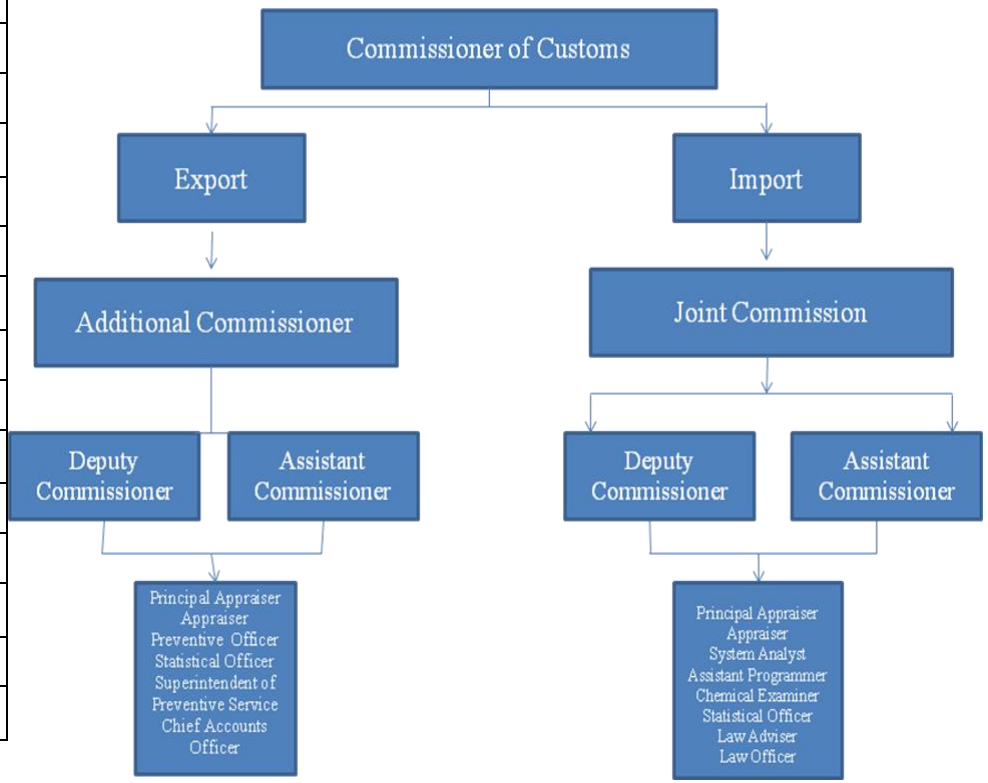
Professor Ben Canny
Chair, SCERH
Cc: Prof Ian Patrick McLoughlin; Mrs. Nahid Rashid
Postal – Monash University, Vic 3800, Australia
Building 3E, Room 111, Clayton Campus, Wellington Road, Clayton
Telephone +61 3 9905 5490 Facsimile +61 3 9905 1420
Email scerh@adm.monash.edu.au www.monash.edu/research/ethics/human/index/html
ABN 12 377 614 012 CRICOS Provider #00008

Appendix E

Organisational Structure of Chittagong Custom House

Manpower Summary (Export)

	Position	Sanctioned	Existing
01	Commissioner	01	01
02	Additional Commissioner	01	01
03	Deputy Commissioner	03	03
04	Assistant Director/ Statistics		00
05	Assistant Commissioner	07	07
06	Statistical Officer	01	02
07	Chief Accounts Officer	01	00
08	Principal Appraiser	23	21
09	Superintendent of Preventive service	27	26
	Class I Total	62	56
	Class II Total	221	174
	Class III Total	160	119
	Class IV Total	48	44
	Total Manpower	491	393



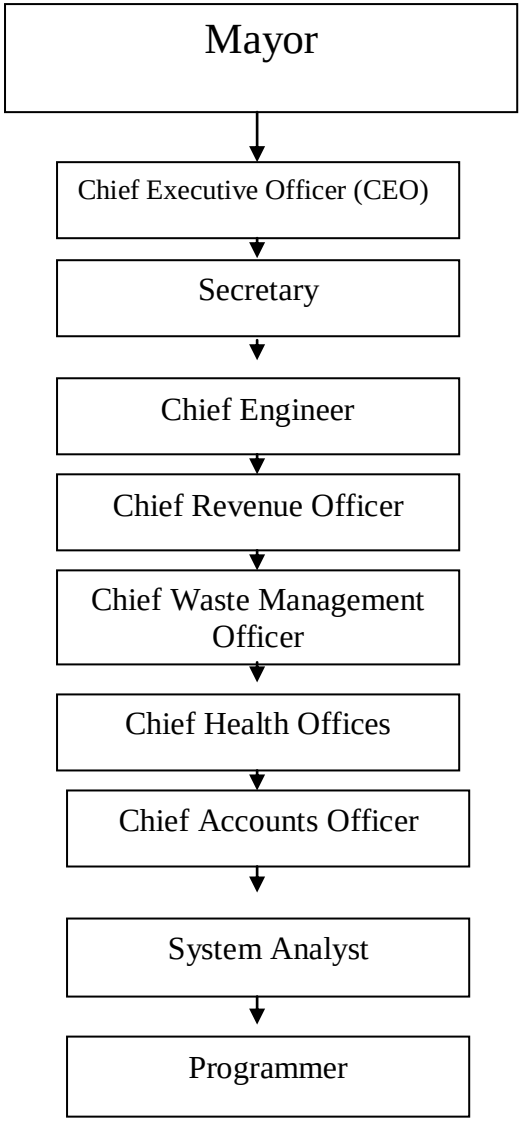
Manpower Summary (Import)

	Position	Sanctioned	Existing
01	Commissioner	01	01
02	Joint Commissioner	02	02
03	Deputy Commissioner	02	01
04	Assistant Director/ Statistics	01	01
05	System Analysis	01	00
06	Chemical Examiner	01	00
07	Assistant Commissioner	05	06
08	Statistics Officer	01	01
10	Principal Appraiser	22	20
11	Assistant Programmer	01	00
12	Chief Accounts Officer	01	00
13	Law Advisor	01	00
	Law Officer	02	00
	Class I Total	41	32
	Class II Total	72	48
	Class III Total	135	103
	Class IV Total	53	40
	Total Manpower	301	223

Source: National Board of Revenue (2010)

Appendix F

Organisational Structure of Dhaka City Corporation (DCC)



Manpower Summary

Sl. No.	Classification of Position	Sanctioned	Existing
01	Class I	413	326
02	Class II	263	186
03	Class III	2590	2351
04	Class IV	1837	2232
05	Fixed	14	22
	Total Manpower	5117	5117

Source: Dhaka City Corporation (2010)