CRITICAL SUCCESS FACTORS FOR E-GOVERNMENT IN G.C.C

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ABSTRACT

The citizens of the Gulf Cooptation Cancel (G.C.C) countries have been facing an increasing problem in recent years relating to the difficulties in obtaining public services. The time taken to receive a public service has been increasing, and the quos at public organizations have been increasing. Citizen is also having to shuttle between many public organizations in order to complete a service. The finding of the exploratory study conducted at the General Traffic Department (GTD) showed that citizens want services to be provided online instead of traditional means, which means implementing e-Government initiatives. The study also confirmed the alignment of the Critical Success Factors (CSFs) highlighted in the literature with the local ones. The concept that the CSFs for the successful implementation of the e-Government in the developed countries similar to these in the Gulf States.

Therefore, this research aimed to conduct a study on the CSFs for the implementation of e-Government in the G.C.C in order to develop a framework for the successful implementation of e-Government initiatives. The framework should provide an answer to the research problem: "what are the critical Success Factors behind the implementation of e-Government Initiatives the G.C.C. countries ".

Three case studies on 2 public sector organizations in Dubai and one in Kuwait were carried out to discuss and verify the CSFs derived from the literature review in order to produce a referent framework for the successful implementation of e-Government initiatives in the G.C.C .

The findings of these case studies validated the CSFs identified in the literature review and lead to the development of a framework which consists three main stages (internal factors – implementation factors – external factors) The internal factors stage is leader ship and commitment, vision and strategy, financial, reform , culture and Human Recourse

Second stage is Implementation factors (user centric approach, inter-agency collaboration, measurement of e-Government , e-Government team, consultant's and IT infrastructure .Final stage is external facto user satisfaction. For the citizen, the private sector and civil groups.

Chapter 1

Introduction

1.1 Introduction

When the U.S. Department of Defense invented the Internet in the 1960s as a communication network for defense research purposes, no one could foresee how it would transform society three decades later (Zakon, 2002). The explosive growth in the Internet usage and the rapid development of e-commerce in the private sector have put a growing pressure on the public sector to serve citizens electronically, which is commonly known as the "e-Government" initiative.

In the Electronic Government Strategic Plan for the state of Texas (2001) e-Government is defined as the government activities that take place over electronic communications among all levels of government, citizens and business community, including acquiring and providing products and services, placing and receiving orders, providing and obtaining information

The initiative is to provide public services and empower citizens and communities through information technology, especially through the Internet. However, the Internet has brought more than a technological breakthrough in service delivery. It has stimulated a transformation in the philosophy and organization of government.

At the same time, information technology has played an increasingly important role in public administration (Gore 1993; Bellamy and Taylor 1998; Heeks 1999). Before the emergence of the Internet, in the late 1980s, some governments were already actively pursuing information technology to improve operating efficiency and enhance internal communication (Brown 1999). However, the focus of "e-Government" in this era was primarily internal and managerial.

The arrival of the Internet and the World-Wide Web marked a watershed in information technology usage by shifting the focus of governance to the external relationship with citizens (Scavo and Shi 1999; Seneviratne 1999). Technology itself certainly played an important role in fostering the change. From the advent of newsgroup and commercial e-mail technology

E-Government relies on a user centric approach to organization in contrast with the bureaucratic model of organization commonly known as the Weberian model of organization, named after the famous German sociologist Max Weber, which focuses on internal and managerial concerns and emphasizes departmentalization, specialization, standardization, and routine of the production process.

Information technology and the Internet are transforming public administration in the digital era (see Table 1.1). In the traditional bureaucratic paradigm which is "Agency-centric," public managers focus on internal productive efficiency, functional rationality and departmentalization, hierarchical control, and rule-based management (Osborne and Plastrik 1997; Bozeman 2000).In constrast in the e-Government paradigm

	Bureaucratic paradigm	e-Government Paradigm
Orientation	Production cost –efficiency	User satisfaction and control l, flexibility
Process organization	Functional Rationality, departmentalization, Vertical hierarchical of control	Horizontal Hierarchy, network organization, information sharing
Management Principle	Management by role and mandate	Flexible management, interdepartmental Team work with central Coordination
Leadership style	Command and Control	Facilitation and coordination, innovative, Entrepreneurship
Internal Communication	Top-down, hierarchal	Multidirectional network with central coodination, direct communication

External Communication	**Centralized, formal, limited channels**	**Formal and informal , direct & fast feed back, multiple channels**
Mode of Service Delivery	**Documentary mode, and internal inter-personal interaction**	**Electronic exchange, non Face-to – Face interaction**
Principles of Service Delivery	**Standardization, impartiality, equity**	**User customization, personalization**

Table 1.1: Comparison between Bureaucratic Paradigm and e-Government Paradigm (Ho, 2002)

In the Gulf Cooperation Council (G.C.C) it is hoped that the introduction of Internet services can create the shortest route between the public and the services that governments departments provide, with less time and cost spent on provision on these services. The Internet therefore proposes to benefit both the public and the GCC governments.

However, in order to introduce Internet services it is important to improve or redesign existing processes. Technology itself does not necessarily speed up delivery time, in fact it is the way that processes are designed that decides the speed of delivery of services to the public.

1.2 Problem Definition

This research was proposed as a result of researchers' interest in e-Government. The researcher aimed to identify:

- The factors that are behind the successful implementation of e-Government projects in the G.C.C (namely Kuwait and Dubai).
- How these CSFs interact with each other in order to successfully implement e-Government in the G.C.C.

The researcher tried to answer the key question "*What are the critical success factors behind the successful implementation of e-Government initiatives in the G.C.C.*".

1.3 Research Question

This research attempts to answer one key question: What are the critical success factors in implementation of the e-Government project in G.C.C? There were also a number of sub-questions associated:

1. Do the public, officials of government and private sector in G.C.C desire to implement e-Government?
2. Would the implementation of e-Government save time and effort?
3. Would e-Government make a strong and direct relationship between the government and the public?
4. What are the problems and barriers facing implementation of e- Government projects?
5. Is there an independent authority to implement, organise and unify the work of all ministries to implement e-Government?
6. Why do e-Government projects don't meet their objectives?
7. What are the goals and objectives of e-Government?
8. What are the benefits and the services provided by e-Government?

1.4 Aims and Objectives

This research aims:

- To assist the public sector to improve its performance and relationship with citizens through the successful implementation of e-Government projects.

- In particular, this study focused on determining the Critical Success Factors (CSFs) for e-Government projects which will provide a concise picture of the factors that public organisations need to consider prior to unfolding their e-Government projects.

In order to achieve these aims, this research had the following objectives:

1. To examine the current practices in government organisations through an extensive literature review with specific focus on information management,

communication and process improvement.

2. To identify the problems and barriers facing implementation of e-Government.
3. To investigate the relation between technology, process and organisational structure with specific focus on government organisations.
4. Carrying out an exploratory study to identify the importance of Critical Success Factors to e-Government in the G.C.C.
5. Propose an evaluation model based on the Critical Success Factors for the successful implementation of e-Government in the G.C.C.
6. Validate the model through detailed case studies.

1.5 Research Methodology in Brief

The research used a case study approach that aims to improve the understanding of the critical success factors of e-Government using quantitative and qualitative approaches to the research. The quantitative approach is used in the survey conducted in the exploratory study on the GCC. The qualitative approach is represented in the three case studies conducted during the research. More details on the research methodology will be presented in chapter 2.

1.6 Research contribution

This research is contributed to knowledge by:

1. Determining the Critical Success Factors (CSFs) in implementing e-Government initiatives in the G.C.C.
2. Creating a model for the successful implementation of e-Government projects.

The results are expected to:

1. Improve the understanding of e-Government in the G.C.C.
2. Encourage policy makers to positively consider the Critical Success Factors (CSFs) in order to successfully implement e-Government projects.
3. Provide greater understanding for the reason for e-

Government project failure.

1.7 Structure of the thesis

The thesis contains ten chapters which are as follows:

Chapter 1 Introduction

Chapter 1 provides a general introduction to the nature and intent of the research. It begins with an introduction to e-Government.

Chapter 2 Research Methodology

Chapter 2 discusses the research methodology of this study. The methodology was based on the case study approach and uses a mixture of qualitative and quantitative methods. The chapter also highlights the research framework for the thesis.

Chapter 3 E-Government

This Chapter defines e-Government and its concepts, its importance, the goals, objectives and benefits of, e-Government and the services provided by e-Government. The Chapter also discusses issues such as evaluation, regulations, security and strategy of e-Government.

Chapter 4 Critical Success Factors for e-Government

Chapter 4 discusses the Critical Success Factors for e- government, the barriers and problems facing the implementation of e-Government and why e-Government fails.

Chapter 5 Evaluation Model and Exploratory Study

Chapter 5 proposes and evaluation model based on CSFs and the relationships between them. The model is followed by an exploratory study on the General Traffic Department in Kuwait (GTD) that aimed to identify the important services to be converted to e-services.

Chapter 6 Case study 1: Dubai Police

This Chapter discusses the important services provided to the public. and the e-Government imitative to transform it to e- services. The researcher analyses the data collected through the interviews questionnaire and validate CSFs from the literature review as it applies to DP.

Chapter 7 Case study 2: Dubai Municipality

Chapter 7 discusses the important services provided to the public. and the e-Government imitative to transform it to e- services. The researcher analyses the data collected through the interviews and validate CSFs from the literature review as it applies to DM.

Chapter 8 Case study 3: Public Authority for Agriculture & Fishes

Chapter 8 discusses the important services provided to the public. and the e-Government imitative to transform it to e- services. The researcher analyses the data collected through the interviews questionnaire and validates CSFs from the literature review as it applies to PAAF.

Chapter 9 Proposed framework

This Chapter discusses the proposed framework which is based on a three kinds of CSFs, namely internal, implementation, and external factors. The framework provides a tool for management to use in order to succeed in implementing e-Government initiatives.

Chapter 10 Summary and conclusion

Chapter 10 discusses provides the conclusions, findings and recommendations for future research.

Chapter 2

Research Methodology

2.1 introductions

The previous chapter briefly outlined the phenomenon of e-Government and the growing role it is playing in the life of citizens, private sector, and society. The previous chapter also identified the aims of the research and outlined the content of all the chapters. This chapter introduces research in general and the research methods used while, conducting the study and developing a framework for the successful implementation of e-Government.

In general terms, research can be defined as an activity that contributes to the understanding of a phenomenon (Lakatos, 1978).

Research methods provide means to collect data. In turn, data can be collected from numerous sources using either qualitative or quantitative methods. If data collected is in the form of words then the method used is qualitative, the method is quantitative when the data is in the form of numbers (Miles and Huberman, 1994). The research methods used in the study are a triangulation of both qualitative and quantitative methods.

The quantitative method used is the survey (i.e. the questionnaire surveys conducted), the qualitative methods used include the interviews and other methods used in the case studies such as documentation review and participant observation.

2.2 Introduction to Research

Drawing heavily from Kuhn (1996) and Lakatos (1978), research can be very generally defined as an activity that contributes to the understanding of a phenomenon. The Wikipedia Free Encyclopedia (2006) defined research as an active, diligent, and systematic process of inquiry aimed at discovering, interpreting, and revising facts. This intellectual investigation produces a greater knowledge of events, behaviors, theories, and laws and makes practical applications possible. The term *research* is also used to describe an entire collection of information about a particular subject, and is usually associated with the output of science and the scientific method. The goal of the research process is to produce new knowledge, which takes three main forms:

- Exploratory research, which structures and identifies new problems
- Constructive research, which develops solutions to a problem
- Empirical research, which tests the feasibility of a solution using empirical evidence

2.2.1 Research Strategy

Nachmias (1996) and Trochim (2001) stated that there are two types of research strategy: theory-then-research and research-then-theory. Theory-then-research strategy starts with a hypothesis – testing approach to research, and then collects data that will lead to accepting or rejecting the hypothesis.

2.2.2 Research Methodology

Research methods supply means to collect data. Data can be collected from numorus sources using using different methodologies. Data collected can be classified as qualitative or quantitative; they are qualitative if they come in words form and explain conditions, they are considered as quantitative if they are in the form of numbers (Miles and Huberman,1994). Mixed methods research (Tashakkori and Teddlie, 2003) is a procedure for collecting and analyzing both quantitative and qualitative data in a single study or in a series of studies, based on priority and sequence of information (Creswell, 2003; Creswell *et al.*, 2003; Green *et al.* 1989, Tashakkori -et al-, 1998).

2.3 Qualitative and Quantitative Methods:

Trochim (2000) declared that data is called quantitative if it is in numerical form and qualitative if it is not. However, qualitative data could be much more that just words or text. For example, photographs, video, sound recording, etc. can be considered qualitative data. All quantitative data according to Trochim (2000) is based upon qualitative judgments and all qualitative data can be described and manipulated numerically Myers (1997) indicated that quantitative research methods were originally developed in the natural sciences to study natural phenomena. Examples of quantitative methods now well accepted in the social sciences include survey methods, laboratory experiments, formal methods (e.g. econometrics) and numerical methods such as mathematical modeling. On the other hand, Myers (1997) explained that qualitative research involves the use of qualitative data, gathered from interviews, documents, and participant observation to understand and explain social phenomena. Myers (1997) defined qualitative research methodolgy as a strategy of inquiry which moves from the underlying philosophical assumptions to research design and data collection. The choice of research method influences the way in which the researcher collects data. Specific research methods also imply different skills, assumptions and research practices.

2.3.1Primary and Secondary Sources

In anthropology and sociology it is a common practice to distinguish between primary and secondary sources of data. Generally speaking, primary sources of data are those which are unpublished and which the researcher has gathered from the people or organization directly. Secondary sources refer to any materials (books, articles etc.) which have been previously published.

According to McDaniel and Gates (2002), the advantages of using secondary data are:

- Providing necessary background information and building credibility for the research report.
- Helping to clarify or redefine the problem during the exploratory research process.

- Providing a solution to the problem.
- Providing primary data research method alternatives

Graves (2003) identifies the advantages of using data from secondary sources as:

- Secondary information is an inexpensive data source.
- It is useful for generating hypothesis for further research
- It is useful in comparing findings from different studies and examining trends.

2.3.2 Structured and Semi Structured Interviews

Semi structured interviews are useful in situations where broad issues may be understood, but the range of respondents reactions to those issues is not known or suspected to be incomplete. Structured interviews should be carried out in situations where the respondents range or replies are already well known and there is a need to gauge the strength of each shade of opinion. Fower and Mangione *(1990)* provided information about how to conduct structured interviews. There are four phases to the structured interview:

1. ***"Nurturing" phase:*** this is the initial warm-up to the interview with pleasantries exchanged and introduction made.
2. ***"Energizing" phase:*** this is the area of discourse and where any existing problems are identified.
3. ***"Body" of the interview:*** this is the peak phase of activity, where the interviewer is continually probing, and ideally asking open-ended questions in order to understand the range of responses the users produce. It is important for the interviewer to remain analytical in nature at this stage.
4. ***"Closing" phase:*** summaries may be given. Subsequent actions are noted, and future planning is made.

2.4 Case Study Research

There are many definitions for case study method Tellis (1997) defined case study as an ideal methodology when a holistic, in depth investigation is needed. Case studies can be used in varied investigations. The unit of analysis is a critical factor in the case study. A case typically is a system of actions rather than actions of individual or group of individuals. Case studies tend to be selective, focusing on one or two issues that are fundamental to understanding the system being examined. The research question is framed around “who”, “what”, "when" “where”, “how”, and “why” to determine the relevant strategy to be used. The unit of analysis in case study could be an individual, a community, an organisation, a nation or a state.

Trochim (2000) offers another definition which describes case study as an intensive study of a specific individual or specific context. For instance, Freud developed case studies of several individuals as the basis for the theory of psychoanalysis and Piaget conducted case studies of children to study developmental phases. One of the advantages of case study method is in its depth of investigation of the phenomenon or event. Rather than using large samples and following a rigid protocol to examine a limited number of variables, case study method involves an in-depth, longitudinal examination of a single instance or event: a case. It provides a systematic way of looking at events, collecting data, analyzing information, and reporting the results. As a result the researcher may gain a sharpened understanding of why the instance happened as it did, and what might become important to look at more extensively in future research. Case studies lend themselves to both generating and testing hypotheses (Flyvbjerg, 2006).

A third definition is offered by Yin (2003) which points out that case study are an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. The key aspects of Yin’s definition are:

- the context is relevant,
- there are many variables that interest us,
- there is a need for multiple sources of evidence (triangulation),
- there is a prior development of theory.

Yin (1994) proposed five components of case studies:

1. The study's questions.
2. Its propositions, if any.
3. The unit(s) of analysis.
4. The logic for linking the data to the propositions.
5. The '*Criteria*' for interpreting the findings.

2.4.1 Case Study as a theory building or Testing Strategy

Case study as a research strategy focuses on understanding the dynamics present within single settings (Eisenhardt 1989). However, the definition can be extended to be applicable to multiple settings and numerous levels of analysis. According to Eisenhardt (1989), case studies can be applied in order to accomplish various aims, such as providing description, testing or generating a theory. According to Layder (1993) case studies can be used for the purposes of 'theory testing' as well as 'theory building', by using. deductive reasoning which works from the more general to more specific or inductive reasoning which works the other way, moving from specific observations to broader generalization and theories (Trochim, 2001).

Sources of Evidence for Case Study:
Yin (1994) identified six sources of evidence for case studies:

1. Documentation
2. Archival records
3. Direct observation
4. Interviews
5. Participant Observation
6. Physical artifacts

Documents could be letters, memoranda, agendas, administrative documents, newspaper articles, or any document that is germane to the investigation. In the interest of triangulation of evidence, the documents serve to corroborate the evidence from other sources. Documents are also useful for making inferences about events. Documents can lead to false leads, in the hands of inexperienced researchers, which has been a criticism of case study research. Documents are communications between parties in the study with the researcher being a vicarious observer; keeping this in mind will help the researcher avoid being misled by such documents.

Archival documents can be service records, organizational records, lists of names, survey data, and other such records. The investigator has to be careful in evaluating the accuracy of the records before using them. Even if the records are quantitative, they might still not be accurate.

Interviews are one of the most important sources of case study information. There are several forms of interviews that are possible: Open-ended, Focused, and Structured or survey. In an open-ended interview, key respondents are asked to comment about certain events. They may propose solutions or provide insight into events. They may also corroborate evidence obtained from other sources. The researcher must avoid becoming dependent on a single informant, and needs to seek the same data from other sources to verify its authenticity.

The focused interview is used in a situation where the respondent is interviewed for a short period of time, usually answering a set of questions. This technique is often used to confirm data collected from another source.

The structured interview is similar to a questionnaire survey, and is used to gather data in cases such as neighbourhood studies. The questions are detailed and developed in advance, much as they are in a survey.

Direct observation occurs when a field visit is conducted during the case study. It could be as simple as casual data collection activities, or formal protocols to measure and record behaviours. This technique is useful for providing additional information about the topic being studied. The reliability is enhanced when more

than one observer is involved in the task. Glesne and Peshkin (1992) recommended that researchers should be as unobtrusive as the wallpaper.

Participant-observation turns the researcher into an active participant in the events being studied. This often occurs in studies of neighbourhoods or groups. The technique provides some other opportunities that are not provided by other methods for collecting data, but could face some major problems as well. The researcher could well alter the course of events as part of the group, which may not be helpful to the study.

Physical artefacts can be tools, instruments, or some other physical evidence that may be collected during the study as part of a field visit. The perspective of the researcher can be broadened as a result of the discovery.

Strengths and Weaknesses of Sources for Case Study:

No single source has a complete advantage over the others; rather they may be complementary and can be used in tandem. Thus, a case study should use as many sources that are relevant to the study. The choice of sources depends on, the research strategy and also to the availability of these sources to the researcher (Yin,1994). Table 2.1 indicates the strengths and weaknesses of each type of sources of evidence.

Source of Evidence	Strengths	Weaknesses
Documentation	• single – repeated review • Unobtrusive-exist prior to case study • Exact - names…etc • Broad coverage- extended time span	• irretrievability- difficult • biased selectivity • reporting bias – reflects author bias • access- may be blocked
Archival Records	• same as above • precise and quantitative	• same as above • privacy might inhibit access
Interviews	• targeted- focuses on case study topic • insightful – provides perceived casual inferences	• bias due to poor questions • response bias • incomplete recollection • reflexivity – interviewee expresses what interviewer

		wants to hear
Direct Observation	• reality- covers events in real time • contextual-covers event context	• time consuming • selectivity- might miss facts • reflectivity – observer's presence might cause change • cost – observers need time
Participant Observation	• same as above • insightful into interpersonal behavior	• same as above • bias due to investigator's actions
Physical Artifacts	• insightful into cultural features • insightful into technical operations	• selectivity • availability •

Table 2.1: Strengths and weaknesses of sources of evidence for case studies (Yin,1994).

2.4.2 Characteristics of Case Study Research

Case studies focus on one instance (or a few instances) of a particular phenomenon with a view of providing an in-depth account of events, relationships, experiences or processes occurring in that particular instance (Denscombe, 1998). The characteristics of case study research are shown in Table 2.2

Case study research characteristically emphasises		
Depth of study	rather than	Breadth of study
The particular	rather than	The general
Relationships/processes	rather than	Outcomes and end-products
Holistic view	rather than	Isolated factors
Natural settings	rather than	Artificial situations
Multiple sources	rather than	One research method

Table 2.2: Case study research characteristics (Denscombe, 1998)

Case study is an ideal methodology when a holistic, in-depth investigation is needed (Tellis,1997). As discussed previously, Yin (2003) identified six primary sources of evidence for case study research. These sources of evidence have provided the checklist for this research to follow in order not to omit the capture of any relevant information that is required. Not all sources (of evidence) are essential in every case study, but the importance of multiple sources of data for the reliability of the study is well established in the literature (Stake, 1995; Yin, 2003). Also, no single source has complete advantage over the others; rather they may be complementary and could be used together. Thus, all case studies should use as many sources as possible, in fact these sources needs to be relevant to the study in assisting with understanding the subject of analysis in the case study. Table 2.2

2.4.3 Importance of Triangulation in Case Study

Triangulation is combining qualitative and quantitative research methods in one study (Gable,1994; Lee,1991). Case study is also known as a triangulated research strategy. Snow and Anderson (1991) (cited in Feagin et al (1991) asserted that triangulation can occur within data, investigators, theories, and even methodologies. The need for triangulation arises from the ethical need to confirm the validity of the processes. In case studies, this can be achieved by using multiple sources of data (Yin, 1994). The rationale for using multiple sources of data is the triangulation of evidence, i.e. triangulation increases the reliability of the data and the process of gathering it. In the context of data collection, triangulation serves to corroborate the data gathered from other sources.

Yin (1994) suggested three principles of data collection for case studies:

1. Use multiple sources of data
2. Create a case study database
3. Maintain a chain of evidence

In this study, archival records, direct observation, participant observation and physical artefacts are also used to further enhance the research findings especially in the early stage for the preparation of pilot study.

This research has adopted the triangulation methodology which states three principles, examination of documents used in data collection (namely a document check), carefully designed questionnaire combined with face-to-face interviews to gather data (Yin, 1994; Graham *et. al.*, 1996; Bateman and Moore, 1983).

2.4.4 Cross-Case Data Analysis: 3 Case Studies

Regarding the strategy followed for the analysis, Patton (1990) suggested starting the analysis by marking chronology, key events, various settings, people, processes and issues. Yin (1994) suggested that every investigation should have a general analytic strategy, to guide the decision regarding what will be analyzed and for what reason. The analysis of all interviews and questionnaires in this study began with pilot study analysis and followed by cross-case analysis of three case studies. As Patton (1990) explained beginning with the pilot study analysis indicates grouping together answers of different people to common questions or analyzing different perspectives on central issues.

2.4.5 Case Study Result Writing

The guide for the case study report is often omitted from case study plans since investigators view the reporting phase as being far in the future. Yin (1994) proposed that the report should be planned at the start. Case studies do not have a widely accepted reporting format; hence the experience of the investigator is a key factor. Some researchers have used a journal format (Feagin, -et al- (1991) which was suitable for their work. The reason for the absence of a fixed reporting format is that each case study is unique. The data collection, research questions and in particular, the unit of analysis cannot be placed into a fixed mould as in experimental research.

placed into a fixed mould as in experimental research.

Different data collection methods were used in the 3 case studies. For the DP case study, interviews, documents, statistics, and survey were used as research methods. Interviews were conducted with Survey of management and the technical staff was used as well as statistics and documents from DP For the DM case study, interview was used and documents provided enabled the researcher to have a deeper understanding of the implementation process. Survey was not used in DM case study since valuable information was available in the form of an e-Government study report (prepared by the consultant) which identified the important services for both the customer and the organization. In PAAF case study the research used interviews (conducted with management and the technical staff), survey of the public documents and visits to the 3 main premises of the organization in order to collect data.

2.5 Data Analysis in the research context

All three case studies have the following similarities:

1. All three public organizations have a big customer base and provide important services to society.
2. The research carried out in the three case studies included the opinion of the users, management, and technical staff about the nature of services and the e-Government projects.
3. In all three case studies, interviews were carried out on three levels: Leaders, management and technical staff.
4. The validity of the CSFs that were identified from the literature review was checked in all three case studies and the CSFs are found to be valid.

The differences in the three case studies were:

1. The questionnaire was applied in only two on the three organizations, namely, DP and PAAF. In DM, the research substituted the questionnaire with a DM report on the e-Government project, prepared by the consultant and contained comprehensive information on the nature of services and the analysis carried out in order to determine which ones will be transformed into e-Government services and the priority of the implantation.
2. Two of the three case studies (DP and DM) were carried out in one country, while the third (PAAF) was in another. This gave the researcher the chance to conduct more thorough research on e-Government initiative in the UAE as compared to Kuwait.

2.6 The Case Study Framework

Many well known case study researchers such as Yin (2003) have written about case study research and suggested techniques for organizing and conducting the research successfully. The necessary steps for any case study research include the following:

- Determine and define the research questions
- Select the cases and determine data gathering and analysis techniques
- Prepare to collect data
- Collect data in the field
- Evaluate and analyze the data
- Prepare the results

The research framework in this study can be divided into four stages:

Research Phases	Explained in:
Planning	Chapter 1
Background	Chapter 2 Research Methodology
Literature Review on e-Government	Chapter 3
Literature Review on CSFs	Chapter 4
Exploratory Study	Chapter 5
GTD Survey	
Data Collection, Analysis and Validation	
Case Study 1 DP / Case Study 2 DM / Case Study 3 PAAF	Chapter 6-8
Framework Proposal and Discussion of Findings	Chapter 9
Discussion of Findings Recommendation for further research	Chapter 10

Figure 2.1: Research Framework

Stage one (Planning)

This stage included planning the methodology that was adopted in conducting the research on e-Government. The methodology was a combination of both qualitative and quantitative approaches. The research commenced with a literature review on e-Government, continued by determining the CSFs for the implementation of e-Government, later CSFs identified from the literature review are evaluated by case studies in the G.C.C. countries.

Stage two (Background):

In the second stage, the process started with an extensive literature review covering the phenomenon of e-Government and the CSFs that are behind its successful implementation around the world. The CSFs are then presented in form of an evaluation model. In the next stage an exploratory study identified the importance of CSFs in e-Government.

This stage included collecting and reading a wide range of articles in that provided a background on e-Government. The topics investigated include the growth, the scope, definition classifications of activities of e-Government. Further topics investigated include the services provided, the goals and strategies, benefits, impact, evaluation, regulation, change management, organizational culture, security, digital divide, e-democracy, e-Governance, of e-Government and finally mobile e-Government. The next step was identifying the CSFs for e-Government from the literature review along with the barriers, obstacles, the problems facing e-Government, and the reasons behind the failure of e-Government projects. The third phase was an exploratory study and a survey, which was conducted to, identify the important services in the GTD (which is taken as an example of a public organization), and measure public opinion on implementing e-services.

Stage three (Data Collection, Analysis and Validation):

This stage of the research involved conducting 3 case studies in two public organizations in the UAE (DP and DM) and one public organization in Kuwait (PAAF). The steps taken to conduct each case study were the same as those used by Yin (2003):

- **Determine and define the research questions:** the research question was defined as: "What are the CSF's that are behind the successful implementation of e-Government".
- **Select the cases and determine data gathering and analysis techniques:** the three organizations chosen were: DP and DM from the UAE, and PAAF from Kuwait. The reason for choosing these three public organizations was that they were representative of the G.C.C. and that each of them had a very large customer base. Data gathering was done by using five sources of data namely: Interviews, Survey, participant observation, archival documentation, and documentation. These 5 sources of data were analysed in order to find out if the CSFs identified in the literature review were present in the organisation and in order to determine their effect on the implementation of e-Government projects. Table 2.3 presents

	Interviews (Management)	Survey (Public)	Participant Observation	Archival Documentation	Documentation
DP	Y	Y	Y	Y	Y
DM	Y	N	Y	Y	Y
PAAF	N	Y	Y	Y	Y

Table: 2.3 Data Gathering Sources for the three Case studies

- **Prepare to collect data:** the researcher gathered preliminary information on the three organizations from the web sites and other

news sources. Then, the researcher designed a set of questions for the interviews and the survey. The interview questions concentrated on identifying and validating the CSFs for the implementation of e-Government projects, and the survey questions were designed to identify the important services to the public. Next, the researcher requested permission to visit these organisations in order to meet with their management and conduct interviews and surveys. Several field visits (to the three organizations) were done by the researcher in order to conduct the interviews and surveys.

- **Collect data in the field:** The data was collected through interviews with management and technical staff together with the survey of the public, along with participant observation and archival documents.
- **Evaluate and analyze the data:** all the data collected were evaluated and analysis on the basis of their contribution to the CSF's in e-Government projects.
- **Prepare the results:** the result of the analysis was the formulation of a framework for the successful implementation of e-Government projects which consisted of 13 CSF's divided into three kinds: internal, implementation, and external CSF's.

Analysis of the data was carried out by conducting a survey for the public in DP and PAAF, and semi structured interviews for management and the technical staff in the three organizations and by gathering documents from the three public organizations. Also the portal of the three organizations was visited by the researcher in order to evaluate these portals and collect any further information needed for research. The semi structured interviews were conducted with management and the technical staff. The quantitative approach consisted of a survey conducted in the exploratory study to identify the important services for the public in the GTD in Chapter and a survey for the public in DP and PAAF.

Stage Four (Framework Proposal and Discussion of Findings):

This stage introduces the framework for the successful implementation of e-Government. The framework relies on the CSFs identified from the literature review and validated in the case studies. This framework presents a universal approach that is both valid in the Western and Middle Eastern worlds. The data collected from the literature review pointed out that e-Government is more than an IT project, in fact it is a reform process that has political, economical, and social implications. e-Government implementation has been uneven in the world, and it is hoped that the proposed framework will help developing countries improve the successful implementation of e-Government initiatives.

2.7 Summary

This study was concerned with understanding the phenomenon of e-Government and the CSFs that are behind its successful implementation. In order to carry out the research, a combination of quantitative and qualitative approaches, such as surveys, interviews, participant observation, archival documents and documents were used. The case study approach was the main methodology used as an ideal methodology when in the research since it provided a holistic, in depth investigation of e-Government imitative in 2 public sector organizations in the GCC. The unit of analysis in the case study was the CSF. Finally, .a Framework for the research included planning for the research, Data collection, data analysis, and presentation of the findings.

Chapter 3

Literature Review
E-Government

3.1 Introduction

Government services have been delivered to citizens since ancient times. The Roman Empire provided services such as building a network of roads linking the empire, provision of irrigation to farming land and many other services to its citizens. The provision of public services has expanded in modern times. Modern governments have been influenced greatly by the industrial revolution and the division of labour in the end of the nineteenth century (Heeks, 2001). Government services are expanded (advanced) with (transition from agricultural society to industrial society, and later by) the expansion of the industrial society and the advancement of modernity. Provision of electricity, water, educational services and many other services had to be delivered to an increasing number of urban dwellers.

The organisation of governments resembled the private sector in the beginning of the twentieth century. Functionality became the organisational cornerstone and ministries were divided into departments according to this principle. However, with the great increase in the population (due to better health services and lower death rates) the demand for public services soared. As a result, governments hired more employees and created more departments. However, this did not solve the problem. In contrast, the problems in the area were increased because of the law of diminishing returns, and the increasing number of bureaucrats,(Heeks, 2001).

The term e-Government has only emerged in the last decade in the world as a result of the introduction of e-commerce to government. For forty years governments have been using technology, and now they are moving from IT to ICT. The evolution from IT to ICT increases the ability of e-Government in improving the efficiency of services to citizens. This evolution is also about, reducing costs to governments, and improving the citizen's access to services and their participation in the democratic process.

According to the World Bank (2004), e-Government refers to the use of information and communications technologies (ICT) to improve the efficiency, effectiveness, transparency and accountability of government. OECD (2001) defined e-

Government as the use of new information and communication technologies (ICT's) by government as applied to a full range of government functions. Similarly, Choudrie *et al.* (2004) defined e-Government as an Internet driven activity that improves citizen access to government information, services and expertise to ensure citizen participation, and satisfaction with the e-Government process.

The aim of the chapter is to present a solid knowledge of e-Government as a new and important phenomenon in the life of many citizens (in the world in general, and the G.C.C. countries in particular). E-Government promises to change the way the public and private sector deals with government by redesigning services in order to improve them and bring government and citizen closer to each other. The chapter highlights the important issues relating to e-Government such as its definition, growth development aims, goals, strategy, benefits, impact, evaluation, regulations, change management, security, digital divide, mobile e-Government and future challenges for the e-Government initiatives.

3.2 The Growth of e-Government

Many publications on e-Government have emerged over the last few years by government bodies and international organizations. Those of relevance include publications by the UN, OCED, EU, UK Australian, the US government, academic sources, and leading economic press.

The literature describes the state of affairs of e-Government, the progress made in delivering e-services to the public, and the critical factors that are behind the success and failures of e-Government. Governmental bodies in developed countries and international organizations have tried to evaluate the results of the implementation of e-Government in their own countries or organizations and the world at large. Countries have been ranked, success and failure factors have been analysed, and recommendations for improvement have been proposed.

In general the literature indicates that the developed world has been much more successful in implementing e-Government initiatives than the rest of the world.

Countries like Canada, UK and USA are leaders in providing e-services to citizens. The services provided are broad and cover many areas such as education, health, immigration, traffic and many other services. The developing countries on the other hand have been less successful in providing e-services as a result of lack of their infrastructure, financial services and human resources.

The lack of progress in developing countries has created a fear of a digital divide between the rich and poor countries. The divide threatens the spreading of benefits of e-Government to the rest of the world and reduces the catching-up opportunities for the poorer countries with the rest of the developed world,(Brown and Ryan, 2000)

All over the world, the public sector has faced enormous pressures to improve its services, work with less and less resources, and generate higher revenues. People are skeptical of the public sector's ability to provide services through state of the art technologies. Bureaucracies care more about rules and regulations, than speed or cost.

In the 1980's people witnessed the spread of privatization in the public sector in Britain and Europe. Many public entities were restructured and sold to the private sector and some other public entities have out-sourced some of their activities to the private sector. Privatization as system was implemented to reduce government expenditure, improve cost efficiency or provide more accountable and transparent delivery systems. (Brown and Ryan, 2000)

The G.C.C. has also begun to privatize some public companies and activities. The government of Kuwait has faced great challenges during and after the occupation and after the liberation of Kuwait. This unique experience has forced the government to rebuild most of its public entities. New technologies and new economic ideas such as privatisation were introduced in Kuwait. Furthermore, the fluctuation of the country's main source of income (oil) and the increasing number of population has made the government rethink of its policies on welfare state. The

result has been the gradual withdrawal of the government from the economy, and the increased role of the private sector. Public entities are encouraged to do more with fewer resources, as new resources are being consumed by the government's increasing payroll where over 90% of the national work force works in government. Having introduced Internet services, the G.C.C. Governments could create the shortest route between its public organizations and the public by providing some of the important services online in less time and at lower cost . The Internet then could provide benefits for both the public and the public organizations. However, in order to achieve the maximum benefit from e-services, current processes have to be improved or redesigned. Technology alone does not necessarily speed up the delivery time, but it is the re-engineering of business processes using IT that is capable of providing the lower –cost services at the shortest time in order to satisfy public needs and improve the performance of government. In order to achieve this re-engineering successfully in the public sector, political and social factors have to be considered and need to be seriously addressed prior to the embarking of e-Government projects.

3.3 Towards defining e-Government

There are currently a number of definitions of e-Government, and the majority of them emphasis the role of information and communication technologies in facilitating the delivery of public services (West, 2004).

In the Electronic Government Strategic Plan for the state of Texas (2001) e-Government is defined as the government activities that take place over electronic communications among all levels of government, citizens and business community, including:

- Acquiring and providing products and services
- Placing and receiving orders
- Providing and obtaining information
- Completing financial transactions

Fang (2002) defined e-Government as, a way for governments which leads them:

- to use the most innovative information and communication technologies and particularly web–based Internet applications.
- to provide citizens and businesses with more convenient access to government information and services.
- to improve the quality of the services and to provide greater opportunities to participate in democratic institutions and processes.

Improving the processes of public services and the reduction of their cost is another aim that is present in some e-Government definitions.

E-Government can be seen over simplistically as moving citizen services online, but it, in its broadest sense, refers to the technology-enabled transformation of government. E-Government is governments' best hope to reduce costs whilst promoting economic development, increasing transparency in government, improving service delivery and public administration, and facilitating the advancement of an information society (The Word Bank, 2006).

Other definitions in the field emphasised the importance of e-Government in increasing the participation of citizens in the democratic process. For example Carbo and Williams (2003) defined e-Government as the use of information technologies (and in particular the Internet) to deliver government information and services and involve citizens in the democratic process and real-time government decision making in a much more convenient, customer oriented (citizen centric), cost-effective and potentially different and better manner.

3.4 The scope and functions of e-Government

Governments have long recognised the potential of ICT as an enabler of fundamental changes, not only in the way they function but also in their relations with other organisations, societal groups and individuals. In both their relationship between the citizens and the inter-organisational arrangements, and in the intra-organisational activities, ICT (and Internet technology in particular) has appeared to promise enormous opportunities to reinvent governance to increase efficiency and effectiveness in public sector (Al- Kibsi *et al*, 2001)

Heeks (2000) suggested three main factors which have contributed to the e-Government phenomenon:

- The first factor is the perception of unsustainable levels of public expenditure that do not produce efficient public services, due to waste, delays, mismanagement, corruption or poor organisational and management skills.
- The second factor is the resurgence of neo-liberalism, which emphasises the efficiency of market competition and the need to make government more business-like.
- The third factor is the rapid development of ICT and the increasing awareness of its potential.

Chadwick and May (2003) examined the origins of the recent shift towards e-Government in three cases: the United States, Britain, and the European Union The authors set out three models of interaction between states and citizens that may underpin the practice of e-Government. The models were the "managerial" model, the "consultative" model and "participatory" model. The US model emphasizes the provision of efficient services, the British model emphasizes the importance of consulting the public and the EU model emphasizes the participation of the public in e-Government.

In the literature about e-Government, there are many articles and studies (i.e. Heeks, 2000; Al-Kibsi, 2001; Prins, 2001; Silcock, 2001; Fountain, 2001; Ho, 2002; Gant and Gant, 2002; Mellor and Parr, 2002; Moon, 2002) discussing the use of Internet technology to provide effective and efficient services to the public, to reinvent government

According to Heeks (2001), the scope of e-Government manly covers:

- **E-administration:** improving government processes by reducing costs, managing resources making strategic connections within government, and creating empowerment.
- **E-citizens and e-services:** connecting citizens to government by communicating with citizens, importing accountability by listening to citizens, supporting democracy, and improving public services.
- **E-society:** building interactions beyond the boundaries of government by working better with business, developing communities, building government partnerships and building society.

Padro (2000) defined the functions of e-Government as follows:

- **Citizen access to government information:** Providing access to government information is the most common digital government initiative.
- **Facilitating general compliance:** e-Government can also mean providing electronic access to services that facilities compliance with a set of rules and regulations.
- **General access to personal benefits:** Electronic benefits transfer and outline application to public assistance and worker compensation are examples of services that provide the citizen with electronic access to personal benefits.
- **Facilitating electronic procurement:** including bidding purchasing and payments.

- **Integrating government department:** Integrating service delivery programs across government agencies and between levels of government requires electronic information sharing and integration.
- **Citizen participation:** Online democracy includes access to elected officials, discussion forms, town meetings, voter registration and ultimately online voting. These services are intended to serve the community at large.

3.5 Classifications of e-Government Activities

E-Government activities can be classified manly into four categories (World Bank, 2005; UNDP, 2004).

1. Government to Citizen (G2C):

This category of e-Government activities deals with the relationship between government and citizens. G2C activities allow citizens to access government information and services instantly and conveniently, by the use of multiple channels. This includes information dissipation to the public, basic citizen services such as, license renewals, ordering of birth/marriage certificates and filing of income taxes, as well as citizen assistance to such basic services i.e. education and libraries.

2. Government to Business (G2B):

This category of e-Government activities consist of e-interactions between government and the private sector. The opportunity for business to conduct online transactions with government reduces red tape and simplifies regulatory processes, which helps them to become more competitive. G2B includes various services exchanged between government and the business community, including decimation of polices memos, rules and regulations. Business services offered include: obtaining current business information, downloading application forms, reviewing licenses, registering businesses, optioning permits, and payment of taxes. This category of activities also offers assistance in business development, specifically the development of small and medium

enterprises and in simplifying communication between government department and businesses

3. Government to Government (G2G):

Government departments typically depend on other government departments within ministries to effectively deliver their services. In promoting citizen-centric services, a single access point to government is the ultimate goal, where cooperation among different governmental departments and agencies is necessary. G2G services facilitate the sharing of databases, resources and capabilities and therefore enhancing the efficiency and effectiveness of processes. This category of activities includes transactions between department level and their attached agencies and bureaus. Also, G2G services can facilitate transactions between governments, and can be used as an instrument of international relations and diplomacy.

4. Government to employee (G2E):

G2E services are specialized services that cover only government employees. These services include the provision of human resource training and development that improve the bureaucracy's day to day functions and dealing with citizens. G2E services take place at two levels, at the local or domestic level and at the international level.

3.6 The Goals and Objectives of e-Government

Literature portrays different goals and objectives for different e-Government initiatives. This variation in goals and objectives is mainly attributed to the focus of the initiatives. For example, goals and objectives could aim at a high level if they are developed by a global type of institution such as the Word Bank and UNDP. On the other hand, goals and objectives may be more citizen-centric if they are developed for specific e-Government projects.

According to the UNDP (2003), the goals of e-Government range from more efficient delivery of service, to reform and development. According to this report, there are five goals for e-Government:

1. Creating a better business environment.
2. Providing Customers with online services instead of queuing inline.
3. Strengthening good governance and broadening public participation.
4. Improving the productivity and efficiency of government agencies.
5. Improving the quality of life.

World Bank (2004) stated that the objectives of e-Government would be, to provide:

1. Better Service Delivery to Citizens.
2. Improved Services for Business.
3. Transparency & Anticorruption.
4. Empowerment through information.
5. Efficient Government.

The IDABC e-Government Observatory (2005) identified the key objectives of e-Government in Portugal as:

1. Increasing citizen satisfaction with public services.
2. Achieving increased efficiency.
3. Increasing the transparency of the bureaucratic structure, thereby increasing citizen trust in public services.
4. Promoting citizen participation in the democratic processes through better Disseminating information.
5. Promoting the development of the information and knowledge society through an Innovative public sector.
6. Achieving international recognition of the quality of Portuguese e-Government.

The Dong (2004) stated the following objectives for e-Government in China:

1. Helping to achieve the policy of reform and open government.
2. Delivering e-Government services.
3. Transferring governments' functions.
4. Improving working efficiency and the effectiveness of supervision.
5. Increasing the rationality, harmony and democracy of government work.
6. Improving the overall capability of implementing administrative power.

On the other hand, a developing country such as Kuwait has identified its e-Government goals as:

1. Developing a complete database about the Government Information Technology centers. The designated database shall be updated annually and regularly to assist such government bodies in their efforts for implementing the e-Government project effectively.
2. Providing all kinds of automated electronic government services.
3. Preparing an information awareness campaign targeting all government bodies.
4. Benefiting from the experience of other countries who have achieved considerable milestones in the e-Government evolution.
5. Developing the Human Resources capabilities in the Information Technology field.
6. Develop and promote the Information Technology commerce and industry in Kuwait.
7. Developing and promote the information and marketing trend.
8. Developing and promote the legislative and legal trend.
9. Achieving a cohesive group of government bodies and other entities to implement the e-Government project source.

While The UNDP model is comprehensive with the goals of e-Government ranging from more efficient delivery of service, to reform and development the World Bank

model emphasizes primarily the efficiency of services. On the other hand, the IDABC model stresses the importance of participation and transparency while the Chinese model emphasizes reform of government. The Kuwait model leans more towards improving of services to both the public and private sector.

3.6.1 Services Provided by e-Government

According to the UNDP (2002), e-Government services concentrate on customers, citizens, the business community, government employees, and government agencies. E-Government aims to make interactions with these participants more convenient, friendly, transparent, inexpensive and effective. According to a study carried out by the US Centre for Technology in Government (2000), citizens require the following services to be provided online

- Renewing a driver's license.
- Voter Registration.
- State park information and reservations.
- Voting on the Internet.
- Access to one-stop shopping (one portal for all government services).
- Ordering birth, death and marriage certificates.
- Filling state taxes.
- Hunting and fishing licenses.

E-Government services most frequently provided in the (state level at) State of California (2001) are:

- Filling personal income tax return.
- Reserving a campsite in a state park.
- Applying for a state fishing or hunting license.
- Renewing a Professional License.
- Submitting employment information.
- Registering a complaint against a business or professional Licensee.
- Renewing a driver's license.
- Requesting a government loan.

Hendry, et al (2003) outlined the e-services offered in the US in national, state, and local web sites. These services include:

- Ordering publications.
- Downloading publications.
- Filling complaints.
- Online databases (e.g. access to voting records of elected officials).
- User payments (e.g. pay parking tickets).
- Filing and paying taxes.
- Fully executable services (e.g. driver's license renewals and voter registration.
- Voting online.
- State park information.

3.7 e-Governments Strategy

This section introduces 3 different e-Government strategies (developed and implemented in the UK, Singapore and Dubai). In the UK, e-Government strategy stresses the use of e-business solutions to improve the delivery of public services. The Singapore's e-Government strategy stresses the attainment of its vision to be an Integrated Government which satisfies customers and connects citizens through the use of IT, while the Dubai's e-Government strategic initiative is linked to Dubai's vision of becoming a leading business hub. In all 3 cases, e-Government strategies emphasize the need to improve services to the public and private sector, and encourage reform of government and participation of citizens.

3.7.1 The UK e-Government strategy

According to Sibson (2005), the UK e-Government strategy emphasizes the use of e-business solutions to improve the delivery of public services. In the UK, e-Government strategy is not seen as a conventional IT strategy which proposes technical solutions to a set of business needs. The business of government is too varied and complex and the range of its dealings and contacts are too great for this

to be a sensible approach. Instead, e-Government strategy sets a strategic direction such as the public sector will transform itself by implementing business models which exploit the possibilities of new technology.

The "UK Online Strategy", includes 133 detailed recommendations covering 26 commitments to ensure that the UK is at the forefront of the knowledge economy revolution. Recommendations are grouped under three themes: Transforming Business, Transforming Government and Transforming People.

3.7.2 Singapore e-Government Strategy

The Singapore's e-Government strategy stresses the attainment of its vision to be an Integrated Government (i-Gov) that satisfies customers and connects citizens through the use of IT. The i-Gov2010 vision is "to be a Government that works as one, across organisational boundaries, to reap synergies and exploit new opportunities in all aspects, whether in providing information that engages citizens, or being intelligent and interactive in fully understanding customers' needs to deliver quality services that delight them" (Singapore government online , 2005).

The strategy aims to achieve the following by 2010:

- 8 out of 10 users who are very satisfied with the overall quality of e-services.
- 9 out of 10 users who would recommend others to transact with the Government through e-services.
- 8 out of 10 users who are very satisfied with the level of clarity and usefulness of information published online on Government policies, programmes and initiatives.

3.7.3 Dubai e-Government Strategy

The Dubai Government announced a major strategic initiative called "Dubai e-Government" in 2000. Bastaki and Geray (2005) described the vision of Dubai e-Government strategy by linking it to Dubai's vision of becoming a leading business hub. The Dubai Government has taken the decision to simplify its regulations and services provisioning by leveraging on ICT and modern technology.

The main goals of the Dubai e-Government initiative can be summarised as follows:

- To simplify and streamline Government services by utilising technology as a key enabler.
- To achieve a customer-centric approach for Government services provisioning by increasing effectiveness and efficiency.
- To innovate new Government services and join-up existing Government services by exploiting new potentials arising from e-Government.
- To modernise and standardise internal Government processes regarding procurement, finance & accounting and human resources.
- Core purpose refers to the ultimate underlying and driving goal of Dubai e-Government. It is a guiding principle that endures the test of time and can never be completely achieved but rather only pursued.
- Core values are the shared beliefs, values and the main characteristics of the Dubai e-Government initiative that hold its members together.

3.8 Benefits of e-Government

The primary benefits of e-Government are improving the delivery of services to the public and the private sector, reducing costs, improving public administration and encouraging development and investment especially in the developing world. According to the World Bank (2004) the benefits of e-Government are:

- ***Reducing costs:*** Putting services on-line substantially decreases the processing costs of many activities compared with the manual way of handling operations. Efficiency is also attained by streamlining internal processes and by enabling faster and more informed decision making.
- ***Promoting economic development:*** Technology enables governments to create positive business climates by simplifying relationships with businesses and reducing the administrative steps needed to comply with regulatory obligations.

- ***Enhancing transparency and accountability:*** e-Government helps to increase the transparency of decision-making processes by making information accessible.
- ***Improving service delivery:*** Government service delivery, in the traditional process, is time consuming, lacks transparency, and leads to citizen and business dissatisfaction.
- ***Improving public administration:*** e-Government administrative components such as a computerised treasury, integrated financial and human resource management systems lead to greater efficiency in public administration.
- ***Facilitating an e-Society:*** one of the main benefits of an e-Government initiative consists of the promotion of ICT use in other sectors.

In the G.C.C, the benefits of e-Government various from are country to another at the current situation. In Dubai, e-Government projects started to enhance transparency and improving services while in Kuwait, e-Government projects just started to takeoff.

The UK e-Government Strategy (2003) indicated three types of benefits:

Benefits for citizens: Developments in technology and the rapid fall in the price of communication and computing have changed many people's lives. New services have been established, and existing ones are provided in new ways. At their best, these services deliver the benefits of:

- Better access to information, with services available where and when there is a demand.
- Delivery of services through a range of media, over the counter, via call centre and online.
- Segmentation of the market, with services tailored to suit the needs of groups within the market.
- Responsiveness to provide feedback about the content and quality of services.
- Grouping of services around life episodes or common events.

Benefits for businesses: New technology has transformed the way businesses operate. The Government's commitment to ensure the UK becoming the best place in the world to do business online is mentioned in its response to the report of the Performance and Innovation Unit (2003). As stated by in the UK, one of the key ways in which businesses have applied e-commerce techniques is in managing their relationships with customers and suppliers. indicated that public sector bodies must do the same if they are to derive the same benefits in terms of reduced costs and better procurement and also mentioned the effect of the public sector doing this as a whole will be a significant contribution for advancing e-commerce.

Benefits for the public sector: New working methods offer potential benefits for the internal business of the government too. These include gains in efficiency and effectiveness from better use and management of information, whether in support of policy making or the administration of programmers. Intranet technologies offer the possibility of establishing knowledge bases and cross-departmental working. Extranets on the other hand, connect organisations, and for example by the use of extranets government departments will enable businesses to be carried out more quickly and cheaply.

Table 3.1 summarises the benefits of e-Government to government departments and non government bodies, i.e. to citizens and business.

	Government	Non-Government (Citizens & Business)
Direct Financial Costs and Benefits	***1) Reducing Costs:*** **freeing resources for public and private innovation; increasing value of products and services.**	*2) Reducing Burden:* **administrative simplification; providing higher valued and faster services; saving time and money and improving equity.**
Direct Non-Financial Costs and Benefits	***3) Capturing Total Benefits of Investment:*** **achieving synergies across service delivery channels; enabling the sharing and reuse of data for more proactive service delivery; promoting access as part of channel management strategy.**	*4) Increasing User Satisfaction:* **24/7 service; improving personalisation and service quality; improving access and equity; addressing security and privacy concerns; transparency and choice.**
Indirect Costs and Benefits: "Good Governance" as a Public Good	***5)Supporting Legitimacy:*** **supporting security and trust at an aggregate level; modernisation and transformation of the public sector; ensuring equity; increasing responsiveness, accountability and participation.**	*6) Supporting Growth:* **improving the business environment; creating an information society; establishing an infrastructure for secure and reliable transactions.**

Table 3.1: e-Government benefits (OECD e-Government Project, 2006)

3.9 The Impact on e-Government

The impacts of e-Government initiatives are usually divided into three groups as impact on employees, impact on other agencies and impact on users, i.e. citizens and businesses (e-Government Workgroup of the Directors General, 2002).

To date, the benefits of government have primarily been seen in correlation to gains in efficiency achieved through the application of ICT by individual agencies, while costs have been seen as directly related to the development and implementation of IT applications and systems supporting new forms of information or service delivery. In fact, some observers suggested that more general costs and benefits to society or the environment might comprise a third group (Rimmer, 2003).

Benefits arise at each stage of e-Government 'maturity' OECD (2003) The four levels of e-Government maturity are:

- Level 1: Information.
- Level 2: Interaction.
- Level 3: Transaction.
- Level 4: Transformation.

Tables: 3.2,3.3,3.4, and 3.5. summarise the benefits identified in studies of e-Government impact by OECD (2003) . The results are presented by grouping together e-Government projects that focus on each of the four levels of the OECD maturity model, i.e. information, interaction, transaction and transformation.

Project	Activity	Economic benefit
Centrelink, Australia	Information service for citizens, started in2001.	Breakeven over two years. AUD 8.9 million benefit after four years
District of Columbia Business Resource Centre	Business resource centre. Savings by rationalisation of some services	Saves USD 1.8 million a year
Information Network of Kansas (INK)	State portal of more than 215 000 pages, 90% free, 10% have fees.	Nine years after creation revenue is more than USD 7 million a year
Iowa Single Contact Repository	Delivers information to the public. Cost USD 277 000	Saves USD 264 000 a year
MyFlorida.com Search	engine that reduces the number of calls to the state's call centre	Saves USD 1.5 million a year, reduces call centre calls by 1%
New Jersey Portal	Virtual gateway to government information	2.7 million hits per day
North Carolina Security Portal	Gives 24/7 information on ICT security issues to ICT personnel. Cost USD 160 000	Saves USD 2.2 million a year
State of Kansas	Online job listings, enhances job searching, reducing benefit payments	Saves nearly USD 9 million a year in unemployment compensation
US one-stop for business legal information	Federal government initiative to assist with businesses' legal compliance	Businesses will save at least USD 275 million annually

Table: 3.2: The impact of projects in maturity Level 1(Information)

Project	Activity	Economic benefit
Australia: e-tax	Tax returns can be filed on line	AUD 15.5 million in accrued benefits by 2004 over a five-year period
Colorado Secretary of State Business Centre	Provides business-related information and allows online document filing	Saves USD 2 million a year
Hertfordshire County Council, UK: Services Online	Undertakes queries with customers on line instead of face to face	Reduces transaction costs from GBP 4 per transaction to GBP 0.10 per transaction
Kansas State online nursing license renewal	Delivery of services and information to users	Reduced phone calls by 90% over five years
Massachusetts Educator Licensure and Recruitment Initiative	Streamlined the state licensing process	Saves USD 1.6 million a year
Missouri e-grants	Delivery of services and information to the public	86% reduction in processing time; 360% in technical support
Missouri Internet Online Claims Filing	Unemployment insurance claims can be filed on line	Potential savings of USD 61 250 a year
Nebraska's UI Connect	Delivery of services and information to users	Saving USD 361 000 a year to employers and USD 63 000 to government
Singapore: Tax e-filing	Tax returns can be filed on line or over the phone.	Saves SGD 20 million a year
Virginia Employment Commission (VEC)	A USD 250 000 system that enables claimants to key in	USD 821 000 operational savings, USD 6.5 million savings for claimants

	unemployment insurance information on line.	

Table: 3.3: The impact of projects in maturity Level 2 (Interactive)

Project	**Activity**	**Economic benefit**
CAL-Buy Online Procurement System, US	State of California's procurement project, saving USD 37 per purchase	Cost savings USD 9.7 million a year
Colorado business centre	Delivery of services and information to businesses	USD 2 million a year to businesses
Consip e-procurement project, Italy	Italian government procurement project. Provides savings of up to 30% on goods	Savings on administrative costs estimated to total ITL 1 500 billion in 2001
e-Maryland Marketplace	Procurement project Saves	USD 100 per purchase
GSA Advantage!™, US	Federal government's online acquisition programme	Closed six of eight distribution centres and forward supply points in 2001
Iowa single contact repository	Delivery of services and information to the public	Saving USD 132 000 a year to employers and USD 132 000 to government
OGC, UK: E-tendering	Allows tendering to take place on line	GBP 13 million savings over 4 years .Reduces costs to suppliers by GBP 37 million
Service Arizona	Allows citizens to register vehicles. Online processing is about USD 4 less than a counter transaction	Saves more than USD 1 million a year

Table: 3.4: The impact of projects in maturity Level 3 (Transaction)

Project	Activity	Economic benefit
Idaho Paperless Online Personnel and Payroll System	Integrated payroll system costing USD 1.65 million	Saves USD 430 000 a year in administration and another USD 75 000 a year in printing
The Dolphin project, Ohio	Automation of the Ohio Bureau of Workers' Compensation scheme, cost USD 15 million	Saves over USD 120 million a year
Washington State Combined Application programme	Combined the benefit programmes of a few agencies, cost USD 400 000	Saves USD 6.37 million a year
Wisconsin Workers' Compensation Insurers' Web Reports	Enables administrators and insurers to have real-time access to compensation claims	Saves over USD 1.5 million a year

Table: 3.5 : The impact of projects in maturity Level 4 (Transformation)

Due to the difficulty in measuring the benefits of e-Government, the Working Group on e-Government in the Developing World (2002) has suggested an alternative approach by measuring the impact of e-Government the identification of some measures such as:

- Number and/or percentage of constituents or localities, e.g. "customers" accessing information or services electronically.
- Increased convenience or efficiency in delivering information or services, i.e. reduction in number of days to deliver services, resulting from 24/7 availability.
- Length of time for procuring goods, service, info (from the government, business or citizen perspective).
- Reduction in the cost for citizens; or
- Reduction in the cost for government.

3.9.1 The Economic impact of e-Government projects

Several studies have reported results from research evaluating the economic impact of e-Government projects, OGC (2003).

These studies provided an interesting overview of the amount of savings that can be derived from e-Government projects. However, the studies raised almost as many questions as they answer. Nearly all of them used different methodologies and their results are presented in different ways, i.e. some provide details about costs, while others do not. This makes it difficult to be certain that benefits exceeded costs and a positive return on investment (ROI) was realised. These studies would have a better value if more could have been known about the methodologies used to calculate costs and benefits.

Many studies have evaluated the economic impact of e-Government projects in the early stages of the e-Government maturity model (information and interaction). In contrast, there are fewer evaluations of more advanced projects such as transformation initiatives. Many governments indicated that they are not yet near this stage of e-Government or the evaluation of, the limited number of projects they have conducted, have not yet been undertaken.

Previous studies measuring the impact of e-Government projects have not differentiated between the maturity level of projects or the distribution of costs and benefits to users and government. However, the benefits to government from less mature projects appear to be smaller than the benefits from higher level projects, OGC (2003). UK government studies suggest that as projects move from the information to the transformation level, payback periods on e-Government investments decline and net present values rise.

Table: 3.6 summarises some of the potential uses of media, information and communication technologies MICT in G2G, G2B and G2C activities, as well as some of the applications available or applicable to the MENA countries (Yared ,2002).

Activities *(G2B -G2G -G2C)* *Impacts*	Activities (G2B -G2G -G2C)	Impacts	Examples of good practice
Administration ▯Civil servant quality ▯Service delivery ▯Process costs ▯Management process reengineering	▯procurement ▯Joined up government ▯On-line permits and lic	▯Cut costs ▯Improved services ▯More convenient-faster- 24h ▯Better management-moreeffective use of resources ▯Better efficiency	▯National ID system in Egypt ▯HR and Payroll system forpublic servant in Tanzania ▯Better tax return filing forcitizens in Chile
Economic ▯Funding ▯Cost saving ▯eCommerce ▯Business models	▯Policies to promote ICT ▯Competition between InternetServiceProviders ▯Lower communication costs	▯Encourage foreign investment ▯Reinforce local IT industry ▯Improve customs (procedures, costs) ▯Better tax return	▯Philippine Customs Reform ▯Beijing's Business E-Park ▯Dubai Ports and Customs Authority ▯Jamaica Customs Automated Service Online
Social ▯Level of education ▯Employment ▯Income ▯Digital divide ▯Literacy ▯IT skills ▯Rural areas v/s cities ▯Gender divide	▯Support distance learning ▯Expanding knowledge base ▯Empowering farmers through information and services kiosks ▯Free internet course evaluation	▯Better education ▯Better skilled people ▯Empowerment of women	▯Sri Lanka access model ▯Argentina ▯Nairobi

Political ▯***Laws and regulations*** ▯***Decision making process*** ▯***Strategies and policies*** ▯***Leadership***	▯***E-participation (concerted action)*** ▯***Connecting government to citizens*** ▯***Joined up government (decision making)***	▯***Democratization reforms*** ▯***Strengthen accountability*** ▯***Speed up decision making*** ▯***Improve quality of decision making*** ▯***Enable innovative approach to government*** ▯***Increase transparency*** ▯***Create empowerment*** ▯***Strengthen capacity to investigate, develop and implement strategy and policy*** ▯***Anti-corruption drive***	▯***Supporting Free and FairElections in South Africa*** ▯***Ireland***

Table: 3.6 Issues and Impact of e-Government Initiatives

3.10 Evaluation of e-Government

This section highlights the e-Government evaluation methods used by the UN, OECD and the EU. The section then describes the problems associated with the evaluation methods and that a single integrated method for evaluation of e-Government is still lacking.

3.10.1 Evaluation Methods for e-Government Projects

Few evaluation models for e-Government have emerged lately. Carbo and Williams (2003) argued that an evaluation method for e-Government requires an adaptive, dynamic model, that is the synthesis of multiple models of e-

Government, in order to come up with method for a particular context based on a set of contextual parameters that will explain a specific instance of an e-Government development or implementation. Multiple models also provide synergism, help explain different and changing contexts, and have technological, organisational, economic, political, social, ethical and personal components.

3.10.1.1 UN Evaluation Method

The UN Global e-Government Readiness Report (2004) presents a comparative ranking of the countries of the world according to two primary indicators:

1. The state of e-readiness
2. The extent of e-participation

The report also presents measures of e-Government readiness through a five-stage model:

- ***Emerging presence (Stage 1):*** Government presents information which is limited and basic. The e-Government presence comprises a web page and /or an official website, links to ministries/departments may or may not exist.
- ***Enhanced presence (Stage 2):*** Government provides greater public policy and governance sources of current and archived information online such as policies, laws and regulations, report, newsletters, and downloadable databases.
- ***Interactive presence (Stage 3):*** The online services enter the interactive mode with services to enhance convenience of the customer such as, downloadable forms for tax payments, application for license renewal, audio and video capability is provided. The government officials can be contacted via e-mail, fax, telephone and post.
- ***Transactional presence (Stage 4):*** allows two-way interactions between citizen and their government. It includes options for paying taxes, applying for ID cards, birth certificates, and passports. The citizen is able to pay for relevant public services such as motor vehicle violation, taxes, fees through their credit card.

- ***Networked presence (Stage 5):*** It is the most sophisticated level in the online e-Government initiative. It can be characterised by an iteration of G2G, G2C and C2G interactions. Through interactive features such as web comment forms and innovative online consultation mechanisms, the government actively solicits citizen views on public policy, law making, and democratic participation. The integration of the public sector agencies and the full cooperation and understanding of the concept of collective decision-making, participatory democracy, and citizen empowerment as a democratic right is implicit in this stage.

3.10.1.2 OECD Evaluation Method

Another important evaluation method that has emerged recently is defined by OECD (2002). It is an evaluation typology that assesses an e-Government initiative according to its relevance, effectiveness, efficiency and internal functioning.

Relevance: Relevance explains the justification for e-Government projects, by checking the appropriateness of its political/strategic goals against the driving soci-economic needs or factors. Governments use the results of these factors to build their program strategies or business cases. One of these popular dimensions generally used by OECD governments is the level of demand of population groups for e-Government, by assessing population capacity to get online and/or measuring groups' behaviours and expectations. Generic tools are used at both the program and project level such as official statistics and large surveys. Observation tools which cover very broad population areas can be extremely costly and sometimes are not the most effective evaluation tool to get comprehensive data. Ad hoc surveys, focus groups, or expert panels are normally used instead.

Effectiveness: Effectiveness assesses the extent to which the project has delivered the desired effects Most of the metrics used to assess the benefits measure, the quality and the frequency of use of electronic services compared to traditional service delivery channels, and sometimes measure the financial benefits. These metrics evaluate the direct effects of e-Government.

Efficiency and internal functioning: Efficiency checks whether the e-Government initiative could make the same effects with less resources or make a more effective achievement with the same resources. There are mainly two types of measures to judge the efficiency of a program or project:

i. Cost benefit analysis (CBA) which measures the efficiency of an organisation in terms of monetary terms
ii. Cost effectiveness analysis (CEA) with compared public instruments among them which produce similar effects.

An effective application of traditional financial metrics to measure the real efficiency of e-Governments initiatives such as CBA and ROI is a challenging issue from a methodological point of view. The full complexity of a large project, the number of persons concerned, the definition of impacts, the indirect effects, etc. makes the quantification of advantages and costs often very difficult. Evaluation tools such as CEA and benchmarking instruments seem to be more suitable to e-Government initiatives. On the basis of an established indicator, it is possible to compare, the efficiency of the program or project with similar programs or projects in other regions or countries, or with alternative approaches focusing on the creation of similar effects in the same region. The UK for instance is launching international benchmarking studies on the basis of a template which covers the main interests of UK for e-Government, in order to check its performance against these criteria and tries through this to improve its performance gaps through the identification of best practices recorded in these studies (OECD, 2002).

3.10.1.3 Evaluation Methods Used by EU

Kunstelj and Vinter (2004) describe 3 evaluation methods used by the EU. They are EC1, IDA and EC2.

EC1 Model:

This model focuses on evaluating the development level of e-services. The e-service development level indicates how far an individual service has developed towards full electronic operation online. The average score for a service is used

to calculate the percentage of basic public services available online in an individual country.

IDA Model:

In contrast to the EC1 model, which only evaluates technological and organisational aspects of services, the European Commissions' IDA model incorporated a more pragmatic approach. The model permits the evaluation of the maturity level of e-services, based on the following assessments:

- ***Accessibility:*** ease of use for locale and other EU users to access the service and actual possibility of usage from abroad.
- ***Usability:*** service covers real user needs, easy to learn, ensure few user errors, pleasant to use, presentation in foreign languages
- ***Supply:*** supply completeness and supply quality.

The model is of interest as it adopted the evaluation of services from the user point of view.

EC2 model

The latest European Commission research evaluated 20 basic services from the demand side. They supplemented the EC1 model which enabled direct comparisons between supply and demand. In the EC2 model service quality (as perceived by their users) is assessed in relation to:

- Overall service evaluation
- Service usability: measured by positive or negative answers on questions about websites accessibility, service accessibility, ease of use, language comprehensibility and website response speed.
- Benefits of service use: defined by users choice among benefits on benefits in the list (save time, save money, gain flexibility, get faster service, receive more and better information, receive better help, better control and better process.

Table: 3.7 presents and compares the main characteristics of individual approaches to evaluating e-Government.

Approach	Euro Barometer	EC1	EC2	IDA
Evaluation Object	IT, Security, e-services	E-services	e-services web sites	e-services
Evaluation Area	Customers' e-readiness-demand-usage technological	Supply	Demand, benefits to the customers	Supply
Evaluation Aspect	e-readiness,	Technological	User	User
Result of Evaluation	Government Websites usage, Information, e-mail,)	e-services online sophistication (0-4), % of basic public services available online	e-services quality (1-6) score = average of e-services score	e-service maturity = some (accessibility, usability, supply)
Data Gathering Method	Citizen opinion poll	Web sites survey	Online option poll of customers	Web sites survey
Advantages	Reliable statistical approach	objectivity	Actual usefulness assessment	Usability measurement
Disadvantages	Focused merely on the internet	Merely technological aspect, not considered back-office process, not even the quality of services	Subjectivity , too narrow defined web site result	Subjectivity, pilot study
Support to the development of Integrated services	No	No	Indirectly with evaluation of benefits and disadvantages of eservices	Indirectly with evaluation of accessibility (ease to locate service), usability and comprehensiveness of e-services supply (supply scope and depth)

Table: 3.7 e-Government Models used in the EU

Kunstelj and Vinter (2004) argued that the existing EU metrics are well developed in the methods of single services evaluation, but do not include a single case of the evaluation of integrated services.

3.10.2 Citizen-Centric Approaches to Evaluation of e-Government

A direct approach to the evaluation of e-Government projects is a citizen-centric approach to the evaluation of e-Government which has been presented by Brestchmeider *et al.* (2004). In this approach, a theory of evaluation of web-based applications is presented and an experiment to test the validity of the model is planned. The theory of evaluation presented, identifies a transaction between a citizen and a web based application as a unit of analysis for evaluation. According to Brestchmeider *et al.* (2004) the contribution of the model is that it incorporates the variables that affect the process and outcome of the transaction.

3.10.3 Problems with Evaluation Methodologies

The first problem with the current evaluation methods can be identified as there is no comprehensive approach to the evaluation of e-Government projects (Kunstelj and Vinter, 2004). In addition, there is a tendency of these methods to ignore intangible issues like organisational culture and political factors. An example of such evaluation method is the CBA method.

Mustafa (1994) defined CBA as "one of several techniques that seek to evaluate the total costs and consequences of a program in a systematic manner. The general thrust of the technique is that government resource allocation decisions should meet tests similar to those in the business sector. Program alternatives should be selected which will maximise the value of outputs from the resources allocated to them". Mustafa (1994) criticised CBA as a decision technique that employs an apolitical conception of rationality and ignore the mobilisation aspects (advocacy, bargaining and the exercise of power) of public programs.

Serafemidis and Simthson (1999) pointed out that particular emphasis has been placed on methodological development, which was built upon a

technical/functional and economical/financial content principles. Consequently, methodologies such as ROI and cost benefit analysis (CBA) have tended to monopolise the field. The changing role of IT means these content principles have changed considerably with a greater preponderance of intangible benefits and an increased uncertainty regarding their achievement. Traditional evaluation methods are unable to cope with these changes. According to Serafemidis and Simthson, (1999), intangible elements such as the power of stakeholders, seemed to be the main reason for the failure to institutionalise new developments in IT evaluation. Therefore, new evaluation approaches are needed to support a richer examination of these intangible aspects and elements of risk and uncertainty.

OECD (2002) presented another prospective on the problems of evaluation of e-Government. According to an assessment by OECD (2002), e-Government initiatives suffer from a gap in the e-Government as:

1. e-Government national goals are instrumental rather than global oriented, and emphasis is on goals such as putting infrastructure and service delivery online with emphasis on customers and attention to cost effectiveness. Only few countries include in their strategies goals such as transparency, trust, and anti-corruption.
2. Effective evaluation requires good metrics, regular monitoring and reporting of data, robust evaluation frameworks and discipline, long term evaluation practice experience, and strong professionalism. All this is hard to find in an e-Government context.

3.11 e-Government Regulations

E-Government regulations promote leadership and vision. It also encourages the use of the Internet, the participation of the public and the reduction of costs. The e-regulatory framework development provides a coherent, reliable and flexible approach to the regulation of electronic communication networks and services in fast moving digital markets. In general, it was mentioned that development of digital economy raises a host of new legal issues driven by a number of factors such as open networks, borderless transfer of data, anonymity, jurisdiction, choice of law, copyright, data protection, privacy, digital

signature, contract, liability, online dispute resolution which could be summarised as dematerialisation and convergence of law and new technologies.

In fact the picture of global regulations of e-Government is uneven. In some parts of the world like the US, there is a special law that regulates the development of e-Government, while in other parts like the European countries (most) do not have any special law, which would regulate the development of e-Government and its processes. Nevertheless, some laws contain provisions, which refer to the e-Government or the regulation of its development. These may be laws on Telecommunications, Electronic Signature, Provision of Information to the Public, Legal Protection of Personal Data, Consumer Protection and similar subjects.

3.11.1 e-Government Regulations in US

US e-Government Act (2002) recognises the challenges e-Government and the need to improve the implementation of e-Government to remedy these challenges. The purposes of the e-Government according to US e-Government Act (2002) are as follows:

1. To provide effective leadership of Federal Government efforts to develop and promote electronic government services and processes by establishing an Administrator of a new Office of Electronic Government within the Office of Management and Budget.
2. To promote the use of the Internet and other information technologies to provide increased opportunities for citizen participation in Government.
3. To promote inter-agency collaboration in providing electronic Government services, where this collaboration would improve the service to citizens by integrating related functions and in the use of internal electronic Government processes, where this collaboration would improve the efficiency and effectiveness of the processes.
4. To improve the ability of the Government to achieve agency missions and program performance goals.

5. To promote the use of the Internet and emerging technologies within and across Government agencies to provide citizen-centric Government information and services.
6. To reduce costs and burdens for businesses and other Government entities.
7. To promote better informed decision making by policy makers.
8. To promote access to high quality Government information and services across multiple channels.
9. To make the Federal Government more transparent and accountable.
10. To transform agency operations by utilising, where appropriate, best practices from public and private sector organisations.
11. To provide enhanced access to Government information and services in a manner consistent with laws regarding protection of personal privacy, national security, records retention, access for persons with disabilities, and other relevant laws.

3.11.2 e-Government Regulations in EU

In the EU, regulations are concerned with providing one framework for regulating electronic transmission networks. Directive 2002/21/EC (2002) on a common regulatory framework stated:

The convergence of the telecommunications, media and information technology sectors means all transmission networks and services should be covered by a single regulatory framework. This framework does not therefore cover the content of services delivered over electronic communications networks using electronic communications services, such as broadcasting content, financial services and certain information society services, and is therefore without prejudice to measures taken at community or national level in respect of such services, in compliance with community law, in order to promote cultural and linguistic diversity and to ensure the defense of media pluralism".

3.11.3 e-Government Regulations in Dubai

There is no special law regulating the development of e-Government. However, the government is committed to respecting user privacy and protecting personal information. Dubai government recognises its obligation to keep sensitive

information secure and have created a privacy and security statement to share and explain the current information management practices on its websites.

3.12 e-Government and Change Management

Change management in an e-Government context is concerned with how members of a public service make the transition from the traditional approaches to management (pre- ICT era) to new means of administering in new and evolving environments Riley (2002). The US e-Government strategy (2002) recognised that one of the most important barriers to the successful implementation of e-Government projects is the resistance to change.

The International Tracking Survey (2002) identified the accountability and uneven distribution of costs and benefits of existing arrangements (machinery of government or policies and programs) as two major challenges facing change management in the public sector.

3.13 e-Government and Organizational Culture

Research on organisational culture indicates that culture is central to the change process and to the attainment of strategic objectives (Bludorn and Lundgren, 1993). In the organisational change process, it is imperative for management to understand current organisational culture (Kanter *et al.,* 1992). This enables change management strategies that are appropriate for the organisational context to be developed. An improved understanding of culture within the public sector provides a basis for evaluating appropriate strategies for achieving improved outcomes in the public sector.

Kanter *et al.,* (1992) stated that since the 1970's there have been significant pressures on the public sector organisations in the developed world arising from volatile economic conditions and pressures for government cost cutting. This has provided a context within which new management approaches have been quickly seized upon as the basis for organisational change in the public sector. Management reforms have been seen as offering mechanisms for overcoming the difficulties of the traditional bureaucratic model of public administration and developing an alternative management framework, which is more suited to the increasingly competitive global economic environment. Research on public

organisations has revealed a common set of characteristics including presence of a system of rational rules and procedures, structured hierarchies, formalised decision-making processes and advancement based on administrative expertise (Kanter et al., 1992)..

Stability and predictability have been central characteristics of traditional model. These characteristics of public organisations closely comply with Weber's legal-rational model according to Kanter *et al.* (1992), who described bureaucracy as hierarchical rule enforcing, impersonal in the application of laws and constitution by members with specialized technical knowledge of rules and procedures.

As stated by the authors public organisations are subject to political rather than market controls. External controls on private organisations are market controls such as competition, consumer constraints and shareholder interests. Instead, political authority and political activities have traditionally organised public organizations. Their objectives, structures, and processes have been defined by central bureaucratic agencies or constrained by legislation. They have been accountable to the public through political process and have been subject to conflicting demands from multiple public interests in the form of social movements and interest groups.

The authors indicated that as a result, public organisations have had blurred objectives and goals and the autonomy of public sector managers to pursue organisational goals has been constrained. The literature on public organisations suggests that they have underestimated developmental and rational aspects of organisational culture because they have lacked an orientation towards outcomes such as productivity and efficiency (rational culture). Instead, these organizations have been oriented towards a hierarchical culture because of emphasis on rules, procedures and stability.

Some researchers warn of expecting too much from improving public services. Halachmi (1997) argued that creating unrealistic expectations among government employees and users of government services may backfire and undermine the longevity of any reform effect. The author argued that changes

made and facilitated by government must be dramatic. Nations are unlikely to change their place significantly in the international league table with incremental changes, however sound they maybe. Korea for example, has changed its Government Organization Act 45 times since independence in 1945. Also, after a study of 141 laws that were meant to reform various aspects of the federal government in America between 1994-1995, Light (1997) concluded that there is too much reform in government. In the USA, successful or partially successful reforms have evolved not from a hasty action but from careful studies and deliberations by the best minds a government can assemble. In democratic and open societies government reform has to do first with forging of a new popular consensus on national governmental objectives

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3.14 e-Government Security

According to von Bredow and Wimmer (2002) security in e-Government is a big challenge and quite a complex task, since the near future will witness changes in the requirements on security with the changes in networking, computing and the possibility of being online at all times

Several generic models that address distinct issues of a complex system on different abstraction are already available. Smith & Jamieson (2006) identified the key issues to IS security in e-Government as follows:

1. Training
2. Management Support
3. Budget / Cost / Resources
4. Awareness

While not all of these overall issues are applicable to all organisations or agencies, they would appear to be relevant to a large number of organisations as key drivers or key inhibitors in respect to IS Security and Business Continuity Planning (BCP) processes.

The e-envoy of the UK government has suggested a model for e-Government security requirements (2002). The framework document is a high-level expression of security requirements and expands upon the security statements

in the e-Government strategy. It also sets out the process for determining the security requirements and assuring the presence and proper operation of the security counter-measures put in place to meet the security requirements. Other related and more detailed security requirements and process statements address specific topic areas.

3.14.1 Future Challenges for e-Government Security

EU (2003) recognised that in the near future requirements on security will rapidly change as networking and computing develop further and computing will become more ubiquitous. The broadband connections will offer people the possibility to be connected to the Internet at all times. Therefore managing security will turn out to be a difficult and complex task as the user would have to deal with the availability, integrity, authenticity, and confidentiality of data and services. Due to the complexity of technology, many components and actors must play together, and human behaviour has become a crucial factor. Full security will probably never be achievable, at least not at reasonable costs. There will always be weak points, attacks, incidents and failures that will generate damage and undermine trust in systems and services. This is no different from other technologies and aspects of daily life. Society as a whole as well as individuals have to learn how to manage the risks involved in networks and information systems.

3.15 The Digital Divide

The phrase was first coined in 1995 by the US government when the National Telecommunications and Information Administration (NTIA) issued the report titled 'Falling through the Net' (Servon, 2002). Cullen (2003) described the digital divide as 'the gap that exists in most countries between those with ready access to the tools, ICTs, and those without such access or skills.

Conversely, Servon (2002) suggests that the technology gap is only one link in a causal chain that has bound certain groups repeatedly to disadvantage. The digital divide is therefore, a symptom of a much larger and more complex problem - the problem of persistent poverty and inequality'. In the G.C.C ,there is another problem which is related to the large percentage of expatriates working in various sectors .This raises barriers such as language, culture , education ,etc.

Similarly, Lax (2001) related the digital divide to social and economic factors in his study. He confirms that the cost of setting up a system capable of Internet access is low on the list of priorities in many low-income families in both the US and the UK. Additionally, economic and taxation policies have widened the gap between rich and poor over the past two decades so that the digital divide compares with the economic divide. He reports that Tables for UK family expenditure in 2000 showed Internet access at only three percent in the poorest households, and forty eight percent in the richest.

None the less, Fink & Kenny (2003) challenge these definitions in their research and question the validity of the digital divide. They discuss four interpretations often used by commentators and their possible measurements:

1. A gap in access to use of ICTs - crudely measured by the number and spread of telephones or web enabled computers.
2. A gap in the ability to use ICTs - measured by the skills base and the presence of numerous complimentary assets.
3. A gap in actual use - the minutes of telecommunications for various purposes, the number and time online of users, the number of Internet hosts and the level of electronic commerce.
4. A gap in the impact of use - measured by financial and economic returns.

They argue that looking at various measures of the digital divide, there is a divide in per-capita access to ICTs but developing countries show faster rates of growth in network development than developed countries. Moreover, when employing a per-income measure of access, developing countries already "digitally leapfrog" the developed world'.

However, according to Riely (2004), national government can improve access to information online by:

- making more information available online from government to ensure there is an informed citizenry.
- providing web sites that seek input from people on all manner of government programs and issues.

- developing list servers and discussion groups on important national issues and other means to engage the citizenry.
- providing grants to organisations seeking online democratic activities, including the search for information.
- developing local community projects that embrace all levels of society from the academic world, to businesses, large and small, to non-profit and volunteer organisations. This can encompass governments in developed countries.
- developing web sites that allow citizens easy access, that are interactive, and that meet the needs of the community.
- ensuring information on web sites is easily attainable, in a form that can be understood by the citizen and that can be easily downloaded.
- providing search engines and hot links to ensure the citizen gets what he or she wants in the right format from the right agency.
- in developing countries where access to the Internet is limited to smaller sections of the population, working to develop information policies that encompass all the citizens in the countries.
- developing programs to teach local leaders in the communities to become information facilitators.

3.16 e-Governance & e-Democracy

3.16.1 e-Governance

Heeks (2001) clarified that e-governance does not cover e-commerce and e-business applications which focus solely or mainly on the private sector. As noted by Heeks (2001), instead there are three main domains of e-governance

1. Improving government processes: e-Administration
2. Connecting citizens: e-Citizens and e-Services
3. Building interactions with and within civil society: e-Society

Respectively, these domains particularly address the problems that government too inefficient and too ineffective; too self-serving and too inconvenient; and too insular.

Pécoud (2003) viewed e-governance in light of the process of a government transformation in the last 20 years. The transformation of the government is a result of pressures and factors stemming from New Information and Communication Technologies (NICTs). Pécoud (2003) defined e-governance as a dynamic concept, which implies the growing use of the NICTs for the State's three main functions, e-Government, e-regulation and e-democracy.

Sachdeva (2002) on the other hand, stated the objectives for e-Governance as follows:

1. Citizen should be centre of the e-Governance vision of the country.
2. The vision should be close to reality and not rhetoric.
3. Even though the citizen is at the centre the other stakeholders should not be forgotten.
4. Citizen should have access to various delivery channels and should not be limited to only being online.
5. Service improvement and process efficiency are key objectives of e-governance.
6. The objective should be a collaboration of various parts of the government.
7. The outcomes must be clearly defined and the performance should be measured against those outcomes.

The author indicated that partnerships with the private sector may also be highlighted in the objectives.

Riley (2003) explained the difference between government and governance. Government is an institutional superstructure that society uses to translate politics into policies and legislation. Governance is the outcome of the interaction of government, the public service, and citizens throughout the political process, policy development, program design and service delivery. Table: 3.8 below summarises the main differences between government and governance, e-Government and e-governance.

Government	**Governance**
Superstructure	Functionality
Decisions	Processes
Rules	Goals
Roles	Performance
Implementation	Coordination
Outputs	Outcomes
e-Government	**E-Governance**
Electronic service delivery	Electronic consultation
Electronic workflow	Electronic controllership
Electronic voting	Electronic engagement
Electronic productivity	Networked societal guidance

Table: 3.8 Difference between Government and Governance

3.16.2 e-Democracy

Webster online dictionary (2006) defines democracy as "*a government in which the supreme power is vested in the people and exercised by them directly or indirectly through a system of representation.*" Putting an "e" in front of democracy means nothing more than using information technology tools to facilitate, improve and ultimately extend the exercise of democracy.

According to a Survey for the Bertelsmann Foundation (2001), a major driving force behind the e-democratic movement is the effort to make democracy, government and the political process more open for everyone to provide everyone with a chance to participate.

E-democracy has emerged as a result of the digitisation of the social interactions and subsequently the governance functions have given birth to ideas about e-transformation of democracy (Grossman, 1995; Hauge and Loader, 1999). ICTs is a key component in the evolution of more participatory democratic governance (Statan and Becker, 2000). The case of elections in Nova Scotia is among the earliest examples of using ICT to expand democracy. The telephone was used officially by the citizens from their home.

E-Government initiatives should not (and ought not to) be the sole responsibility of the government. Political groupings and other civic groups must claim joint

ownership, and it is the responsibility with the government to encourage that. The success of e-Government will depend on the level of development on civic groups and non profit organisations or local groups (farmers, syndication, etc) (Mckenney's,1994).

The report E-Democracy in Practice (2001) explained that municipalities, county councils and regions in Sweden have already made use of several different methods for consultation and dialogue between the public and their politicians, such as:

- **E-Mail:** many people have chosen to send e-mail to their politicians. This means that only the writer of the e-mail and the politician who receives it are aware of the content of the resulting exchange of views.
- **Consultation:** is not one method for consulting the public but is a collective term for several different ways of gathering views.
- **Electronic Dialogue Systems:** are open to anyone who is interested and are now available on the web sites of a number of municipalities, county councils and regions. These systems can be used for discussion between members of the public as well as between members of the public and politicians.
- **Dialogue Pages:** special web pages that are organised when an issue of current interest affects a lot of people and when there is an extensive amount of information and data as a basis for the discussion.
- **Civic Initiatives:** the concept of civic initiatives, also referred to as the right of citizens to submit a private motion, has emerged in parallel with the development of IT.
- **Referendums:** formally binding referendums cannot be conducted in Swedish municipalities, county councils or regions today.

3.17 Mobile e-Government

Fountain (2001) argued that Internet technology is not all e-Government. Due to limited Internet penetration, there is also concern that e-Government may exacerbate digital divide and raise the issue of inequalities among citizens (West, 2000). The rapid development of mobile technologies such as Internet

enabled mobile phones, PDA, Wi-Fi and wireless networks have spurred the development of m-commerce and m-business models, which are perhaps equally relevant to government (Sadeh, 2002). In this way, a new channel is provided through which it is possible to deliver government services to citizens in more effective and perhaps cheaper ways. Such use of wireless technologies to deliver government services is usually called mobile government or simply m-government (Ghyasi and Kushchu, 2004).

While e-Government is the conventional government services made available for citizens through electronic means such as Internet connected computers and other devices, m-government is defined as the strategy and its implementation involving the utilisation of all kinds of wireless and mobile technology, services, applications and devices for improving benefits for citizens, business and all government units. (Kushchu and Kuscu, 2003).

Kushchu & Kuscu (2003) claimed that m-government seems to have a substantial influence on the generation of set of complex strategies and tools for e-Government efforts and on their roles and functions. M-government is inevitable. The number of people having access to mobile phones and mobile Internet connection is rapidly increasing. The mobile access – anywhere, any time – is becoming a natural part of daily life, and the governments will have to transform their activities according to this demand of convenience and for efficiency of interactions for all parties. The coming age of m-government raises several interesting questions. Will m-government replace the e-Government activities? Despite its significance, m-government cannot be seen as replacing e-Government and in many cases it will be complementary to e-Government efforts. The conventional e-Government efforts provide services through wired network with interactive and relatively intelligent web applications. The value of m-government comes from the capabilities of applications supporting mobility of the citizens, businesses and internal operations of the governments. For example, supporting law enforcement agents who are on patrol is a distinctive advantage of mobile government services over conventional e-Government implementations. Wireless applications may enable

greater mobilisation of the government officials with ability to handle real-time information concerning, e.g. crimes, accidents, safety and other public issues.

The rapid diffusion of mobile ICT such as laptops, mobile phones, PDAs (Personal Digital Assistants), along with emails, instant messaging and other networking services have rapidly fuelled the mobilisation of interaction (Sørensen, 2003).

People, vehicles, air traffic, post and information become more mobile around the world and our society is increasingly recognised as a nomadic or mobile society.

Dearle (1998) argued that as interaction goes with the users, mobility has been regarded as a new paradigm in computing. Hjelm (2000) declared that following the Internet revolution is the mobile revolution and indicated society will be marked by mobile, "always-on" citizens, government, as well as the transient online communities. The author mentioned that the governments need to take full advantage of the mobile and wireless ICT technology as well as dealing with the fluidity of the interaction with the mobile society.

The synergy between e-Government and m-government may be of concern especially for those countries that are already gone ahead in making substantial investments in e-Government implementations. Now that m-government is inevitable, extending activities to wireless devices and networks will enable developed countries to be more proactive in their operations and services by providing real-time and up-to-date information to the officials on the move and by offering citizens a broader selection of choices of interaction. For developed countries, m-government implementations are emerging as one of the additional value-added features for the integrated and flexible data communication and exchange mechanism among government units. They may use more advanced wireless applications such as location-based information exchange. These emerging applications are expected to stimulate m-government by enhancing location-based services such as fire fighting and medical emergencies. If required new technologies can be used to transfer location-specific information to mobile device users (Hjelm, 2000).

On the other hand, what about the implications for those countries that have not yet started or are at the early stages of their e-Government strategy and implementation processes? These countries may have more advantages depending on the type of issues faced by the governments. In developing countries, mobile government applications may become a key method for reaching citizens and promoting exchange of communications especially when used in remote areas. In countries with insufficient conventional telecom infrastructures and greater acceptance of mobile phones, ability of reaching rural areas may be considered as an important feature of m-government Hjelm (2000).

According to Song (2005), the convergence of mobile communication and mobile computing technologies opens up new horizons for mobile interaction and mobile working. The use of mobile technology in the government sector not only provides an alternative channel of communication and public service delivery, but more importantly, it can address the mobility of the government itself. In this way, it transcends the traditional e-Government service delivery model by bringing personalised, localised and context aware services close to its mobile citizens.

3.18 Summary

This chapter has provided a literature review on e-Government which has shown that there is still no agreed definition of e-Government. Some studies in the area view e-Government as an ICT project to be implemented. Others take into account other intangible factors such as culture, politics and other social issues that have proven to be important factors in the success of e-Government projects.

The literature review indicated the goal of e-Government as, to enhance the interaction between three main actors on society-government, citizen and business in order to stimulate political, social, and economic progresses in the country.

However there are many barriers that are facing the successful implementation of e-Government. One of them is the fear of government employees of losing their jobs (as Internet technologies are able to transform the services provided by governments with little human resources needed, since these services will be IT intensive). Other barriers include limited access to the Internet in the world, shortage of human resources skills, and the refusal of some people to be governed and monitored electronically by their government.

On the other hand, the difficulty of the technology can hinder the success of the IT project, and the difficulty in measurement of success can be another challenge. Further barriers include the lack of attention given to cultural issues and aspects of change that cause projects to fail, the lack of investment in e-Government and finally the lack of implementation models for e-Government. These barriers are not limited to the developing world alone, also exist in some of the leading countries such as UK, where the government has dealt with e-Government initiatives in a technical rather than a more comprehensive manner.

Studies also have shown that e-Government evaluation methodologies have been partial and not comprehensive. There is a need for evaluation models that take into account all stakeholders interests, as well as answering the questions of why, where, how , and when . What emerges form the literature is the need to distinguish between e-Government and e-governance with the later being the most difficult part of e-Government since it involves the restructuring of government services in order to facilitate the reform of government. In other words, e-Government is not a technical project but rather a method for reforming government, and unless the deep rooted problems of government services are tackled, e-Government will not be more than an automation of existing services.

Chapter 4

Literature Review
Critical Success Factors

4.1 Introduction

The literature review has highlighted the various definitions of e-Government. It has also stressed the benefits, strategies, issues related to security, scope and function, services of e-Government, and also pointed out the developments in the mobile e-Government and investigated the impact of e-Government. This chapter will discuss the key critical success factors that are behind the successful implementation of e-Government. The chapter also describes the barriers and challenges facing the implementation of e-Government.

4.2 Critical Success Factors (CSFs) for e-Government

The efforts towards providing government services in the electronic environment (and establishing an e-Government) is growing rapidly. In the world, billions of dollars are spent on e-Government projects today. In order to ensure its success, governments need to take into account CSFs associated with the implementation of e-Government projects. These CSFs have been identified by researchers, consulting firms, and government organizations alike. The research identified the most important CSFs that are mentioned in the literature as given in Table 4.1:

Table 4.1: CSFs for e-Government

Critical Success Factors	Explained in
Leadership and commitment	SECTION 4.2.1
Vision & Strategy	SECTION 4.2.2
Financing	SECTION 4.2.3
Reform	SECTION 4.2.4
Transformation of Culture	SECTION 4.2.5
Utilization of Human Resources	SECTION 4.2.6
User-centred Approach	SECTION 4.2.7
Measurement the success of e-Government	SECTION 4.2.8
IT infrastructure.	SECTION 4.2.9
e-Government teams	SECTION 4.2.10
Inter-agency collaboration	SECTION 4.2.11
Consultants	SECTION 4.2.12
Satisfaction	SECTION 4.2.13

4.2.1 Leadership and Commitment:

OECD (2003) explained that leadership and commitment at both political and administrative levels is critical for managing change. Committed leaders are required:

- to deal with disruptive change,
- to persevere when benefits take time to emerge,
- to respond when things go wrong
- to establish vision and plans for the future.

Pascual (2003) stressed that strong political leadership is critical to the success of e-Government as it ensures the long-term commitment of financial resources, personnel and technical expertise in the design, development and implementation of e-Government projects

Strong leadership is also essential at all levels of government in order to achieve e-Government transformation. This leadership must include elected individuals and government officials who understand the e-Government vision and its impact on the local, regional and national aspects of government. (Donnell *et al.,* 2003). According to the e-Government Handbook for developing countries (2003), e-Government requires strong political leadership in order to succeed.

4.2.2 Strategy and Vision

A key to successful e-Government is the participation of senior government officials in developing a vision on e-Government that is both challenging and viable, and a one that shows clear leadership with a view to getting that vision realized (Wijsman,2004). E-Government vision can be highlighted into to many strategic aspects which are relevant to state policy and international position. A leadership should make sure that his/her vision can be clearly addressed to the people who are responsible to implement it. The biggest challenge which faces leaders is to push them in the way to the target and have all resources available. *(Rashi, 2005)*

A comprehensive and coherent strategy is needed for e-Government. An e-Government strategy must treat a state or city as a single enterprise. The strategic plan emphasizes the principles, standards, and infrastructure that make it possible for all agencies to work in consistent ways. It also may include legal, policy and telecommunications infrastructure, standards for data and technologies, rules and mechanisms for information use and sharing, and a host of other elements. According to Dawes (2004), a successful strategy should reach all the people who need government services regardless of their age, income, language, or access to the Internet. It also needs to assure that all agencies and all their private and non-profit business partners are capable of engaging fully in using or delivering e-Government applications.

A successful e-Government initiative and ultimately a digital society in a third world country would involve profound strategic shifts, which are listed by Sriram and Srinivasan (2004), the strategic shifts can be found in Table: 4.2

Vision	Developing a vision for Government as a whole
e-government Services Delivery Model	Design a model for e-Government services delivery crossing traditional departmental boundaries. This model will have to address economic cost-benefit considerations and business needs at a conceptual level
E-Governance Framework	Develop an e-governance framework, covering legislation, regulations, standards, and infrastructure for supporting e-Government services delivery. This would address security and privacy, and a robust and affordable telecommunications infrastructure
Socio-Economic Initiatives	Develop socio-economic initiatives for universalizing affordable digital access for all. This would cover training and education initiatives, as well as innovative models (like information kiosks) for providing affordable access to computing, especially where PC penetration rates are low
Organisational Structure	Many, if not all governments worldwide, are now developing and implementing strategies to a) deliver e-Government services to citizens and businesses b) to support the modernization of government to meet the above needs.

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Table: 4.2:Strategic Shifts for e-Government

4.2.3 Funding

Funding can be regarded as an important element in the success of e-Government initiatives e-Government Readiness Peport (2001).

The better practice principles for funding e-Government projects are indicated in the guide as:

- A long-term view of the return on investment (ROI) is taken.
- The costs of initial development and continued operation of e-Government to be estimated, funded and monitored.
- Projects which will deliver best value for money and significant change to be funded.
- Innovative funding arrangements to be explored and adopted where appropriate.
- Opportunities for joint projects and funding to be pursued.

The guide also listed the risks associated with funding e-Government projects such as:

- E-Government funding decisions are based on unsound business cases.
- The existence of thinly spread funding to develop and maintain initiatives, which offer best value to money.
- Options for innovative funding is not perused
- Return on investment (ROI) in e-Government projects is not well measured and monitored

Benefits from information technology investments include, quicker access to information, improved accuracy of data and transactions, greater consistency and reliability in service delivery. However, in order to support government investments, reliable and predictable funding sources must be found. In today's environment, there are severe budget pressures and higher priority expenditure needs. The public's expectations are towards more accountable and cost effective government, and thus innovative schemes must be investigated Report for the General Assembly, North Carolina's Governmental Services and Operations in the Digital Age, (2001)

4.2.4 Management Reform

Westhuizen (2004) pointed out that managerial reform has received different names since its introduction: A managerialism (as explained in Pollit, 1990), a new public management (as explained in Hood, 1991), a market-based public administration (as explained in Lan and Rosenbloom,(1992) a post-bureaucratic paradigm (as explained in Barzelay, (1992) a entrepreneurial government (as explained in Osborne and Gaebler, (1993). The various names for this new approach of managing public affairs, reflect different styles of doing things, in fact these definitions do have some points in common. These include:

- Greater attention on the achievement of results and personal responsibility of public managers.
- Measurement of results through performance indicators.
- More commitment to the government of the day especially by senior public managers.
- Government operations are more likely to face market tests by making use of functions such as contracting out.
- Reducing the government functions through privatisation.

4.2.5 Culture

As explained by Bludorn and Lundgren (1993), a research on organizational culture indicated that, the culture is central to the change process and to the attainment of strategic objectives. In the organizational change process, it is imperative for management to understand current organizational culture (Kanter *et al.,* 1992). Understanding the organizational culture enables change management strategies that are appropriate for the organizational context to be developed. An improved understanding of culture within the public sector provides a basis for evaluating appropriate strategies for achieving improved outcomes.

The culture of public organizations with its traditional model of public administration has been under pressure to change. Since the 1970's, there have been significant pressures on the public sector organizations (in the developed world) arising from volatile economic conditions and pressures for

government cost cutting. This has provided a context, within which new management approaches have been quickly sized upon as the basis for organizational change. Management reforms have been seen as offering mechanisms for overcoming the difficulties of the traditional bureaucratic model of public administration and developing an alternative management framework, which is more suited to the increasingly competitive global economic environment.

The traditional model of public administration has been well conceptualized in the literature As explained by Bradely and Parker (2000) , research on public organizations have revealed a common set of characteristics including,

- presence of a system of rational rules and procedures
- structured hierarchies
- formalized decision-making processes
- advancement based on administrative expertise.

Bradely and Parker (2000) pointed out that stability and predictability have been central characteristics of the traditional model. These characteristics of public organizations closely comply with Weber's legal-rational model which described bureaucracy as, 'hierarchical rule enforcing, impersonal in the application of laws and constitution by members with specialized technical knowledge of rules and procedures'.

However, public organizations are subject to political rather than market controls. In contrast, private organizations are subject to pressures such as competition, consumer constraints and shareholder interests.

According to Bradely and Parker (2000), public organizations have underestimated developmental and rational aspects of organizational culture as they have lacked an orientation towards outcomes such as productivity and efficiency (rational culture). Instead, these organizations have been oriented towards a hierarchical culture because of emphasis on rules, procedures and stability.

A survey was carried out by Parker and Bradley (2000) on six public organizations in Queensland Australia, in order to determine whether organizational culture reflects emphasis of new public management on group, developmental and rational cultures. The results showed that four out of six departments were dominated by a hierarchical or internal process model (of organizational culture). In the fifth department the internal process model and the rational-goal model were equally dominant. Only in the sixth was the internal process less dominant than the rational goal model. These results came after the public sector in Australia has gone through massive reform since the 1980s, and in contrast to the expectations of Parker and Bradley (2000), the survey findings proved that public sector culture remains heavily skewed towards the traditional model of public administration.

Some researchers, such as Halachmi (1997), argued that changes made and facilitated by government must be dramatic. Nations are unlikely to change their place significantly in the international league table with incremental changes. Other researchers such as Light (1997) indicated that successful or partially successful reforms in the USA have evolved not from a hasty action but from careful studies and deliberations by the best minds a government can assemble. In democratic and open societies, government reform has to firstly forge a new popular consensus on national governmental objectives.

4.2.6 Utilisation of Human Capital

Human resources must be structured and managed with e-Government goals in mind. A well-trained and motivated workforce is critical to e-Government success. Civil servants need training and leadership in order to integrate themselves into the new information structure. Policymakers need to expect that civil servants will feel threatened by e-Government, either because they fear being caught for corruption or simply because they fear a loss of power. Leadership can play an important role and create a positive atmosphere for change, by ensuring adequate training and rewarding those who support e-Government changes (Lanvin, 2002)

Furthermore, the Chief Executive Officer (CEO) of the public sector must be committed to e-Government, should lead and build broad support for it, and needs to be eager to learn. This generates the all-important positive signals that the civil service needs to receive from its top leadership. (Desai,2003).

4.2.7 User-Centred Approach:

There have been suggestions concerning the potential for more efficient and user-centred ways of delivering e-services. Thus, user awareness of these services, their willingness to use them and ease of use are important factors for the further development of e-Government (CEC, 2003).

According to Folstad (2005)citizen orientation and inclusion is strongly accentuated and highly prioritized in the development of e-Government services for governments of today. Electronic service provision is supposed to enable the governments to reach a number of ambitious goals, typically including:

- Citizen-centric service provision
- Increased service quality
- Increased efficiency of government service provision
- Lowered cost of government service provision

According to the World Bank Group (2005) e-Government must ensure that information systems are appropriately protected and individual rights are respected. Almost every successful e-Government project is a case (or example) in building trust, involving two issues of special concern to any online service:

Privacy is one of the most important issues facing the use of online services, and governments must be responsible custodians of the enormous amounts of personal information they hold. Privacy must be addressed in the planning and design of e-Government projects since it is much harder to interject privacy protections after a system is built.

Security in protecting e-Government sites from attack and misuse is costly, but must be addressed in the design phase, as security breaches can shatter public trust in e-Government.

4.2.8 Measuring the success of e-Government:

Gartner (2001) recommend the following types of metrics for determining e-Government success:

- Administer stakeholder satisfaction and value surveys before and after service delivery. Survey external constituents, political leaders, and employees and contractors that deliver support services (e.g., contact centres).
- Measure stakeholder perception of privacy and security.
- Quantify Web channel usage relative to other channels (e.g., walk-in, phone or mail).
    - Have targets been set, and has usage met those targets?
    - When are the Web channels being utilized?
    - Has the need for 24x7 support materialised?
    - Beyond initial availability, have services continuously been available?
- Analyze costs and improved service for delivering services over each channel.
    - Has the Web channel decreased costs or time to deliver services relative to traditional channels?
- Itemise the extent that processes have been improved by delivering them via new channels.
    - Have unnecessary steps been removed?
    - Have resources been redistributed to other areas?
- Identify how government has been transformed.
    - Has e-Government service delivery resulted in multi-department or cross-sector (state, local or federal) collaboration?
    - Has the customer's need to know organization structure disappeared?
    - Have multi-department or jurisdiction data standards been created?

- Are shared services such as common payment process, e-mail and authentication deployed, and are multiple departments using them?
- Is e-Government marketing used on Web sites, in the press and in public places?

4.2.9 IT Infrastructure

The main goal of IT optimization is to create an IT infrastructure which is centred upon the optimal support for execution of administrative transactions, and which creates logically equivalent support for any transaction throughout the system. Busson etall (2005)

In other words, we want to build a pseudo-homogeneous government infrastructure for the execution of administrative transactions on top of a highly and multiply heterogeneous legacy infrastructure. Busson et all (2005). The infrastructure has to provide the necessary validated information to actual execution process, and it has to documentation functionality including a routing of the documentation to its destination.

Furthermore, in some cases it has to guarantee the partial anonymity of the documentation. Obviously, *a priori* information provision and *a posterior* documentation should be carried automatically whenever possible, but care has to be taken that neither the privacy nor the civil rights of the concerned citizen are violated. In technical terms, the infrastructure should be a middle-ware like platform which can be implemented with every legacy system without a change of ontology and processes used so far, and only requiring a minor change of law. It should support a simple accounting of services and it should provide flexible transparency based on a clear meta-transparency. Thus the infrastructure must not require a critical change of existing systems, it should be embeddable into all existing systems, and it should hide the differences and incompatibilities of remote systems from the local transaction service execution (Reinhard and Riedl, 2005)

Klischewski (2005) explained that the preparation of method, tools and IT infrastructure from the technical point of view requires a number of highly interrelated preparatory steps such as:

a) an explicit method must be selected and communicated with all participants (e.g. through training),
b) in order to support various migration tasks following the method one or more tools must be selected, installed and trained,
c) the IT infrastructure most likely needs some enhancements (e.g. to support the tools, to enable annotation of dynamic content from data basset.),
d) an agreement must be reached which technical standards are be applied.

The T function of e-Government arranges for the necessary infrastructure setup (e.g. installing Semantic Web tools); IT service providers, IT vendors and ISPs assist (if needed) and provides further technical artifacts (Tagamoa and Khames, 2003).

Johannessen (1994) identified five critical innovation factors (Table 4.3)

- the role of the change agent,
- organizational culture,
- management style,
- the market,
- co-ordination and service.

The Change Agent	The organizational Culture	Management Style	Information The Market	Co-ordination and service
Information support	Vague/external boundaries	Institutional leadership	The development of external information systems	Integrated information and communication system
Market support	Focus in problem definition contrasted to problem solving	Management involvement in the IT innovation process	The development of goods and services with built-in IT-functions	Moral/ethical considerations
Political Support	Integrative Culture contrasted to segmenta listic culture	Open management style	Consumer induced product/service development	
Internal Support	Information support	Acknowledgeme nt by expertise	Development of products which can be changed through replacement of simple components	
Access to effective work stations	Motivational support	Allow Autonomy, flexibility and freedom	Customer induced innovation	
Experimental resources	User-Cooperation	Focus on the partial/total relation		
Access to external databases	Free flow of information	The development of interactive learning		
	Open communicate environment			

Table: 4.3 Technology and Critical Innovation Factors

4.2.10 e-Government Team

The e-government Team (EGT) is the domain team responsible for selecting product standards, defining standard configurations, collaborating on component architecture design principles with the architecture team, and planning and executing projects for e-Government. The role of the e-Government team is to assess, classify and evaluate existing and potentially online-capable services and to draw up the e-Government strategy, taking into account the objectives of the agency and the resources that are available (Hauschild, 2002).

According to the University of Michigan website a high-performance team is an interdependent and committed team of skilled employees who are empowered to accomplish a common purpose, guided by a clearly stated mission and high performance standards, which the members hold them mutually accountable.

4.2.11 Inter-agency collaboration

Janowski (2001) stipulates that the development of online services requires greater collaboration between agencies, authentication, shared processing and data exchange.

Collaboration is needed in both aspects:

- front-office : for providing better service to the customers
- back-office: for efficiency and interoperability in government

There are also two complementary views regarding inter-agency collaboration according to Janowski (2001):

- Customer's view: government appears as a single organization
- Government's view: customer appears as a single customer

More so, , there are many types of collaboration that can take place:

1) Technical level - arrangements for reconciling back-office systems with an integrated customer interface

2) Implementation of integration models for online services:

- delivery policies and standards
- implementation methods and schedules
- coordinated acquisition of services and equipment

3) negotiating seamless online service content:

- service quality
- presentation of material
- decision making on individual cases
- dealing with problems, complaints and appeals

4) agreeing on the service delivery policy for all channels

There is little value in having a seamless government online service while leaving other channels uncoordinated.

5) following development of a seamless service, coordinate policies covering the particular customer group

Inter-agency collaboration can also take the form of a taskforce such as in the case of the government Effectiveness (EgE) Inter-Agency Task Force (2005) that is set-up in order to achieve a holistic, comprehensive approach and greater harmonization for agencies in their interactions with national governments in order to improve overall effectiveness supporting country efforts to use ICT to strengthen democracy .

The task force developed action plan as an initial product of their collective effort. The action plan is designed to project an integrated approach that leverages the core capacities and expertise of each organization in a collaborative manner to enable each country to interact systematically and efficiently with them. While the issues addressed in this action plan are global in nature, the agencies involved have agreed to focus on the Latin American and the Caribbean region, in order to test the approach on a limited scale. Based on the experience of this regional effort, other areas of the world will be able to build upon and improve this approach.

4.2.12 Consultants

Consultants play a part of most e-Government initiatives since they provide a set of skills that are needed to a pubic organization in areas such as IT or re-

engineering of services. Sachdeva (2002) points out that consultants/experts should be consulted about re-engineering and radical redesign of business, while Heeks (2001) warns that some e-governance initiatives, are frequently driven from outside government by vendors or by donors or by consultants as there is the lack of leadership in them. This also indicates that a consultant can not provide leadership or vision and it must come from with in the organization for the e-Government initiative to succeed.

4.2.13 Satisfaction

One of the key goals of many e-Government initiatives is customer satisfaction with public services. For example, Canada's Government On-Line (GOL) initiative has been set up to increase public and client satisfaction with government services. Performance measurement was used to demonstrate the extent to which this is being achieved. The measurement ensured that on-line services are based on clients' expectations and meet individual needs. The performance measurement framework comprised of 11 performance indicators: convenience, accessibility, credibility, critical mass of services, take-up, service transformation, client satisfaction, security, privacy, efficiency and innovation (Kelly and Muers, 2002)

According to Lau (2004), delivering user benefits in terms of reduced burden e-Government holds the potential to improve service quality - a much more subjective and difficult to measure indicator which incorporates elements of accessibility, convenience, accuracy, speed, and cost. Service quality can be improved and a more personalized service provided through the use of ICTs; government emails, portals, and better search technologies found on the Internet have the potential to make access to information and services easier and more intuitive, without any specialized knowledge of government required on the part of users.

But service quality is not the only element in determining user satisfaction. Bouckaert and Van de Walle (2001) pointed out that evidence suggests that user satisfaction is likely to be shaped by a wide range of factors:

- **Customer service:** Private sector studies have highlighted that the way people are treated by staff ranks only just behind quality and price of product in determining their satisfaction.
- **Information:** There is a strong correlation between satisfaction with different services and whether people feel that they are well informed about them.
- **Procedural fairness:** Customers are willing to revise their expectations as long as they feel that they are being treated fairly. Of equal importance is the possibility for recourse and feedback.
- **Choice:** There is some evidence that enhanced levels of choice can boost user satisfaction, even if it does not have a discernible impact on service outcomes.

Successful delivery of e-government and customer satisfaction can be measured, in part, by using service uptake as a proxy measure. The uptake of e-Government services is steadily increasing worldwide, and the picture for growth is encouraging. People see the Internet as an increasingly acceptable means of interacting with government. Canada, for instance, relaunched its government portal with a new user focus and improved design and doubled its unique audience numbers over a period of two years. In the United States, Larsen (2002) found that 71 million Americans have used government web sites, up from 40 million in March 2000

4.3. Challenges for developing a successful e-Government

There has been many challenges that have faced the successful implementation of e-Government worldwide. Sriram and Srinivasan (2004) identified the most pertinent challenges for developing a successful e-Government along with recommendations to overcome them Table: (4.4)

	Challenges	*Recommendations*
1.	**Infrastructure Development** All countries implementing e-Government have struggled to develop a basic infrastructure to take advantage of new technologies and communications tools. Many developing countries, even if possessing the will, do not have the infrastructure necessary to immediately deploy e-Government services throughout their territory.	· Develop projects that are compatible with the nation's telecommunication infrastructure. · Introduce telecom competition and lift regulations on wireless and other digital technologies to accelerate their deployment. · Build on the micro-enterprise model to bring connectivity to underserved areas and ensure sustainability. · Consider the government's current use of technology and learn from past successes and failures. · Establish an action framework at the beginning of the process to allow for a rational and coordinated investment effort down the road.
2.	**Law and Public Policy** The application of Information Technology and communication (ICT) to government may encounter legal or policy barriers. Policymakers implementing e-Government must consider the impact of law and public policy.	· Consult with stakeholders to assess how existing laws may impede the desired results. · Give legal status to online publication of government information. · Clarify laws and regulations to allow electronic filings with government agencies. · Reform processes by simplifying regulations and procedures.
3.	**Digital Divide** The digital divide is the gap between people who have access to the Internet and those who do not. Those without access cannot learn essential computer skills, cannot access information that can provide economic opportunities, and cannot share in the benefits of e-Government.	· Provide communal access through village computer centres or kiosks. · Combine access with training. · Provide incentives to the private sector to donate equipment and training. · Emphasise local language and content. · Use for-profit entrepreneurs to build and sustain access points in small communities.
4.	**e-Literacy** e-Literacy refers to those who are unable to make use of information and communication technologies because they are not computer literate. With the digital revolution there is a very real danger that the world will be divided into the "information rich" and the "information poor." e-Government has the potential of either equalising access to government and its services or increasing the barriers to participation.	· Ensure that content is in local languages and that interfaces are easy to use. · Develop applications that use speech or pictures in addition to, or instead of, written text. · Include an educational component in e-Government projects. · Provide aides at access points who can train citizens in basic computer skills. · Create programs that include traditional media, like radio programs or newspaper columns, where citizens can learn about e-Government. · Establish as a legal requirement that the government must

		adopt technology to assist the disabled. · Set performance criteria and measure progress.
5.	**Privacy** Governments collect vast quantities of data on their citizens through everyday transactions. Protecting the privacy of citizens' personal information stored on these databases while making effective use of the information contained in them is a vitally important issue.	· Educate and train government officials on the importance of privacy. · Design applications that integrate privacy protections. · Follow "fair information practices." Minimise the collection and retention of personal information. · Limit access to personally identifiable information; do not automatically allow employees to tap into databases of personally identifiable information.
6.	**Security** Security is costly, but must be addressed in the design phase, as security breaches can shatter public trust in e-Government. Trust is a vitally important component of e-Government projects. Without trust, citizens who may already be leery of using technology may avoid and even shun the use of online services that ask for detailed personal information.	· Designate a senior official responsible for computer security. · Continually assess systems to make sure that security precautions are being implemented. · Backup information regularly and store backups in a separate location. · When it comes to personal information, keep information collection to a minimum and do not disclose personal information without express prior consent. · Provide ongoing training to employees on computer security. · Evaluate performance of system managers in adhering to sound security practices.
7.	**Transparency** Citizens too rarely understand how government decisions are made. This lack of transparency prevents the public from actively participating in government and from raising questions or protesting unfair or ill-advised decisions. A lack of transparency can conceal official graft or favouritism.	· Post online rules, regulations and requirements for government services (such as requirements for obtaining a license) to minimise subjective actions by officials. · Highly-placed public officials can expedite transparency and accountability efforts by making their offices positive examples of openness. · When putting services online, give citizens the ability to track the status of their applications. · Train civil servants and provide incentives to reform. · Integrate transparency and process reform to simplify regulations and procedures.
8.	**Interoperability** Putting incompatible record formats online neither simplifies nor reduces the workload imposed on people and government officials. Reliable e-Government requires a	· Map and assess existing record systems. · Identify and reform regulatory schemes that make interaction with the government onerous. · Use common standards throughout the government to shorten development time and ensure compatibility.

	comprehensive overhaul of legacy systems.	· Adopt a common IT infrastructure for the government.
9.	**Records Management** Better information management can help officials identify barriers to more efficient government. An information management framework is necessary to make sense of available data. Without this framework, policy makers could not derive useful analysis quickly enough to react to social and economic developments.	· Encourage data sharing and cooperation between government departments. · Streamline offline record keeping processes to make the transformation to online publication easier. · Creation and standardisation of meta-data is critical for conducting successful data searches across institutions and networks.
10.	**Education and Marketing** e-Government services are only useful if people know about them. Education and outreach programs will be needed.	· Develop publicity and training campaigns that will engage the public about e-Government initiatives. · Conduct research to ensure that online services respond to actual needs and that the

Table: 4.4: challenges for developing a successful e-Government along with recommendations to overcome them

4.4 Barriers Facing Implementation of e-Government

There have been many barriers to the implementation of e-Government. Lack of IT infrastructure, lack of human skills, lack of funding, cultural barriers are among the barriers.

According to the United Nations (2004) there are many barriers facing the implementation of e-Government in the public sector:

1. Loss of jobs by public employees as Internet technologies are able to transform the services provided by governments with little human resources needed, since these services will be IT intensive.
2. Access to e-Government services is still limited in the world. While access rates are high in countries like USA, Canada and UK and can reach 40%-50%, but other developing countries have an access rate of 1%-2%. As a result, the term Digital divide has become one of the main challenges facing the world (UN, 2004).
3. Shortage of human resources skills. According to Network World (2000) the shortage of skilled IT personnel is more acute problem in the public sector than it is in the private sector. Indeed it is hard to

attract the best talent in the IT field with wages below those paid by the private sector.

4. The refusal of some people to be governed and monitored electronically by their government. This also raises the issues of the privacy of citizen, and how does the government protect the privacy of its citizens with the flood of information.
5. The difficulty of the technology can hinder the success of the IT project. For example the online taxing system in Italy requires users to know how to install the Java virtual machine on their PC in order to run secure payment applet. The instructions to install the software are complicated for the average user. The other problem was that the call centres for help, only operated between 9a.m. and 5 p.m., in fact most people are at their work at that time. Another example is the state examination to become a teacher. The results of the exam were posted with out any respect for personal privacy with details and result of each candidate posted all in single spreadsheet.
6. The difficulty of measurement can be another challenge. There are difficulties in measuring e-Government success, even though the success rates are the same as the private sector as pointed out in Galilee's and Beats (1998). The authors indicated that it is difficult to assess the success of change programs. The difficulties stem from how we define the notion of success. Is it in producing more quantity, quality or lower prices? Sometimes change is achieved at the expense of a factor over the other. For example, more quantity against less quality; or higher quality at the expense of price. The authors argued that the realistic way to measure success would be to measure it against the goals set out by the organizations. However, according to the authors these goals may not be realistic.
7. The lack of attention given to cultural issues and aspects of change causes projects to fail. A report by The Central IT Unit in the Cabinet Office (2001) reviews the challenges facing the successful implementation of IT projects in the public sector. It describes how in the past, government IT projects have too often missed delivery dates, run over budget or failed to fulfill requirements. Also, according

to Affirm (2002), Chief Information Officers (CIOs) across the US government have discovered time and again that the biggest challenge to creating e-Government, or even just installing a new system, is not the technology but the cultural changes that must be made to accommodate the technology

8. Lack of investment in e-Government. The third world faces the challenge of allocating sufficient funds for e-Government projects. Especially in countries in Sub-Saharan Africa that ranks at the bottom of e-Government Indices (UN, 2004). The lack of funds sometimes is accompanied by lack of awareness to the importance of e-Government as a development tool that can transform the developed countries economically and socially into the new Information society (UN, 2004). The digital divide can become one of the biggest barriers to future development of the developing countries. The gap between the rich and poor countries can be further exasperated if the digital divide is not tackled on an international and multilateral basis.
9. The lack of implementation models for e-Government. The developing countries are especially vulnerable to the lack of IT implementation models since their economies are less dependent on IT, and since they lack sufficient IT structure, and human resources (UN, 2003).

Tawil (2003) describes some other barriers such as:

- Lack of political will and leadership is probably the main cause for most undertakings to be abandoned incomplete, or turn out to be far less than their expectations.
- Another barrier is skepticism and lack of awareness among the public.
- Resistance to change by the governmental agencies, businesses and employees. For example, the idea of e-Governance could easily be misconstrued by employees as the simple automation of jobs and procedures, thereby leaving them vulnerable to downsizing attempts of the government and corporations.

- A flawed pre-implementation study of the e-Readiness of the government, businesses, the public and the economic climate for accepting and realizing e-Government.

Another set of barriers have been identified by OECD (2003). The barriers impeding the development of e-Government are indicated as:

- Legislative and regulatory barriers*:* In order for e-services to gain widespread acceptances, they must have the same standing as the equivalent paper processes. Additionally, current frameworks based on the assumption that agencies work alone inhibit collaboration. Finally, privacy and security need to be ensured before online services can advance..
- Budgetary frameworks can restrict e-Government initiatives*:* In many OECD countries, existing budgetary arrangements act against efficient e-Government by funding through traditional government silos, and not by recognizing ICT expenditure as investment. This can be achieved through e-Government wide approach to the assessment of e-Government benefits and the sharing of savings.
- The adoption of e-Government solutions can lag behind technological change*:* The governments face the challenge of fostering the development of e-Government while there is still great uncertainty regarding technological change and negative impact (i.e. system vulnerability and illegal activities). Technological developments are moving very fast and it is difficult to anticipate future impact in detail.
- The digital divide impedes the benefits of e-Government*:* Online access has advantages that are impossible to replicate offline such as the drawing together of information, independent search capacity and interactive policy consultation. Within OECD countries however, there are significant differences in access to ICTs and the Internet. Generally the most disadvantaged have the lowest levels of access, yet they also often have high level of interaction with government. If these individuals cannot access e-Government services they will miss out on the benefits of e-Government.

Finally, the United State's e-government Strategy (2002) identified key barriers that prevent implementation of e-Government initiatives. These barriers include agency culture, lack of federal architecture, trust resources and stakeholders assistance. The key barriers and mitigations are identified in Table: 4.5

Barrier	***Mitigation***
Agency Culture	• Sustain High level leadership and commitment • Establish interagency governance structure • Give priority to cross- agency work • Engage interagency user/stakeholder groups including communities
Lack of Federal Architecture	• OMB leads government-wide barriers and data architecture rationalization • OMB sponsors architecture development for cross-country projects
Trust	• Through e-Authentication, establish secure transactions and identify authentication that can be used by E-Government initiatives • Incorporate security and privacy protection into each business plan • Provide public training and promotion
Resources	• Move resources to programs with greatest return on citizen impact • Set measures up-front and use to monitor implementation • Provide online training to create new expertise among employees/contractors
Stakeholder Resistance	• Create comprehensive strategy for engaging congressional committees • Have multiple PMC members argue collectively for initiatives • Tie performance evaluations to cross-agency success • Communicate strategy to stakeholders

Table:4.5. Key Barriers preventing e-Government -US e-Government Strategy, (2003)

Forman (2002) described the consequences of barriers to e-Government:

- Consequently, citizens have to search across multiple agencies to get service, businesses have to file the same information multiple times, and agencies cannot easily share information.
- Budget processes and agency cultures perpetuate obsolete bureaucratic divisions. Budgeting processes have not provided a mechanism for investing in cross-agency IT.
- Moreover, agency cultures and fear of reorganization create resistance to integrating work and sharing use of systems across several agencies.

The EU experience highlights the importance from overcoming e-Government barriers as follows:

- Best results were achieved by public services with simple procedures and centrally coordinated service provision (job searches, income tax, VAT, corporate tax and customs declarations).
- More complex administrative procedures which are coordinated by local service providers (building permissions, environmental permits and enrolment in higher education) received the lowest scores in the survey.

According to UN Proposal for Implementing e-Government: a strategy for transitional countries (2002) the online development of public services can be enhanced by:

- Coordinated e-Government solutions which allow local service providers to take advantage of centralized online initiatives offering a single point of contact in the form of e-portals or ASP-related solutions (Application Service Providers), with a citizen/customer-oriented approach rather than a procedural approach.
- Extensive back-office reorganizations are needed to transform complex transactions into simple procedures. This is a long-term operation.

Henry (2003) provided a model for e-Government services that is formulated around three variables: objectives, obstacles, and outcomes as mentioned in Table (4.6).

Objectives	*Obstacles*	*Outcomes*
Improved services to constituencies	Funding	Faster response from government
Easier interaction with agencies	Technical Staff	Web –based transactions
Easer access to records	Web expertise	Web-based forms/brochures
Cost controls	Security	Increased interaction between voters & elected officials
Less overlap in agency activities	Web Access by citizens	
Reduced paperwork	Turf protection by agencies	One-stop portal access to different agencies
Increased accountability	Low levels of interagency linkage	

Table: 4.6 Hendry's Model for the Delivery of e-Government

4.5 The Problems Facing e-Government

Recent reports by government and academic institutions have tried to put forward solutions to the problems facing the successful implementation of e-Government (Joseph, 2004). Providing solutions to the problems is the main reason behind the strategies that are being developed, recommendations, new implementation models, critical success factors and many other ideas are being presented. In communities like OECD and in countries like Australia policy papers focused on overcoming barriers to successful implementation of e-Government projects are being circulated.

Joseph (2004) asks if it is really a matter of time before society benefits fully of e-Government promises, or is e-Government failing in the developing world to achieve it promises? Some think e-Government is failing because it is being copied from the developed world to developing countries without taking into account the different conditions in the developing countries. This problem is similar to that of failure of technology transfer

The impact of e-Government on the citizen has also been varied. In the developed world, online services have increased significantly in the last decade with some countries reaching over 50% of regular services, and in countries like the US thousands of web sites are in operation. Transactional services are wide spread between government to citizen and government to business (UN, 2004).

As explained by Gronland (2003) recent reports highlighted problems facing e-Government in the developed world. There has been a slowing down of the rate and a maturity of e-Government initiatives. A gap exists between the national e-Government programs (which have achieved better efficiency, some savings and better e-services) and the local level e-Government programs which are slow to happen. Also the problem of integration of e-Government services and coordination between government agencies to reap the benefits of e-Government are becoming challenges for the future (UN, 2004).

Fountain (2003) indicated that many speak about the need for innovative solutions in order to further advance e-Government from the provision of e-services to increasing the participation of citizens in the democratic process.

As Finger (2004) mentioned, the challenge now facing E-governance seems to be the next target for e-Government initiatives. Therefore the process of governance in democracy must be able to benefit from the opportunities that ICT provide in the form of e-voting or e-consultation or other e-governance processes. Critics have also warned of the need to be realistic in the level of expectations of e-Government

On the other hand, the impact of e-Government has been less felt in the developing world. In some regions of the world, for example in the Middle East, online services have yet to takeoff. One reason for that is a low level of IT infrastructure, which is also a problem of the low income countries.

As explained by Saidi and Yared (2002) the telecommunication sector in the Middle East is monopolised by government and investment is largely in the area of telephony where data and media communication are more important for knowledge–based economies and societies

Furthermore, in developing countries there is a need for e-Government to support the contexts of the local environments that are being applied in order to achieve success in bringing more segments of societies (like bringing the poor into the information society). Heritage or local knowledge need to be preserved and shared with other communities if there is any chance to be able to benefit from the spreading on networks all over the world. In the Middle East there are a few countries where citizens are beginning to feel the impact of e-Governments. Countries like the UAE and Dubai in particular have moved e-Government services from the informational stage to the transactional stage (UN, 2003).

In Dubai, violation payments, Visa, vehicle registration can now be carried out online. In addition to this, there is a commitment from government to transform Dubai into a hub in the new world economy, which is based on information. That is the reason behind an Internet city initiative, and a Knowledge Village that offers a western type of higher education.

Accenture (2004) indicated that there has been growing evidence that e-Government initiatives are not providing what they promised. Countries are trying to solve this problem by looking at a more cost-effective manner of transforming all their services

There is a direct relationship between increasing take-up of online services , for new strategies to move them forward in order to deliver high performance in services, and saving time and money, which creates value - yet the take-up rates are still low. In Canada only 40% of Internet users have visited a government website. In the US the number is 46%.

Also e-Governments are not providing the needed reform for government. Kin and Kramer (2003) found out that after 35 years the verdict on the success of IT as a catalyst for government reform has been elusive. The authors argued that IT does not lead to administrative reform but rather to reinforce existing administrative arrangements. For reform to happen, leadership must establish clear goals for reform and then bring IT. The experience of the US government does not support the hypotheses that claim 'IT is a catalyst to administration

reform'. IT application in the US fits the model of improved efficiency within an established bureaucracy.

4.6 Why e-Governments Fail

Ramsey (2000) pointed out that 85% of government information projects show some degree of failure, measured in terms of not meeting implementation deadlines, higher costs than those budgeted, and providing less benefits than expected.

If failure is so common why are governments not learning from their own mistakes? Heek (2002) has identified several reasons on why stakeholders in the e-Government failure, do not want to learn:

- Irrelevance of success/failure: some stakeholders may only be interested in association with the high-profile inception of the e-Government project but not with the implementation and outcomes.
- Fear of exposure*:* some stakeholders fear that a learning process will expose their shortcomings (ignorance about ICT's, corruption, etc.).
- Cultural inappropriateness*:* in some organizational or national cultures it is acceptable to admit and learn from failure. In others, it is not, failures are to be ignored or denied.
- Skewing of incentives*:* in some situations, there may be incentives for ongoing failure. For example, with some e-Government applications, "success" can mean that the public agency is downsized or loses financial resources because of its efficiency gains.
- Stakeholder absence*:* by the time an e-Government project ends, key stakeholders have often moved on to other jobs/projects and have no continuing interest in the original project.
- External ownership*:* e-Government projects are sometimes driven from outside government and even from outside the country and are not owned by local stakeholders, who therefore feel disempowered or disinterested in any learning process.

- Environmental instability/uncertainty: a characteristic of developing/transitional countries is the relative instability of the social, economic, political environment

A survey was conducted with the 1450 leading public and private organizations in Canada to find out the causes of IT projects failure. In the survey it was found that the three most common causes of failure were poor planning, a weak business case, and lack of top management involvement and support (Whittaker, 1999).

IDPM (2003) offers two models to explain why e-Governments fail. These models are:

- The Factor Model which identifies a set of ten key factors: external pressure, internal political desire, overall strategy/vision, project management, change management, politics/self-interest, design competencies, technological infrastructure and other. Presence or absence of these factors will determine success or failure (these factors are explained in detail in Table: 4.7).

- The Design–Reality Gap Model identifies a gap that exists for all e-Government projects between design assumptions/requirements and the reality of the client public agency. The larger the gap between design and reality, the greater the risk that the project will fail. The smaller the gap, the chance of success is greater.

Factor	*Explanation*
Lack of internal drivers	Pressures only from IT vendors, with no internal ownership (or understanding of e-gov)
Lack of vision and strategy	Lack of any long-term view, lack of guidance, and lack of link between ends and means, may by caused by shifting of senior staff and/or ever changing policy and political environment
Poor project management	Dispersed responsibilities due to multiple ownership of project, absence or weakness of controls, ineffective procurement
Poor change management	Lack of support from senior officials (causing lack of resources allocation, and negative massage to groups), lack of stake holder involvement (causing lack of ownership)
Dominance of political self-interest	Focus of key players on personal needs and goals, often related to ' playing politics' , with symptoms like infighting, reminiscence where loss of power is feared and corruption
Poor/unrealistic design	Caused by lack of inputs from local stakeholders leading to designs that are over-technical, over ambitious, or mismatched to local environment (culture, values)and needs; occurs where foreign donors, firms, and consultants are involved, other design problems, lack of piloting, lack of fit to organizational structure
Lack of requisite competencies	Lack of IT knowledge and skills among developers, officials and users/operators, lack of local knowledge among developers
Inadequate technological infrastructure	Lack of sufficient computers or networks
Technological incompatibilities	Inability of computerized systems to interchange data

Table 4.7. The Factor Model, why Governments fail (IDPM, 2003)

Smith (2003) identified a set of factors for failure of e-Government projects. These are:

- Politics as usual,
- The lack of resources

- Distinct management shortcoming – an isolated, catastrophic event that by itself, and regardless of contingency planning, leads directly to failure (e.g. the departure of a dominant and irreplaceable leader; the failure of technology to live up to its promise).

A more complicated type of failure identified in the literature, was systemic failure, where several factors combine to create an insurmountable obstacle, or sets of obstacles. This type of failure is more prevalent among bottom-up projects that suffer from chronic lack of political support, resources, funds, and personnel. It is important to note that sometimes the lack of sufficient budgetary commitment contributes to the failure of top-down inter-agency projects as well.

A study by KPMG (2003) reports that 56% of firms had at least one IT project fail in the last year. The average loss incurred as a result of these failures was $12.5 million. The survey also revealed that only 9% of organizations feel that delivering projects within budget is their most important measurement for success.

Commonly cited reasons for failure were inadequate planning, poor scope management and poor communication between the IT function and other business units. KPMG conducted the research with major listed companies to gauge and benchmark the effectiveness and maturity of program and project management functions. 67% of those interviewed rated their program management function as immature or in need of improvement

Kertesz (2003) identified that failure can come also as a result of a lack of risk assessment performed, when analyzing all types of risks associated with e-Government projects. These types of risks are:

- Political risk: Failure or relinquishment of the project can void all expected future benefits

- Organizational risk: This risk can lead to increased internal investment costs, and decrease benefits from personnel reductions.
- User risk: A low level of user acceptance can significantly decrease all the benefits derived from the projects.
- Technological risk: Changes can make an e-Government investment obsolete in a matter of months leading to higher costs for modernising and upgrades.
- Vendor risk: This can increase maintenance and support costs.
- Execution risk: This can significantly increase the costs of building the e-Government portal.
- Concentration risk: This risk is difficult to quantify, and it often affects future projects more than the current one.

Several aspects to avoid failure were highlighted in OECD (2003) as:

- Focusing on governance facts.
- Concentrating on smaller projects(Dolphins not whales)
- Avoiding emerging technologies.
- Identifying and Managing risk
- Strengthening leadership and accountability,
- Managing knowledge and human resources
- Managing external providers;
- Involving users
- Getting IT right

4.7 Summary

The literature review on the CSFs have led to the identification of 13 factors behind the successful implementation of e-Government initiatives. Table 4.8 provides a summery of each of the CSFs and why it is critical for e-Government. The chapter also addresses the main challenges facing the implementation of e-Government and recommendations about dealing with them. Beside the challenges, barriers and the reasons behind the failure of e-Government initiatives were also identified in order to provide a comprehensive view of the environment that e-Government

initiatives face in the implementation process. The next 3 chapters would highlight 3 case studies that would test the validity of these CSFs .

CSF	***Summary***	***Why is it critical for e-Government***
Leadership and commitment	ensures the long-term commitment of financial resources, personnel and technical expertise in the design, development and implementation of e-Government projects	p and commitment provide clear strategy and vision
Vision & Strategy	e highlighted into to many strategic aspects which are relevant to state policy and international position	It is the road map for e-Government success
Funding	in order to support government investments, reliable and predictable funding sources must be found. In today's environment, there are severe budget pressures and higher priority expenditure needs.	Because financial resources are very much in compaction and scarce.
Reform	sed public administration (Lan and Rosenbloom); A the post bureaucratic paradigm (Barzelay); or A entrepreneurial government (Osborne and Gaebler).	Because it brings market skills to the oublic organization
Transformation of Culture	e is central to the change process and to the attainment of strategic objectives. In the organizational change process	t is the most difficult to overcome inorder to achieve chang3
Utilization of Human Resources	nts need training and leadership n order to integrate themselves nto the new information structure.	Brcause there is alack ofqualifiedpublic servents withappropriate It skills
User-centererd Approch	tion and inclusion is strongly accentuated and highly prioritized n the development of e-Government services for governments of today	Because it is a very important step ingetting citizens involved in e-Government
Measurement the success of e-Government	of metrics for determining e-Government success:	Because it is a scientific approach to measure success
IT infrastructure.	ucture is centered upon the optimal support for execution of administrative transactions, and which creates logically equivalent support for any transaction throughout the system.	Because any e-Government itiative needs an IT infrastructure.
e-Government teams	vernment Team (EGT) is the domain team responsible for selecting product standards, defining standard configurations,	Because strategy and vision needs a team to execute it.

	collaborating on component architecture design principles with the architecture team, and planning and executing projects for e-Government.	
Inter-agency collaboration	pment of online services requires greater collaboration between agencies: authentication, shared processing, data exchange. Collaboration is needed	Because without collaboration e-Government can become a set of localized e-portals and e-services.
Consultants	ts play a part of most e-Government initiatives since they provide a set of skills that are needed to a pubic organization in areas such as IT or re-engineering of services	Because consultants provide valuble skills to any e-Government project.
Satisfaction	faction is likely to be shaped by a wide range of factors:	Without user satisfaction e-Government can become just another service provided by government.

Table: 4.8:Summary of CSFs

CHAPTER 5

Critical Successful Factors and the Exploratory Study

5.1 Introduction

A literature review on e-Government and its implementation was conducted in the first stage of the research. Later a set of CSFs were derived from the literature review,, and an evaluation model was developed which is based on the CSFS approach. The model should provide valuable guidance for management in achieving organizational goals and mission. The next step in the research was to conduct an exploratory study in The General Traffic Department (GTD) in Kuwait. The reason behind the choice of GTD as the subject of the exploratory study was that it was one of the first public organisations to implement e-services in the Kuwait Government The main objective of the exploratory study was to establish the demand for online services.. The study highlighted the benefits and challenges from the implementation of e-services GTD. Another reason (for the exploratory study was to be more familiar with the survey and interviews method in order to carry further research in the 3 case studies The researcher decided to develop a survey that can test the most important services presented at the GTD. The aim or the survey was to help determine which services were the most important to the users and. needs. to be transformed into e-services. Along with those, the author also wanted to establish if users had any dissatisfaction with current services, and understand the reasons behind them.

5.2 Evaluation Model

5.2.1 Use of CSFs Approach

One very important tool for mangers in achieving a successful implementation of e-Government initiatives, is the critical success factor approach. There have been many advantages of this approach such as, Caralli (2004):

- CSFs can reduce organisational ambiguity. Developing and communicating a set of CSFs can reduce the dependence on the perceived aims of the organisation.
- CSFs reflect the implicit, collective drivers of key managers. The result is a more independent articulation of the organisation's key performance areas.
- *CSFs are more dependable than goals as a guiding force for the organisation*. An organisation can set important goals which in theory will

move the organisation towards its mission. However, if the goals are poorly articulated or developed, this is not guaranteed. CSFs are reflective of what managers do well to move the organisation towards its mission regardless of the quality of goals that has been set.

- *CSFs are more likely to reflect the current operating environment of the organisation*. Goal setting tends to be a cyclical activity that is seldom revisited until performance measurement. Used properly, CSFs are likely to be more dynamic, and likely to reflect current operating conditions.
- *CSFs provide a key risk management perspective for the organisation to consider*. The risk management perspective of executive level managers is built into CSFs so their "radar screen" is exposed to the organisation as a whole.
- *CSFs can be valuable for course correction*. When CSFs are made explicit, managers often realise that their perception of what is important to the organisation may not match reality or they may realise that they do not fully understand the current operational climate. Thus, they can use CSFs to realign their operating activities.

Caralli (2004) defined five specific sources or types of CSFs for the organisation as follows:

- The industry which the organisation competes or exists
- An understanding of the organisation's peers
- The general business climate or organisational environment
- Problems, barriers, or challenges to the organisation
- Layers of management

Industry CSFs

Every organisation inherits a set of operation conditions and challenges that are inherent to the industry in which it operates. This result is a unique set of CSFs that an organisation must achieve in order to successful compete in that industry.

Competitive Position or Peer CSFs

Peer CSFs are those that pertain to the unique position of an organisation against its competitors.

To be effective, managers must consider monitoring a wide range of activities, events, and conditions that occur throughout the organisation and in the external environment in which the organisation operates. Gathering CSFs that incorporate and reflect various CSF sources and provide an effective understanding of the depth and breadth of manager's responsibilities.

Caralli (2004) described the various dimensions of the CSFs as:

- Internal
- External
- Monitoring
- Adapting

Internal CSFs are those that are within the span of control for the manager. For example, in the airline industry an internal CSF is managing ground operations, while an external CSF is the weather. Monitoring CSFs emphasise the following of rules and regulations. Conversely, adapting CSFs focus on improving the organisation and its growth, Table 5.1.

Environmental CSFs

An organisation must take into account the macro environment in which it operates. A firm which does not interact with its external environment can not survive on the long run. Environmental CSFs are the factors that the organization has very little control or ability to actively manage. Environmental CSFs identify conditions as current socio-political issues, the industry's regulatory environment, and factors such as seasonality.

Temporal CSFs

At one time or another, every organisation encounters temporary conditions or situations that must be managed for a specific outcome, while continuing to maintain its performance in all other areas. These temporary situations can result in temporal CSFs in which the organisation must temporary perform satisfactorily.

CSF	*Source*	*Dimension*
Leadership	Layer of management	Adapting
Integration of e-Government into Broader Management Reform	Industry	Adapting
Cultural Transformation	Environment	Adapting
Human Resources	Environment	Internal
User Cantered Approach	Industry	Internal
Improving management of risk	Temporal	Internal
Effective Management of Implementation	Industry	Monitoring
High Performance Team	Industry	Monitoring
Presence of Civic Groups	Environment	External
Interagency Collaboration	Environment	External

Table 5.1 CSF Sources and Dimension Matrix ,
(Caralli , 2004*)*

5.4 Exploratory Study

5.4.1 Background

The public sector has faced enormous pressures to improve its services, work with less and less resources, and generate higher revenues. People are sceptical of the public sectors' ability to provide services through state of the art technologies. Bureaucracies, they say, care more about rules and regulations, than speed or cost. Part of GTD's management strategy was to create the shortest route between the public and the services the department provided, through the introduction of Internet services to the GTD. Thus, the Internet provides the potential to benefit both the public and the GTD.

However, in order to introduce Internet services existing processes have to be improved or redesigned. According to Hammer (1990) Business Process Re-engineering (BPR) uses the power of modern technology to radically redesign our business processes. This is because "many of our job designs, work flows, control mechanisms, and organisational structures came of age in a different competitive environment and before the advent of computers. They are geared toward efficiency and control. Yet the watchwords of the new decade are innovation and speed"

BPR and IT have an important relation. Davenport and Short (1990) described this relationship as "recursive" and suggest a five step approach to implementing BPR:

- Defining business vision and process objectives.
- Identifying processes to be redesigned.
- Understanding and measuring existing process.
- Identifying IT levers.
- Building a prototype of the new process.

The success rate of IT projects is not very encouraging. Benjamin and Levinson (1993) pointed out that the track record for IT implementation is not very good, while the benefits of IT are not being realised because investment is heavily biased towards technology and not towards managing changes in processes, organisational structure and culture. In addition, since the research is dealing with a public entity, political and social factors have to be weighed in.

5.4.2 Aims of the Exploratory Study

The aims of the study was to find out which services are important to the public, and which ones need to be provided through Internet technology in GTD of Kuwait in order to increase the satisfaction of the public and improve GTD's overall performance, productivity and efficiency. The study is also concerned with the CSFs that are important to effectively implement Internet technology and realising the benefits by adopting such technology).

5.4.3 Objectives of the exploratory study

In order to achieve these aims, the study had the following objectives:

- Identify the important services for the public at the GTD.
- Identify the problems facing the public in procurement of the important services in the GTD
- Measure the willingness of the public to receive the important services through the Internet.
- Evaluate the factors which significantly affect the implementation of the Internet services.

5.3.4 Methodology

The main issues that were performed prior to and during the exploratory study were as follows:

- An preliminary literature review was carried out to evaluate the current practices of government organisations in using the Internet to improve their services.

- A survey of the public at the GTD and semi-structured interviews were carried out for management and technical staff. To identify the importance of Critical Success Factors to e-Government in the G.C.C.

- The CSFs that significantly impact on the implementation of Internet technology in improving the services of government organisations were validated by surveying management and technical staff about the importance of theses CSFs.

5.3.5 Findings of the Survey

5.3.5.1 Results from the Public Section of the Questionnaire

The survey included 500 of the public at the six main departments that comprise the GTD. Four services that were believed to be the most important were chosen for the survey. These services were Issuance or Renewal of Driving License, Issuance or Renewal of Vehicle Permit, Payment of Traffic Violation and Transfer of Vehicle Ownership. The choice of these services was based on the author's experience who worked as a police officer for over 10 years.

In the study, 200 customers of the Capital's Department of GTD and 60 customers of other 5 departments were surveyed. As the Capital Department is the largest department in terms of the amount of customers and number of services it provides, it was logical to give it more weight.

The survey was conducted over a 4 week period via face to face semi-structured interviews with the customers of the GTD. Most of them were forthcoming and enthusiastic, while some were apprehensive. It is hard to claim that the customers would have responded in the same way, if the survey had

been conducted outside the GTD, since some were more careful about criticising the GTD inside its own premises.

The results of the survey pointed out a big need for the improvement of services that are currently present. Over 50% of respondents said that four chosen services in the survey were extremely important and can be improved. The respondents complained of the long queues and the length of time taken to complete services. It is also interesting that many respondents demanded the introduction of new delivery channels such as mail, telephone, bank, and Internet.

One of the interesting findings was about the amount of time spent on each visit. Over 48% of respondents mentioned that they spend over 2 hours in the GTD during each visit. The payment of traffic violations ranked first, among the services that respondents were least satisfied with. About 30 % were extremely unsatisfied with it and around 27% were unsatisfied with it. Around 72% of the respondents indicated that they preferred to pay for traffic violations electronically.

The survey results showed that the majority of respondents preferred to perform the services on the Internet. 77% of the respondents wanted the issuance or renewal of driving license to be performed over the Internet. Also, 76% of respondents wanted renewal of vehicle permit to be carried online. Finally, nearly 81% of the respondents wanted traffic violations and 62% wanted the transfer of vehicle ownership to be performed online as is shown in table 5.2

	Service	% of Respondents that want the service online
1	Issuance or renewal of Driving License	77%
2	Renewal of Vehicle Permit	76%
3	Traffic violations payment	81%
4	Transfer of Vehicle Ownership	62%

Table 5.2 Percentage of respondents that request the Online GTD Services

Other interesting results with regard to fresh ideas given by respondents highlighted the need to re-engineer the existing services. One of these ideas was the one stop window stop*)* where the customer can get all of their services completed at one window This idea was equivalent to the bank cashier who can accept deposits, dispense cash and perform other services for the customer in one place and during one stop.

A further interesting point was that the respondents did not expect to pay any extra fee for these on-line services and they expect these services to be provided for free. This expectation has to do with the notion of the welfare state in which the government provides many services for free. Indeed, Kuwaitis are used to receive their education, health, and housing for free. However, the government has recently announced that the welfare state era has ended and it is time for citizens to shoulder some of the responsibilities that the government used to carry.

Finally, over 70% of respondents said that they wanted the GTD's online services be linked to other e-Government services.

5.4.5.2 Results from the Management Section of the Questionnaire

In this phase of the 20 of GTD's senior and middle management were questioned and the results demonstrated the following:

- Management believes Internet services can save time and money.
- Management believes all of four services chosen were either important or very important. The answers of management agree with the public.
- Management wants to provide services that raise the awareness of the public about traffic law and regulations.
- Management ranked availability of skills, management of change and difficulty of changing old procedures, as the biggest challenges facing the introduction of Internet services.
- Management believes the benefits justify the financial and organisational costs.

- A willingness of management to participate in the project and to give some of their time to manage and monitor such a project, and to delegate authority to their employees in order to bring about desired change.

5.4.5.3 Results of the Technical Staff Section of the Questionnaire

Finally, the researcher questioned the technical staff. The results of this section were as follows:

- All of the respondents agreed on the need for adequate servers, databases, network equipment, software, and high security in order to provide high quality services to the users.
- All of the respondents agreed that the four chosen services are either important or very important.
- All of the respondents were satisfied with the way that the four services would be provided.
- The respondents ranked organisational structure and decision making process, difficulty of changing old procedures, and IT infrastructure as the biggest challenges facing the introduction of Internet services.
- All respondents believe that benefits justify the cost of such project.

5.4.6 Analysis of the Survey Results

The initial analysis of the survey highlighted four major themes. These themes indicate that there is an agreement between the public, management, and the technical staff on the importance and satisfaction of services, and the need to provide them online.

The four major themes highlighted were:

1. One of the important results of the survey is the agreement between management and public on the importance of the four services. At least 85% of the public mentioned that all of the four services were either important or very important. 100% of management said all of the four services were either important or very important. However, management was more satisfied with the four services than the public. In fact, that does not mean that management is extremely satisfied with all the four

services. For example 30% were either extremely unsatisfied or unsatisfied with Issuance and Renewal of Vehicle Ownership. 35% percent of management was extremely unsatisfied or unsatisfied with Payment of Traffic Violation.

2. Another interesting result from the survey was that 100% of management is committed to the change program, and is ready to invest time to manage and control the project. More so, 85% of management is willing to empower its employees to carry out change.
3. The desire for change is also echoed by the technical staff. At least 90% of all technical and believe that they should be provided online.
4. Finally, management views are similar to the views of those in the West on the importance of change management in the successful implementation of IT projects. Indeed 'change management' came in first as the most important challenge facing the implementation of Internet services at the GTD. 'Old procedures difficult to change' came in second.

5.5 Conclusion

The chapter highlights the CSFs for the implementation of e-Government services. This approach can be useful for management in guiding it to accomplish organizational objectives and mission. The other part of the chapter concerns an exploratory study conducted in the GTD in order to identify the important services that need to be provided through the Internet and validated the CSFs from the preliminary literature review.

The results of the exploratory study on the GTD has shown that there is a strong demand from the public and management for the implementation of online services. The reason behind the strong demand is the perception that online services will save time and money for the users. Management of GTD has pointed out the importance of CSFs such as leadership culture,, human resources, IT infrastructure and change management in implementing Internet services. These results have validated the CSFs defined from the literature review and led the researcher to conduct 3 case studies in the GCC in order to come up with a framework for the successful implementation of e-Government services.

Chapter 6

Case Study one

(Dubai Police)

6.1 Introduction

An evaluation model was developed from the literature review and an exploratory study conducted on GTD, in order to find out which critical success factors are behind the successful implementation of e-Government. In this chapter the evaluation model will be tested by applying it to Dubai Police (DP) in order to find out if these CSFs are valid. DP is the first of 3 case studies on the implementation of e-Government initiative. The second case study is on Dubai municipality (DM) and the third is on The Public authority for Agriculture and Fishes in Kuwait (PAAF).In this chapter the background of developments in DP will be introduced, then the services will be discussed along with the development of e-services. Next, a discussion of the CSF's will be introduced and this is followed by a management survey that is conducted to understand the opinion of management regarding DP e-Government initiative.

6.2 Background

The introduction of e-services in the DP was part of the larger initiative. The aim of the main initiative was to reform Dubai government in order to make it a leader in the new economic system. Dubai already attracts world class organisations to do business in a tiny Emirate. Dubai is a transit-business hub and a tourist destination as well as leader in Internet technology. The Emirate also aims to become a leading medical centre, financial centre and real estate market in the world. To achieve its huge ambitions, Dubai has sough to reform its legal and administrative laws and practices to attract foreign investment and foreign businesses. Reforming the government and its bureaucratic practices has become a target of leadership in the Emirate. Dubai e-Government Initiative (DEI) was the vehicle by which the reform was carried out.

DP was among the most important departments of the Dubai government. e-services in DP has gone through 2 periods of development The first period can be described as the data processing period, when the first computer was introduced in 1982. This computer was used to store information about vehicles. The number of vehicles in Dubai was around one thousand at that time. The budget of the department was US $190,000. The second stage was the automation stage, which started in 1985 when many procedures were

automated. The second stage also saw the beginning of a serious effort to recruit professional staff and the beginning of training in the use of computer technology. At the time DP policy was to recruit high school and university achievers and offer those attractive salaries and high ranks. DP then started to pay their fees and tuition since the time of their recruitment. Also, DP started sending high school graduates to study in the scientific areas in EU and US.

6.3 DP Services

In 1993 when the number of public visits to DP head office increased and completing services took more time, DP decided to solve this problem by conducting a user opinion survey in order to find out which service were the most important to users. The results of the survey showed that the most sought after services were traffic violations inquiry and payment. This was supported by DP statistics that showed this service to be the highest offered. As a result DP decided to improve violations inquiry service by introducing its IVR service in 1994. The customers used IVR service to inquire about the number, nature and value of the violation.

DP also used fax technology to send violations to the public. This required the public to register their fax number with the DP. The sending of violations by fax helped to solve the problem of increasing number of enquires by many citizens who had more than one car registered in their name, i.e. driver, sons, daughters, wife, etc. This fax service was named 'Traffic Fax'. However, the problem of increasing the number of visitors kept escalating. In the end this led to a further study on the services which are being conduced in 1995.

The 1995 study identified that over 50% of inquires was in regard to the documents required (Civil ID, Eyes Test...etc) for the completion of the various services such as licence renewal. In response to this, kiosk machines were introduced in the halls of the DP, and the intent was that these machines would replace the officers in providing all the required information to the user. In 1996 the DP added the feature/technology of Money Note Reader (MNR) to the kiosk machines. After some time, problems began to emerge from the MNRs. For example, the MNR machines did not accept old notes. The machines are later

became broken down.

In 1997, DP replaced the MNRs with credit card terminals/swap machines (which use swap cards as a method of payment). This created new problems such as the inability of many users to use the new technology. Also some of these machines were vandalized when placed in shopping centres. To solve swap machine problems, a new service called 'Halls without Walls' which was introduced. This new concept was based on filling the halls of the DP with kiosk machines. An officer or two would be there to help those who had difficulty using this technology. Kiosk machines were also placed in 24 shopping centres across Dubai.

6.3.1 Development of Online Services

In 1999 the DP started planning the introduction of Internet services as part of a Dubai e-Government initiative. A priority was, integrating all Dubai departments customer information systems, so that if a customer had to complete a service with the DP, then he/she would not be able to do so without paying any outstanding payment to other Dubai departments.

The end of 2000 and then entire of 2001 saw the introduction of some e-services through the Internet. One of the biggest problems faced was with the payment system through the DP's portal. Emirates Communication who was responsible for delivering the service were not able to solve the problem of the payment system which do not accept credit cards issued by local banks while it accepted those issued by Visa and Master Card International. The technology team of DP was able to solve this problem by using gateway technology.

In order to train the public on the use of Internet services, an awareness campaign was launched with the slogan 'You go to them and we come to you' which indicates that instead of going to the public organization to receive a service, DP through online services comes to the user. The introduction of online services was accompanied by a employee training campaign on the use of Internet.

The year 2002 saw the planning and implementation of internet services such as vehicle permits (issuance or renewal) and driving licenses (issuance, renewal). The biggest problem with driving licenses was dealing with the eye vision test. This test had to be conducted at the DP. Traditionally, the user would get a request for the eye vision exam. Then the user would go to the Police hospital to take the test and then return with the result to the DP. This took a lot of time and effort and involved absence from work. To solve this problem, optometry shops were used whereby the visitor would be required to visit one of the appointed shops and take the eye vision test. The optometrist would then e-mail the result to the DP. Training for the optometry shops was provided on how to fill the results electronically. After the renewal process is completed, the new driving license is sent to the user by a courier service.

A second example on re-engineering of services is the renewal of vehicle permit service. The challenge there was to shorten the time spent in renewal of vehicle permits performed at DP. The solution was to meet with auto dealers and train them on performing the technical test required for renewing all vehicle permits. The results would then be sent electronically to DP who would issue the new vehicle permit card and mail it to the owner in the same way as with driving license, i.e. by courier.

A third example of re-engineering services is introducing the electronic or virtual fax service instead of the regular fax. Two hundred regular faxes which were used were replaced by one virtual fax that had the capacity of 2000 lines. This meant that DP could now save ED 240,000 yearly, which was the cost for renewal fees for the yearly subscription at the communication department of Dubai plus the maintenance cost.

The official statistics reflect the success of e-services at DP. Inquiries about traffic violations for the period 2001-2003 increased from a daily average of 3500 to a daily average of 8500 times (as shown in Table 6.1 and Table 6.2). Such increase in the use of service attests to the benefits for users.

	Inquiry	Daily Average	Amount collected A.E. Dirham
Internet	1,056,201	3500	1,017,435
Kiosk	240,850	750	67,105
IVR	504,014	1600	88,545

Table 6.1: Summary of Electronic Violations Statistics 2001

	Inquiry	Daily Average	Amount collected A.E. Dirham
Internet	2,182,410	8500	1,075,805
Kiosk	736,544	2300	251,195
IVR	360,675	1100	118,270

Table 6.2: Summary of Electronic Violations Statistics 2003

The year 2004 witnessed the launch of a project to update DP's portal. New services provided through the new portal included reporting of, stolen cars and other crimes, renewal of vehicle registration and driver's licenses, registering of complaints and other public service initiatives, and real-time news on traffic and safety initiatives.

The objectives of the portal include improving public access to information and services in the department, enabling DP to share its internal information with other government offices, enabling remote access to data for DP employees and updating and centralising the department's technology infrastructure. A core element of the initiative is the integration of its vast information stores with other public sector departments including Immigration, Customs, Dubai Courts, and Dubai Municipality, as well as other police departments around the UAE. Ultimately, DP, in long term plans to have over 24 online services available through different delivery channels including the Internet, kiosks in public locations, and via interactive voice response (IVR) by telephone access.

In 2004, DP also launched a service to deliver messages via mobile phones, PDA or the Internet. In the first stage, the service concentrated on delivering SMS via mobile phones. The second stage was a two-way messaging through the push and pull models, allowing DP to send messages and receive feedback from the users.

Finally, in 2004 DP along with Microsoft launched two training centres to put an end to computer illiteracy in Dubai's central prison and in a rehabilitation centre for the treatment of drugs. Each of these locations was able to train 20 people to enable them use computers at least in a preliminary level. One million US dollars have been allocated for this five year innovative program.

6.4 Survey Analysis

A questionnaire consisting of 18 questions was developed by the researcher in 2004 and was aimed at management and technical staff of the Dubai Police (Appendix). The aim of the A questionnaire was to identify the factors behind the successful implementation of e-Government.

The findings of this questionnaire agree with a lot of our assumptions and the CSFs identified from the literature.

Question 1 (and its sub-questions) inquired about the importance of access, browsing and privacy of the e-Government portal. These three issues have been the most important factors in the evaluation of the quality of government sites. The answers to this question gave Dubai e-Government a very good to excellent evaluation.

Question 2 and 3 addressed the importance of internal factors in the implementation of e-Government: The responses to the questionnaire stressed the importance of the following internal factors:

- Leadership and its desire to change and implement new technologies. The leadership is exemplified by the leader of the DP.
- Competition among various departments in the implementation of e-Government in order to meet the deadlines set-up by leadership.

- Knowledge of the needs of the users. The experience of management and staff is the source of this knowledge.

There was also strong agreement to the importance of these internal factors.

Question 4 (and its sub-questions) addressed the importance of understanding the user needs. The answers pointed out that management has carried out a questionnaire to define the user needs and a '*post-implementation of online services*' questionnaire to understand the opinion of users regarding the new online services. However, the details or results of these questionnaires/surveys were not provided by DP to the researcher.

Questions 5 and 6 addressed the transformation from a bureaucratic to a professional culture through the introduction of Dubai's e-Government initiative. The results indicated that sufficient steps have been taken for such transformation; BPR and the new initiative (to be implemented soon to apply TQM principles) are mentioned as primary steps.

Question 7 inquired about the steps taken to understand the needs of users before the implementation. The responses stated that the statistics of existing services were used to decide and prioritise the services that were chosen for implementation through the portal. The answers also stressed the need to continuously develop services in order to achieve customer satisfaction.

The respondents did not satisfactorily answer question 8, which was about the steps taken to reduce the risks associated with such projects. This might be explained as a lack of experience in project management.

Question 9 addressed the criteria used for evaluation of Dubai e-Government. The respondents did not provide clear answers, beside the statement which indicated a high level of use of online services was the "Major Criteria".

Question 10 addressed the factors that contribute to the formation of a successful e-Government team. The answers provided the researcher with some of these factors as follows:

- The need for an effective leader of the team.
- The leader should have exceptional abilities and technical knowledge besides knowledge of existing services and the way they are routinely performed.
- The leader should be receptive to customer feedback
- High technical and managerial skills and experience for the team members and ability to interact with user feedback.

Question 11 inquired about the steps taken to in order to maintain coordination with other government departments. The answers pointed out to the existence of a central command and control room that tie up all government departments. Also the answers stressed out the use of integrated financial and HRM systems in improving coordination.

Question 12 addressed the level of cooperation with Non Government organizations (NGO's). The answers pointed out that there is a strong government awareness program with the help of local NGO's.

Question 13 inquires about the nature of the training programs. The responses indicated that the training of employees was on the use and provision of online services to the public. They also identified that 1700 employees were trained for such purpose in 2003.

Question 14 concentrated on the quality of training courses for the employees of Dubai's government. The responses rank the programs as good.

Question 15 inquired about the obstacles facing the implementation of e-Government. No specific ones were mentioned in the responses.

Question 16 asked the respondents to state the CSFs for the successful implementation of e-Government initiatives. The answers were as following:

- Plan prudently, act fast and decisive: This has to do with the culture which has not been stated clearly as a CSF, but that can be derived from the analysis. Speed of execution is a sign of a performance culture that we think has to do with the decisive nature of leadership and its commitment to successfully implement DEI. At the helm of this leadership is Sheikh Maktoom.
- Utilise technology as a key enabler: This CSF should not have been missed in the proposed model as this is one of the basic tenants of re-engineering of services.
- Pursue strategic synergies for technologies
- Build momentum through early wins

Question 17 asks whether Dubai's e-Government Initiative (DEI) has achieved its vision and objectives. The responses agreed that the DEI was successfully implemented. One good explanation for the answer is that the first online services were implemented before the deadline.

The final question was on whether Dubai's e-Government initiative has helped serve the citizen and expatriate and if it has become one of the pillars of social justice between the citizens and expatriates. The answer was also yes.The provision of online services has helped many of citizens and expatriates to inquire about or perform some services online.

6.5 Critical Success Factors

As discussed in the literature review, a set of Critical Success Factors (CSFs) which have played an indispensable role in the successful implementation of this project and e-Government initiatives have been identified. These CSFs were organised into a set of internal, implementation and external factors as shown in Table 6.3

Internal Factors	Implementation Factors	External Factors
Commitment and Leadership	User-centred approach (attention to user opinion, access, choice, engagement and privacy)	Satisfaction for (Citizen, Business, Inter-agency, Civil group)
Vision and strategy	Consultants	
Finance	e-Government Teams	
Reform	Inter-agency collaboration	
Cultural Transformation	IT infrastructure	
Human Resources	Measurement of e-Government	

Table 6.3: A Summary of Critical Success Factors

6.5.1 Discussion of Critical Success Factors

After selecting CSFs from the literature review, an investigation of the implementation of these factors was carried out in this organisation. A series of interviews with the leader, the chief of DP, top management and the e-Government team was conducted in order to investigate the progress of the e-Government project and gain insight into the factors that are behind the success of it. The results of the interviews and survey are included in the following section.

6.5.1.1 Internal factors

Leadership, Commitment, vision and strategy

The results of the interviews and questionnaire have shown that leadership is the most important CSF in the successful implementation of e-Government services at the DP. The ruler Sheikh Mohammad Al-Maktoom is the leader of Dubai's e-Government initiative. The Sheikh has provided the vision and the dedication needed to successfully implement e-Government services. The vision of Sheikh Al-Maktoom is to lead Dubai into becoming a global economic

and information hub. Sheikh stated:

"*The re-invention of government has to happen if we want Dubai to become a leading business hub in the new economy*"

The value of time is evident in the words of Sheikh Al-Maktoom. The deadline set-up for the implementation of DEI was necessary in order to order to transform Dubai into a global centre for trade. Sheikh Al-Maktoom announced a deadline for the completion of the implementation process and meeting this deadline became the focus of the participants. Thus the deadline became one of the important motivation factors that lead to the competition between different departments.

In other words, leadership was behind the establishment of a competitive environment at the Dubai e-Government initiative. Competition among various departments is one of the most important factors in the implementation of online services at the DP according to respondents Also, leadership facilitated a paradigm shift, a disruptive force, an innovative way in doing business in Dubai (as explained in Lee (2001)) and in changing public organisation and reforming the public sector (as explained in Halachmi,(1997).

Cultural Transformation

Dubai has historically relied on servicing the business sector in order to make up for its lack of oil wealth. Attracting business requires the simplification of government bureaucratic services. The DP's services are part of the bureaucratic services to be simplified. The Emirate aims to boost itself as an economic hub currently and in the future. The government pays great attention to business and customer needs. In fact one of the reasons for developing e-services in DP, as the interviews indicated, was to solve the complaints from many private sector organisations about the number of visits to the DP and the length of the procedures.

Human Resources

DP has historically pursued a progressive HR strategy. The main theme of this strategy is to recruit, train and retain the best human resources. Over the past 20 years the DP has succeeded in recruiting many university graduates, and has sought to train them and promote them to gradually replace traditional managers. Many of the current DP managers are university graduates and have been personally promoted by Sheikh AL-Maktoom. The training of DP staff paid-off with the implementation of e-services at the DP. A comprehensive training program accompanied the implementation process. Computer centres were set up in DP stations during 2002, to train staff and upgrade performance. Similar IT centres or labs have been set up at the DP Academy, DP Officers' Club, the ports Police Station and at several stations. The goal was to train 90% of police employees to make them work online within three years. The training is part of Sheikh Al-Maktoom's IT education/training project.

Reform

Management processes have been strengthened and reformed by the implementation of e-services at the DP. The re-engineering of the three main services at the traffic department (namely issuance and renewal of driving license and vehicle permit and payment of fines online), have transformed the management processes in the traffic department. The traditional processes that involved personal relationship and connections were replaced by an access-for-all policy. Modern managerial functions such as planning, organisation and control became more important by the implementation of e-services.

The manual and paper intensive management processes involving a lot of signatures and checking, were replaced by services which are online, paper free, low cost, and which have quick execution time. One primary example is "*pay your fine in 30 seconds*" service, which is currently available at the traffic department web site. Thus introducing e-Government services of the highest level has helped DP become a leader in the application of technology in government, as well as in the change or transformation of culture.

The reform was evident from the BPR of main work processes through the transformation from traditional channels to an Internet delivery channel, which recreated the main three work processes/activities of the DP, i.e. driving license, vehicle registration and traffic violations. In addition, the saving of costs of the provision of these services on the Internet was passed on to the users in the form of a reduction of fees by 50% by the DP when using the Internet instead of visiting the DP premises.

Finance

The e-Government project in DP was financed by the government Dubai as will as generated from other activities such as traffic valuation, license fees, etc . This made DP well placed to fund the various activities of e-Government.

6.5.1.2 Implementation Factors:

Measurement of e-Government implementation

DP conducted a feasibility study in order to measure the savings and benefits from the implementation of Dubai e-Government initiative in general. When the results of this study is projected on DP, the cost of a transaction for an individual was equivalent to 380.8 Dh (Dirham) as shown in Table 6.4., while the cost for a company was much higher and reached Dh.6,470

Item	Dh. Cost
Transportation	60
Application	30
Daily Rate	290.8
Total cost	380.8

Table 6.4. Total Cost of a Transaction for an individual

DP has not formally conducted an evaluation of the implementation process. There is no evaluation system to measure the process of implementing e-Government services, nor is there a post implementation evaluation. In explaining its 'during implementation' and 'post-implementation' evaluation method, the DP management stressed that it used a method called 'direct' method of evaluation. The DP relies on the assumption that the increase in the number of users means a more satisfied user. The increase in the numbers can

be an indication in the early stages of deployment of e-services, but it is not an indicator of future growth.

User-centered Approach:

One of more popular slogans at DP for e-Government is "*You go to them and we come to you*" which means while the customer has to go to other public departments in order to complete a service, DP reaches him to provide its services online at home, in shopping centres or at work. Such a philosophy can be supported by many delivery channels that are used by DP (to provide its services to the public) such as:

- Kiosks machines
- The Internet
- IVR
- Auto Dealers
- Opticians
- DP premises

To support improving quality an academic program on quality was set-up quality was started under the sponsorship of DP in order to graduate staff with sufficient knowledge of service. Also, a direct e-mail service where complaints can be directly e-mailed to the managers in charge was started in order to enable DP to take actions promptly. Another approach was to use PR campaigns to encourage customer participations like the campaign entitled "*No to locked doors*"

On a social level, DP has implemented a lot of quality measures in order to fulfil its campaign "*the individual comes first*". The role of the DP is not to punish people but to service them socially by encouraging e-learning, as they did when establishing an academic faculty for quality, thereby reducing the cost of e-learning and sponsoring e-learning for inmates at the Dubai central prison with the support of Microsoft. In this way DP played a preventive role in fighting crime and defeating digital illiteracy.

Consultants

Instead of depending on a major consultant, DP relied on its internal in-house IT consultants. The e-Government team went on a world tour to benchmark the best e-Government practices in the world in order to benefit from them, by determining and using what is most appropriate for Dubai.

e-Government Team

The DP team can not be described as a high performance team for many reasons such as:

- Lack of qualifications of its members as they don't have any knowledge of the provision of e-services.
- The team lacks the authority to change existing systems or implement new ones. The authority lies with the General Department of Electronic Services in Dubai Police (GDESDP).
- The team did not use any consultant to carry out the introduction of e-services in the DP. This might be considered as a weakness since consultants bring vital experience to public organizations.

However, the executive team of DEI can be viewed as a high performance team since it has the leader of DEG Sheikh Al-Maktoom as its head along with the heads of the Electronic Services departments at each of Dubai's general departments. The members are made up of a group of highly educated employees. However, what distinguishes it is the direct and effective relationship between the group and the head of the DP. There is also an effective relationship between the DP team and the Dubai government team. This dual relationship has worked in favour of the team and can be described as a relationship between inter-agencies.

IT infrastructure

The IT department in the DP is responsible for software, hardware. The department includes many software/hardware engineers and technicians, who support the IT infrastructure. All bureaucratic red tape were eliminated and the required hardware and software to build a proper IT infrastructure were purchased.

Inter-agency collaboration

Collaboration and integration with other departments within Dubai and with other Police departments in the rest of the UAE was a very important issue for the DP. After implementing some of the steps in the integration project, the DP is now able to link with other departments in Dubai. Any previous outstanding fees with other departments must be paid before a requested service online can be provided. From the users' as well as the DP perspective, a unified portal can be the solution for an integrated set of e-Government services. The benefits of such a portal according to Management were

- Ease of use:
  - Single point of contact.
  - Standard look to all services making it easier to use.
- Common look and feel to all government web sites:
  - Cheaper and easier to manage and run from one central point.
  - Better experience for all users.
- Improved user security:
  - One user ID & password for all sites.
- Improved contents
- Enhanced e-Services
- Economies of scale:
  - Cheaper to run from one central point.
  - Cost is reduced as software and hardware can be bought in bulk.
  - Smaller departments will be able to utilize its functionality such as e-payment and security, whereas before it was too expensive.

Although it is possible to quantify some of these benefits, it is not known if any or all benefits were actually quantified.

Apart from the feasibility study, there is no evidence to support the claim of effective measurement of e-Government implementation. Although according to management another CSF should be to explicitly set and track financial targets, which implies a monitoring mechanism of one sort of another. This is another point that needs further investigation.

6.5.1.3 External Factors

Satisfaction for (Citizen - Business - inter-agency - Civil group)

The implementation of e-services by the DP in the public and private sectors and inter-agency implementation created a huge demand on those e-services such as vehicle renewal and issuing traffic violation payment.

6.6 Conclusion

DP has been one of the most apparent examples of implementation of e-Government services in Dubai. The department has been heavily involved in the development of online services to meet its customer demands for better and faster services and to reduce complaints of slow services. The history of e-services can be traced back to before the beginning of the Dubai e-Government Initiative. This has given the DP more experience than many other public departments in the Gulf. The findings from the survey and the interviews with management and the technical staff confirm the CSFs identified from the literature. The results also highlighted the need for a leadership that should have exceptional abilities and is receptive to customer feedback. The survey also stressed that for the e-Government team needs to have high technical and managerial skills.

Chapter 7

Case Study 2

(Dubai Municipality)

7.1 Introduction

The previous chapter have introduced DP and highlighted the efforts that have been exerted to introduce e-Government services, and the CSFs that support the success of the e-Government initiative in the department. The subject of the second case study is DM . The orgnization was chosen because it is the largest government organisation in Dubai in terms of the number of employees and the number of services provided to the residents, and due to its importance in the development of Dubai. The chapter discusses DM's e-Government initiative and analyses the CSFs that are critical to the success of this initiative.

7.2 Background

The effort to introduce e-Government services in DM initiated in July 2000 when the management decided to invite a consultant to formulate DM's e-Government vision and implementation plan. The partnership between management and consultant provided the foundation for DM's future e-Government initiatives. e-Government vision and implementation plan first identified the need for introduce e-Government Services at DM.

The future e-Government vision was defined as:

"*Using e-Government solutions as a primary delivery channel to provide a single, easy, integrated, and reliable means of access to municipal information and services in order to continually improve the quality of services provided for the residents, businesses and partners, reduce internal operations overhead, enhance revenues and promote Dubai's vision as a commercial and tourism hub in the gulf region*".

The vision statement clearly defined the key themes of DM future e-Government directions:

- The vision is focused on 4 key operational elements: Customers, Electronic Delivery Channels, Services and Performance measurements.
- The vision advises a single point of access for all municipal services and information through e-Government.

- The vision indicated the need for integrating e-Government with other delivery channels.
- The vision defined and pursued specific clear business benefits to DM, customers and the Emirate of Dubai

7.3 Municipal Services

The DM's services could be classified into 3 key categories, depending on the type of interaction with the customer:

- Informational Services: includes services that solely provide information to customers and does not involve processing of any transactions or documents, e.g. informing about the bus routes.
- Transactional Services: includes services where customers require specific actions to be taken by DM, i.e. waste collection.
- Foundation Services: includes support services that are critical for effective customer relationship management and are common across all departments. These services include Service Directory, Complaints Filling, Performance Evaluation and Follow-up and Tracking. Foundation services represent the basic minimum customer requirements for each transactional service.

The e-Government consultant was hired to identify those services that would adopt an e-Government approach. After a value analysis that was conducted to decide the high value services, it was found that 245 of DM's services were high value services. The consultant conducted an 'Implementation Priority' analysis with senior management. Based on the experience of the consultant and the analysis it was decided that, the high value services would be implemented in 3 phases (waves):

Phase 1 '*raise visibility*': this wave of services aimed to raise the visibility and image of DM as an e-Government organisation. Services implemented during this period had a wide customer base and require simple delivery operations (Table 7.1).

Department Name	High Value Service Name
Foundation Services	Directory of all DM services
Public Relations	Produce and publish news clips
Damage & Irrigation	Control and authorize construction work (NOC)
Environment	Hazardous waste management

Table 7.1: Implemented Services in Phase 1

Phase 2 '*Build customer relationship management*': this wave aimed to establish the basic customer relationship management (CRM) functions required for effective e-Government initiative. The wave focused on foundation services required for effective CRM. Services implemented in this wave have the benefit of high visibility and relatively complex delivery operations (Table 7.2).

General Projects	Prepare, design print and sell historical places related publications
Personal	Recruitment services
Public Health	Issue Health certificates
Public relations	Manage complaints and suggestions

Table 7.2: Implemented Services in Phase 2

Phase 3 '*Sustain value*': this wave aimed to sustain the value delivered to DM and its customers through implementing critical transactional services. Services implemented in this wave had low customer visibility (Table 7.3.).

Department Name	High Value Service Name
Building and Housing	Control and certify building contractors and consultants.
Building and Housing	Review building and demolition designs
Administrative Affairs	Technical Library services
Finance	Control and manage selling of lands owned by the government.

Table 7.3: Implemented Services in Phase 3

7.3.1 Analysis of Service Implementation Priorities:

After a value analyses was conducted, DM's management and the consultant decided to use a structured approach to prioritise its municipal services. The approach was broken down into 5 steps in order to simplify the process and make it more manageable.

Step 1. Review DM's Business plan: involved reviewing the 5-year business plan developed by the DM senior management to understand the key business objectives and growth targets of the municipality.

Step 2. Identify the high value services which need to be e-Government – enabled: involved identifying those Municipal services that once made e-Government enabled, would deliver the maximum value (benefits) to DM and its customers.

Step 3. Collect information & statistics about the various Municipal services: involved collecting operational statistics and information about each Municipal service in order to assist in the prioritisation process. Such information included transaction volume, customer type, and service type number of DM departments involved in delivering the services.

Step 4. Prioritise the implementation of high value services: involved defining, when to implement each of the high value services that are identified earlier. A structured analysis method is used, based on services visibility and complexity.

Step 5. Validate and rationalise the results: involved deploying DM project management team's experience and knowledge (of DM's customers and operations) to further verify the results of the analysis.

7.3.2 Identifying the High Value services which need to be transformed into e-services

Several Municipal services were reviewed to identify (High Value) services which once made e-Government enabled, would deliver the maximum value to

DM and its customers. A 'service value' questionnaire was designed by the e-Government team (made up of DM's employees from different departments) and later used by department directors to evaluate different services. The questionnaire explored how e-Government can add value to DM and its customers through a number of measures. These *quantitative measures* are categorised into two key groups:

DM value measures explored the e-Government impact on the following:

- Enhancing existing revenues.
- Setting up new revenue streams.
- Reducing cost of processing transactions.
- Delivering intangible benefits, i.e. boosting DM image as a leading governmental organisation.

Customer value measures explored the e-Government impact on the following:

- Minimising the number of customer visits to DM premises.
- Reducing the time required to request the services.
- Reducing the time required to deliver a service.
- Reducing the fees and charges associated with the service.
- Reducing the time spent by the customer to follow-up and track the progress of the requested services.
- Reducing the time spent by the customer to file complaints, comments and suggestions.

Based on the results of the questionnaire, services were classified into 4 major categories as shown below:

Group 1. High DM Value, High Customer Value: this group represents the high value services, which should be delivered as e-services first. These services are expected to deliver key benefits to DM in terms of increased revenues or cost reductions. Also, the services are expected to deliver key benefits to DM's customers in terms of accessing Municipal services quickly, conveniently and effectively. For example, establishing a 'Service Directory'

over the Internet which describes, various DM services, their target customers and their key requirements, can be considered as a high value service. This service would minimise the customer service operational overhead across all departments (by providing answers to customers' most frequently asked questions on-line). Furthermore, the service would make it easier and more efficient for the customer to inquire about the different services and their associated transaction requirements.

Group 2. High DM Value, Low Customer Value: this group represents the significant focus of governmental organisations aspiring to being self-financing or profitable. The services are expected to deliver key benefits to DM in terms of increased revenues or cost reductions. However, the services once made e-services, will not necessarily deliver significant benefits to the customers. For example, the implementation of electronic procurement will enable DM to communicate with the suppliers electronically, to acquire products quickly and and better the process. This will reduce overall operational expense of the purchasing function within DM, however, the implementation of this advanced purchasing model will not deliver immediate, direct and tangible benefits to DM's customers.

Group 3. Low DM Value, High Customer Value: this group represents the significant focus of non-profit governmental organisations, focusing exclusively on customer services. The services are expected to deliver key benefits to DM customers in terms of accessing municipal services quickly, conveniently and efficiently. However, transforming the services into e-services will not deliver key and tangible benefits to DM in terms of increased revenues or decreased operational overhead. For example, filing complaints electronically over the Internet will deliver key benefits to the customer but will deliver little financial value to DM.

Group 4. Low DM Value, Low Customer Value: this group of services provides little benefit and few advantages to DM and its customers. For example, the use of e-services in prosecuting suppliers or customers on behalf of DM (and its customers) in case of the violation of contracts or various permits

(be it building permits or worker health process) by suppliers. The use of e-services in this area is very limited.

7.3.3 Prioritising the Implementation of High Value Services

After identifying the High Value services which need to be transformed into e-services, the next step is deciding -when to implement each of the high value services- that are identified. The implementation priority for each of the high value services was defined based on the analysis of the following attributes:

Service visibility: described how significantly and extensively customers could potentially feel and experience the benefits achieved from transforming the service into e-service. Services with a high volume of transactions and large customer base would be more visible to DM customers than other services with limited customer base. For example, the public health services provided to the residents of Dubai are more visible than housing services, which are provided exclusively for UAE nationals.

Service complexity: described how easily the service can be transformed into an e-service. This depends on a number of factors such as the existing degree of automation, number of DM departments involved, number of external parties involved and the number customer documents processed. For example, the issuing of 'No Objection' certificates is more difficult to transform into an e-service than issuing of 'Public Health' certificates due to the large number of customer documents and DM departments involved in delivering the service.

From the analyse *of the consultant,* the high value services can be grouped into four major categories which indicate the possible outcomes from combining visibility and complexity :

1. ***Group 1. High Visibility, Low Complexity:*** this group of high value services should be implemented first. The services can be transformed easily into E-services delivering highly visible benefits to DM Customers.

2. **Group 2. High Visibility, High Complexity:** this group of high value services can be implemented second.

3. **Group 3. Low Visibility, Low Complexity**: These services are relatively easy to implement and deliver benefits that are not very visible to DM customers. This group of services can be implemented second, if DM is low on the human and/or financial resources required to support the implementation process

4. **Group 4 Low Visibility, High Complexity:** this group of services should be implemented last. The services are relatively difficult to implement and deliver benefits that are not very visible to DM customers.

7.3.4 Success in implementing e-Government Services

It is fair to claim that DM has been successful at implementing e-services. The DM was successful in implementing the 1st and 2nd wave, which was launched in 2001-2003 period. DM has been successful in transforming its vision into delivering high value e-Government services. By the end of 2003, the DM had launched 304 e-Government services (54 transactional and 250 informational). The number of e-Government services launched by DM constituted 34% of all Internet services in Dubai by the end of 2003. DM launched the largest number of Internet services (304), compared to any other general department in Dubai. The Dubai Police who were second in terms of the number of services (152) only managed to launch half the number of services (Table 7.4). DM is continuing in its drive to launch the 3rd wave of services.

Government Departments	No. Service	Services Type	
		Transactional Services	Information Services
Alawqaf Department	12	5	7
Department of Civil Aviation	7	4	3
Department of Civil Defense	12	4	8
Department of Economic Development	10	10	0
Development of Health and Medical Services	27	8	19
Dubai Airport and Free Zone Authority	124	118	6
Dubai Chamber of Commerce & Industry	12	5	7
Dubai Development Board	11	5	6
Dubai e-Government	30	12	18
Dubai electricity and Water Authority	19	7	12
Dubai Information Department	8	0	8
Dubai Municipality	304	54	250
Dubai Naturalization and Residence Department	30	4	26
Department of Tourism & Commerce Marketing	10	4	6
Dubai Police	152	45	107
Department of Justice	33	27	6
Dubai Transport	8	0	8
Park Customs and Free Zone Corporation	44	34	10
Land Department	24	6	18
Real Estate Department	17	17	0
Total	**894**	**369**	**525**

Table 7.4. Internet Services launched by departments in 2003

7.4 Discussion of Critical Success Factors

The following provides a discussion of the 13 CSFs from the literature review in terms of their application in the e-Government project in DM. These CSFs were organised into a set of internal, implementation and external factors as follows:

Internal Factors

- Commitment and Leadership
- Vision and Strategy
- Reform
- Finance
- Culture
- Human Resource.

Implementation Factors

- User Centered approach (attention to user opinion, access, Choice, engagement and privacy),
- e-Government Teams,
- Inter-agency collaboration
- Measurement of e-Government
- IT infrastructure
- Consultants

External Factors

- Satisfaction for (Citizen - Business - Civil group)

As a result of the case study, it was decided that consultant would be included as another critical success factor beside the other 12 that were derived from the literature review. The reason for the inclusion is the important role of the consultant in the planning and implementation of e-Government services in the DM. The following presents a discussion of the 13 CSFs observed in the DM.

7.4.1 Internal Factors

Commitment and Leadership

The DM's chairman and senior management provided commitment and support during the planning analysis and implementation phases. The reason for the commitment was the deadline set up by Sheikh Al-Maktoom to introduce e-services before October 2001. As a result, the chairman continuously provided support for the initiative which lead to the introduction of some e-services before the deadline. The chairman was one of the public organisation leaders who was retained by Sheikh Al-Maktoom.

Strategy and Vision

The vision of the DM was to ensure that highly visible and well-recognised benefits are delivered to the residents and to the business community in Dubai. The DM's vision was discussed and agreed upon by the e-Government team

and senior and middle management. The DM management gave its support to conveying of the DM's e-Government vision to their staff and implementation partners. In order to implement e-Government services, the DM's vision was translated into 4 elements:

1. Customers
2. Services
3. Channels
4. Performance Measurements

Each of these elements was defined by the consultant and an analysis was carried out in order to reach accurate results that were used to implement e-Government services along these 4 elements.

Financing

A separate budget for the e-Government initiative was allocated by the office of the ruler of Dubai for all e-Government projects (including the DM). The availability of resources meant that the fees for the consultants, training and IT infrastructure were available, which in turn helped to facilitate the implementation of e-services.

Cultural Transformation

The e-Government project at the DM was instrumental in the transformation of the organisation from a public bureaucracy to a customer focused business framework. Four operational elements were the building blocks for the framework. As explained above, one of these elements was the customer and the other 3 were services, delivery channels and performance measures, which all have the customer benefits and expectations at their core.

Other CSFs were also important in the transformation of the organisational culture. HR and the establishment of an e-Government team were among them.

Human Rescores

The implementation of e-Government services in the DM involved the use of a well educated and trained personal. The DM used the Internet to recruit new talent by launching 'recruiting services' as part of the 1st phase. Also, the consultant provided in-house training for the e-Government team at the DM and other employees. Another important contribution of the consultant was providing

the 'hands on' experience to all DM employees who were involved in the e-Government project.

Reform

The translation of DM's future vision into operational elements required a reform in the values of the organization. The e-Government project meant that. new values were to be adopted . These values are:

- Commitment to change and continuous improvement.
- Build partnerships with stake holders and meet their expectations.
- Do the right things right.
- Strong employee and honest employee.
- Pioneer initiatives and reward them.

Such values supported the implementation of other CSF's such as changing organizational culture, Human resources, e-Government team and interagency collaboration.

7.4.2 Implementation Factors

Measurement of e-Government Implementation

DM implemented 3 types of performance measures to manage the implementation of e-Government and ensure the realization of tangible business benefits:

- *Progress tracking Measures:* involved establishing a set of quantitative indicators to measure the progress delivered in implementing e-Government. These measures assessed the progress achieved in transforming DM operations into e-Government.

- *DM Value Measures:* involved establishing a set of quantitative indicators to measure the benefits gained by DM through using e-Government. These measures aimed at assessing the advantages and benefits gained by DM through using e-services.

- *Customer Value Measures:* involved establishing a set of quantitative indicators to measure the benefits gained by DM's customers through using e-Government. These measures aimed at assessing the advantages and benefits gained by DM's customers through using e-services.

These 3 types of performance measures mentioned above were all used during the project. The Progress tracking measures helped guide the DM through the various stages of planning and implementation.

Consultant

The consultant in the case of the DM has played a significant role in the successful implementation of e-Government services. The consultant was able to, build a strong partnership with senior management in the DM and develop a strong e-Government team. The team was able to successfully plan and implement most of what has been planned (or proposed). When a problem was identified, it was solved through analysis of the key operational elements of the problem and the results were used to remedy the problem.

User-Centered Approach

User-Centred Approach should focus on DM's customers' interests and requirements. Being a non profit, service centric organisation, DM aspired to use E-Government to deliver high value and key benefits to its customer base (i.e. Residents and Business Community of Dubai). Customers were considered as one of the 4 key elements of DM's vision. Therefore, customers were a very important focus in the e-Government strategy. Transforming this importance into better services was enabled first by classifying customers into 3 segments based on the relationship they have with the DM as:

- Residents.
- Businesses operating in Dubai.
- Business partners (suppliers).

Clear customer requirements were then identified and pursued in the implementation of e-Government services. These customer requirements were:

- Easy access: which required a single and reliable access corridor through e-Government to all Municipal information and services. Customers expect e-Government to minimise the time spent on lengthy phone enquiries and repeated visits to various offices of the DM.
- Clear accountability: customers required the DM to establish clear roles and responsibilities for all departments and staff with respect to delivering Municipal services.
- Integrated view of customer relationship: customers required the DM to establish an effective and efficient customer relationship management (CRM) framework. The framework should provide a single integrated view of customers for all departments and services. Customers should no longer be required to submit the same information and documents repeatedly. e-Government services should facilitate communication between the DM departments to expedite transaction processing where multiple departments are involved in providing one service to a customer.
- Effective and efficient payment and purchasing cycles: customers required the DM to use electronic channels to improve its key payment and purchasing processes. Customers should no longer be required to spend considerable time and effort in pursuing purchase orders and payments that are due for supplied goods and services.

e-Government Team

In order to ensure effective implementation of the future e-Government vision, the consultant and management decided to set up an e-Government team with the following responsibilities:

1. Participate in discussing and agreeing on the proposed e-Government vision among Senior and Middle management
2. Communicate the e-Government vision to DM staff and implementation partners
3. Assist the consultant in assessing the impact of implementing the high value services on existing processes, organisation and information systems. For example, the implementation of electronic

payment requires DM to change its existing accounting practices from cash accounting to accrual based accounting

4. Assist the consultant in analysing the operational dependencies that exist between the various services. For example, the implementation of on-line foundation services for complaints filing requires the availability of an on-line service directory
5. Assist the consultant in establishing a high-level implementation plan of the various high value services in view of DM's available resources; and
6. Select the business and technology implementation partners in order to assist in realising the future e-Government vision.

The DM's e-Government team consisted of 10 individuals, including management representatives, IT specialist in the DM and outside consultants. The team consisted of:

- DM Project Sponsor
- DM Project Director
- 2 DM Project Managers
- 2 DM IT Specialists
- 1 Consultant Project Director
- 1 Consultant Project Manager
- 2 Project Consultants

The project team faced some challenges in implementing e-Government services. In order to successfully face theses challenges, the project team identified key internal and external steering guidelines, which it has constantly strived to achieve and later were able to successfully deal with them.

1. Internal Steering Guidelines:

- Comprehensiveness of coverage of e-Government services.
- Clear evaluation of existing DM services and e-Government opportunities.
- Effective involvement of all stakeholders including Assistant Director Generals and Department Directors in the DM.

- Creating customer focus by aspiring to deliver e-Government high value services to the customers.
- Protection of the DM interests through delivering value and benefits to the DM but increasing revenue and reducing overhead cost.

2. External Steering Guidelines:

- Creating synergy with the Dubai e-Government Committee vision and guidelines.

Inter-agency collaboration

The DM faced some difficulties in securing cooperation with other agencies and organisational units in the Dubai e-Government program. For example, during the course of the project the DM e-Government team did not receive any formal guidance or feedback from the Dubai e-Government Committee related to the 'Government of Dubai's' future direction for e-Government. Also, the DM had difficulty in securing information from departments within the DM. The lack of accurate and up-to-date financial data from many municipal services (e.g. annual service revenues and costs) has had a negative impact on the quality of the 'Implementation Prioritisation' analysis. Accordingly, the e-Government team decided to drop the financial analysis of Municipal services.

IT infrastructure

The installation of the hardware and the upgrade of the infrastructure were completed before the launch of each wave of the e-services as shown in the following timeline:

- ***July 2000:***
  - Beginning of e-Government initiative
  - Selected and prioritised services
  - Consultant evaluated infrastructure
  - Consultant defined technical foundation requirements

- ***July – Dec 2001:***
  - Implementation started

- Hardware selected
- Infrastructure installed
- DM launched the following phase1 services:
  - DM portal
  - Noc service
  - Directory of services
  - DCL-EMS test results launched

- ***Feb-March 2002:***
  - The following wave 1 & wave 2 the following services were launched:
    - Publication of news clips service
    - Website: public transformation
    - Health certification
    - User management
    - One stop inspection and fines
    - Website: children city
    - Website: the first international conference on Architectural Theory and Practice
    - Hazardous waste management
    - Recruitment service
    - One stop inspection
    - Site plan

- ***April-Sep 2003:***
  - More of the wave 1 & 2 services were launched
    - Website: gem and precious stone metals lab service
    - Website: customer services
    - Dubai public parks
    - Website: contractors and consultants quantification office
    - Second conference on Documentation & Electronic Archiving.

7.4.3 External Factors

Satisfaction

The Consultant's and DM's experience were essential in defining the requirements of users and were at the heart of the e-Government initiative. The section on User -Centric Approach clearly illustrates the effort and time taken to analyse the services that were important to the customer, be it the citizen or the private sector.

7.5 Conclusions

The proposed framework for the implementation of e-Government recognizes the role of the consultant as very important, in the success of e-Government initiative in the DM. The reason behind the success of the project may be the positive environment that the consultant was working in. A strong emphasis on implementation and achievement is a notable element in the public and private sectors in Dubai. There is a strong leadership behind this positive environment which is determined to achieve a leading role for Dubai economically, both regionally and globally. The positive support for change from the environment and leadership can be considered as a supporting force that tipped the scale in favour of a speedy and successful implementation of e-Government in the case of the DM. It can be argued that the combined effect of the 2 CSFs (leadership and able consultant positively reinforcing each other) and the rest of the CSF's which are combined together ensured the success of the e-Government project. It can be concluded that the role of the consultant can be successful if it is combined with other supporting factors. The role of management then becomes how to align these CSFs together and how to energise them in order to guarantee the success of the implementation process.

Chapter 8

Case Study 3

(Pubic Authority of Agricultural& Fishes)

8.1 Introduction

The previous chapter highlighted the second case study on the Dubai Municipality. This chapter, explains the third and final case study on PAAF (The Public Authority for Agriculture & Fishes) which is one the biggest public sector organisation in Kuwait in terms of users. The role, organization, and services provided by PAAF are described in the chapter. The chapter also highlights the e-Government initiative at PAAF, discusses the important services provided and the CSF's that are important to the successful implementation of e-services

8.2 Background

The Public Authority for Agriculture & Fishes (PAAF) is the public institution responsible for, the making of policies and the provision of services and research in agriculture, animal and fishes in Kuwait.

The PAAF was founded in 1983 and has been operating for more than 20 years. The PAAF, which is equivalent to a Ministry of Agriculture in any other country, also plays an important role on a national security level, by managing the strategic food resources, i.e. fish, agriculture and animal sectors. The growing importance of PAAF is reflected in the growth of the organisation's budget. In 2001-2004 period, its budget grew by 60% and reached US$ 100 Million. Organisationally, the PAAF employs 1500 employees and is comprised of 6 main sectors:

1. Senior Management
2. Financial & Administrative
3. Agricultural Wealth
4. Animal Wealth
5. Fish Wealth
6. Gardening

Sector Name	High Value Service Name
Senior Management	Management for all PAAF services
Agricultural Wealth	Provide all agricultural services to farmers
Financial &Administrative	Provide all the administrative and financial services to PAAF
Animal Wealth	Provide all livestock services to farmers
Fish Wealth	Provide all Fisheries services to Fishermen's
Gardening	Concerned with all gardening in the areas, streets and the state

Table 8.1: PAAF Organisational Structure

8.3 PAAF Services

The PAAF provides its services in the affairs of agriculture, livestock and fish for about 65% of the citizens, such as farmers and breeders and fishermen.

The services provided by PAAF can be divided into two groups: internal and external services. The senior management sector and the -financial and administrative- sector are responsible for providing the internal services, while the remaining four sectors are responsible for the external services which are provided to the public. The internal services are those that are provided mainly to the employees (internal customers) and are mainly human resources services. The external services are those that are provided to the public and range from services provided in the animal wealth sector, to fish wealth sector and to the agriculture wealth sector (Table 8.1.).

8.3.1 External services (Government to Citizens,G2C)

8.3.1.1 Important Services provided by the Agricultural Wealth Sector

The Agricultural Wealth Sector' provides many important services to the public, such as:

1. Expansion of agricultural land plots
2. Relinquishment of agricultural land plots
3. Classification of agricultural land plots
4. Transfer of agricultural land plots
5. Merger of agricultural land plots
6. Drilling of water wells

7. Connecting electricity to agricultural land plots
8. Advising farmers
9. Conducting research and experiments
10. Eliminating disease and harmful insects
11. Conducting experiments to determine best vegetation for Kuwait environments
12. Conducting research in the agricultural policy
13. Granting license to set up poultry projects

The Agricultural Land Plots department, which is part of the Agricultural Wealth sector, provides some of the most important services to the owners of farms in Kuwait. There are currently about 4000 farms in Kuwait. Around 2500 farms are located in the *Wafra* area, 1500 farms are located in the *Abdali* area. Each of the two areas is over a 100 kilometres from the premises of PAAF.

The results of the questionnaire to the public shows that there are three important services(detailed in formation on section 8.4):

1. Expansion of agricultural land plots,
2. Selling of agricultural land plots, and
3. Classification of agricultural land plots

These services represent around 70% of all services provided by the PAAF to the public. The following describes each service and the steps needed to complete it.

Service No. 1. Expansion of Agricultural Land Plots

If a farmer plants 75% of his farm for a period of two years he is awarded (by the state) to receive an increase in the area of his farm. This service involves processes for the expansion of agricultural land plots. The service currently has 26 steps and involves 12 decisions and approvals, and takes 1–3 months to complete.

Service No 2: Selling of Agricultural Land Plots

This service is provided when a plot of land is sold by the owner to another. The service currently has 26 steps and involves 15 decisions and approvals, and takes 1 –3 months to complete. The steps taken to complete this service are very similar to those of the expansion of agricultural land plots service.

Service No 3: Classification of Agricultural Land Plots*:* this service involves the division of a land plot owned by a farmer into smaller plots that do not exceed 5 hectares in Wafra and 10 hectares in Abdili.

8.3.1.2 Improving the services provided

Improving the services was carried out by the Agricultural Wealth Sector and e-Government team. The three service described above had 26 steps and involved 11 decisions and approvals, and took 1 –3 months to complete. The e-Government team after much deliberation and consultation with other management in the PAAF came up with a 5-steps approach to perform the three main services instead of the 26 steps taken

Current Steps	New steps
1. Farmer submits a request to the PAAFHead Office along with documents. (farming contract PAAF membership card ,National ID card) 2. The request is forwarded to the Chairman of PAAFwho in turn passes it to the appropriate *Abdili* or *Wafra* centres. 3. The request is forwarded to the Head of the Agricultural Sector. 4. The request is forwarded to PAAF Centre.The head of the centre passes the request to the department head, who in turn passes it to the working officer, who in turn hands it to the survivor. 5. Request is forwarded to Technical Section Because of the back log of requests, farmers wait up to two weeks for the surveyor to visit his farm. 6. Request is forwarded to Head of Coordination	***Step One:*** The Farmers fills out an application at the *Abdali* or *Wafra* centres and provides the necessary documents (farming contract, PAAF membership card, National ID card) (1 days). ***Step Two:*** All information input to the PAAF computer and the application is sent to the Agricultural Engineer to ensure that 75% of land is farmed. The application is also passed to the survior to ensure that no violations such as expanding into bordering public land are committed by the farmer (1 day). ***Step Three:*** The engineer and servitor complete their tasks and enter results in the system , which in turn is sent to the head office premises (3 days). ***Step Four:*** The main committee which meets once every two weeks approves the request. (1-2 weeks). ***Step Five:*** The approval is sent to other government

7. Request is Forwarded to head of Organization & Technical Drawing 8. Request is forwarded to Head of Coordination 9. Request is forwarded to Manager of Land Plots Department 10. Request is forwarded to Head of Agricultural Department 11. Request is forwarded to Chairman of PAAF 12. Request is forwarded to Head of Coordination 13. Request is forwarded to the Committee 14. Request is forwarded to Head of Coordination 15. Request is Forwarded to head of Organization & Technical Drawing 16. Request is forwarded to Head of Agricultural Sector 17. Request is forwarded to Chairman of PAAF 18. Approval is sent to Municipality 19. Approval is registered in the General ledger of PAAF 20. Approval is forwarded to Chairman of PAAF 21. Request is forwarded to Head of Agricultural Land Plots. 22. Approval is Forwarded to Head of Technical Services 23. Request is Forwarded to head of Organization & Technical Drawing 24. Approval is Forwarded to Head of Technical Services 25. Approval forwarded to Holdings Department 26. Approval forwarded to Public Ownership Department	agencies such as the municipality for approval (3 days).

Table 8.2 Current Steps New steps in the PAAF

On the other hand, the e-Government team has identified problems in the three services and proposed solutions in order to save time and effort to the public by implementing these services on the Internet. Table 8.3 summarizes the problems Actual Problems and Suggested solutions with the services Expansion, Selling of Agricultural Land Plots and Classification of Agricultural Land Plots

Actual Problems	***Suggested solutions***
▪ The service requires 1-3 months for completion. ▪ There is a back log of applications. ▪ There is delay for the Agricultural Engineer. ▪ Committee does not meet regularly. ▪ The committee is made up of a number of managers. ▪ All documents are filled manually which results in the continuous loss of documents. ▪ There are frequent delays in correspondence. ▪ There is frequent loss of documents and files. ▪ Inaccurate data. ▪ Under staffed. ▪ Small work place. ▪ No use of technology to perform task related to the service.	▪ All information of the farm is entered into the computer during the farmers' first visit. ▪ An email is sent to the engineer all information of farm. ▪ The response is sent back to the farmer within 3-4 days. ▪ The farmer is notified to the date of the committee meeting. ▪ A print out of the approvals is submitted to the committee. ▪ A letter to the municipality and Government holdings are sent.

Table 8.3 Problems with the three service Expansion, Selling and Classification of Agricultural Land Plots and solutions

8.3.1.3 Other improvements suggested to services provided to the public.

There has been also many other suggestions for improvement of services, such as:

Developing the two service centres in order to improve services:

By developing the *Abdili* and *Wafra* centres into full fledged centres providing all basic services to the Head Office . The Centre in *Wafra* has been newly rebuilt and equipped to provide services to the farmers in that area. Work is now underway to build a new facility for the *Abdili* centre. The e-Government team is keen on providing services to the farmers in the two farming areas 7 days a

week / 24 hours a day. This is a much better solution than the existing situation. The farmer presently has to visit the PAAF Head Office to obtain any service. This is a problem for many farmers who work 5 days a week and spend their time on the farm at the weekend. However, opening these two centres to the public 7 days a week means that the farmer can receive the service close to his farm, even at the weekends.

8.3.2 Modernising Internal Services (Government to Government)(G2G)

8.3.2.1 The Financial & Administrative Sector (FAS)

In general, the Financial and Administrative Sector (FAS) is responsible for the provision of administrative and financial services to all employees of the PAAF. The first stage of the e-Government project involved automating services provided by the financial and administrative sector. The reason for automation of these financial services was to prepare the ground for the next step which is to go online since it is impossible to introduce e-Government services without automating the current administrative and financial services that are performed manually. Administrative and financial information needs to be stored in online databases where they can be retrieved on demand. The automation project was started in the beginning of 2004 and was completed by the end of 2004 by the implementation of the new financial system

Function & Organisation of FAS

Organisationally, the FAS main functions are:

- Planning the yearly budget for PAAF.
- Recording all accounting and financial transactions.
- Payment of all PAAF employees' salary and payroll, and controlling all promotion and bonuses.
- Planning and conducting all tenders and offers according to standard government regulations.
- Preparation of yearly report and all final accounting statements for the government auditing agency (*Diwan almuhasaba*).
- Following up all inquiries from all other government ministries and agencies.

- Conducting all internal auditing activities.
- Provision of all good and services and transportation
- Collection of all farmer payment.
- Dispersing of farming subsides.

Organisationally, the sector is comprised of two departments; Financial Control and Procurement and Warehousing. The following provides a description of the main functions of each department:

Financial Control Department

The Financial Control department is responsible for all financial activities carried out in PAAF such as budgeting, payments, payroll, and collection of revenues and accounting activities. The financial control department comprises the following sections:

- Budget
- Payment
- Payroll
- Revenue
- Accounting

Procurement and Warehousing Department

The Procurement and Warehousing department is responsible for all tender and purchasing activities of PAAF. The department is made up of the following sections:

- Procurement
- Tendering
- Warehouse
- Warehousing Accounting

Relationship between (Financial and Administrative Sector) FAS and Ministry of Finance (MOF)

The financial and administrative sector is closely linked with the ministry of finance (MOF). From one side the FAS is responsible for dispersion of government farming subsidies to all farmers, i.e. at least US 20 cents is paid for every kilo of agricultural product. On the other hand, the FAS is responsible for following up all MOF regulations when conducting any tender or price offering, i.e. the FAS is responsible for payment of all tender and is also responsible for the collection of all revenue which can reach up to US$ 6 million. The revenues

come from fees paid for services provided by the PAAF to the public and range from US$ 30-600 depending on the type of service provided, i.e. typically, a classification of land plot service has a fee of US$ 300.

In particular, MOF provides the following services for PAAF:

- MOF studies all financial problems arising at the PAAF including those associated with the budgeting process .
- MOF provides necessary guidelines (online) for the PAAF to follow while conducting all budgeting activities.
- MOF monitors the preparation of final budgets for PAAF.

The Effect of the New Financial System

Before the introduction of the new financial system all financial activities were carried out manually. All financial records were manually entered into the general ledger and other records of the PAAF. Auditing was rare and many accounting mistakes were made. All payroll and collection of revenue were not audited. The financial results of the year were always unclear as many mistakes were made. This uncertainty resulted in the inability of the PAAF management to carry out any meaningful strategic planning. However, with the introduction of the new financial system (NFS) all previous problems were eliminated. The following Activities can now be carried out online:

- All financial transactions
- All budgeting transactions
- All payroll transactions
- All farming subsidies payments
- All revenue transactions
- All tendering and price offerings

In addition, NFS connects FAS with MOF where all financial activates of FAS are monitored online by the MOF. In short, the benefits from the NFS are as follows:

- Eliminating the visiting of MOF staff to FAS in order to review problems and activities.
- Automation of services provided by FAS.
- Reduction of errors committed by FASS

8.4. Pre-Implementation Survey

The researcher conducted a questionnaire survey of the current services provided by PAAF and the proposed online services at the start of the case study. Sixty five users of PAAF services (farmers and fishermen) answered the questionnaire survey which was made up of 16 questions.

8.4.1Analysis of Survey

Questions from 1-6 were general questions. Questions 7-16 were questions related to the relationship between users and PAAF. The response to the first 2 questions indicated that 89% of the applicants have an access to a PC, which is used for a variety of activities mainly for emailing and web browsing. For those who have no PC, 95% stated an intention of buying one in the coming twelve months - as stated in question four.

Also, the survey revealed that more than 85% of users who visited PAAF did so at least three times and 75% of them have spent more than two hours in each visit in order to receive a service. In these multi visits, the user clearly wasted valuable personal time, exerted considerable effort and suffered financial loss. Reducing the number of visits and time spent to receive services are the most important incentives for redesigning services at PAAF.

When users were asked if they would like PAAF to provide the important services such as expansion, selling and classification of agricultural land plots online, at least 85% of them agreed. The majority are willing to pay some extra fee to perform the PAAF services through the Internet - as mentioned in question twelve.

Question ten discussed the ways to improve and simplify the service by taking important comments from the users, the majority (80%) suggested the following:

1. Services need to provide the ability to pay the required fees or financial obligations using the Internet via e-pay services.
2. PAAF needs to open service centres nearby the agriculture areas, in the north and south of the country, for easy access.

In question eleven the researcher requested from the respondents to prioritise the implementation of those services. The expansion of agricultural land plots was considered as the most important service for users and it is followed by connecting electricity to agricultural land plots. Question 12 asked users if they are you willing to pay a little more to perform PAAF services through the Internet, and 85% answered as yes. In question 13 users were asked whether the services provided through the internet would save money and time, and 95% of users said that e-services would save money and time. In question 14 users were asked if they supported the idea of important information being made available about plants diseases, plantation sessions along with agriculture advice on the PAAF web site - 95% of users answered as yes.

Finally, question 15 asked users if they supported issuing required licensees and registrations for planting, and pay required fees through the PAAF web site, and 95% of users said yes.

8.5 Discussion of Critical Success Factors

The 13 CSFS from the literature review would be discussed in the context of PAAF in order to check their validity and understand how have they they effected the implementation of e-Government intiative at the organization.

Internal Factors

- Commitment and Leadership
- Vision and strategy
- Finance
- Reform
- Cultural
- Human Resource

Implementation Factors

- User-Centered approach (attention to user opinion, access, Choice, engagement and privacy),
- e-Government Teams,
- Inter-agency collaboration

- IT infrastructure.
- measurement of e-Government
- Consultants

External Factors

- Satisfaction for (Citizen - Business - inter-agency - Civil group)

8.5.1 Internal Factors

8.5.1.1Commitment and Leadership

In 2002, under the direction of the Prime Minster of Kuwait, the PAAF decided to develop its on e-Government services initiative to improve the performance of government and to prepare all ministries and public organisations for implementing e-Government services. The fist step in the implementation was to automate all internal services and then provide external services through a PAAF e-Government portal. The Chairman of the Board of PAAF directed senior management to modernise all current activities of the PAAF by developing an infrastructure for an e-Government portal in order to deliver e-Government services. In March 2003, the Chairman ordered the formation of a consultative team, which later had 6 members. The team members were chosen internally and externally.

8.5.1.2 Vision and strategy

A new vision and strategy was developed by the Chairman and board members. The vision was to allow all farmers to complete their services online instead of visiting the PAAF in order to enable them to save time, effort and eliminate all the suffering they were currently having to go through several steps. The implementation plan for the vision was centered on the re-engineering of existing services. According to the plan, all unnecessary steps would be eliminated and only the ones that add value would be kept in service. The elimination of unnecessary steps reduced the time required to conduct all the services.

8.5.1.3 Finance

The budget for the e-Government initiative was provided by the Ministry of Finance. The budget was insufficient to cover the costs of rebuilding the IT infrastructure and the expenses of the e-Government projects. However, the support and commitment of the Chairman resulted in increasing the budget for the e-Government initiative in order to cover all costs and expenses.

8.5.1.4 Reform

The reform of the PAAF took many dimensions. First one was the use of new technologies instead of outdated manual work and the retraining of the human resources for that purpose. Other dimensions included the re-engineering of all procedures related to services, reducing procedures (in some cases from 26 steps that took 3 months to complete to 5 steps that took 10 days to complete). Also, reform resulted in increasing collaboration between the PAAF and other government departments such as Ministry of Finance (MOF). Finally, the reform emphasized the important role of the customer and this resulted in the setting up of new branches for customers in remote areas.

8.5.1.5 Cultural Transformation

The new technology introduced, Intranet and internal e-mail in particular, slowly started the transformation of the traditional bureaucratic culture into a more responsive one. The culture of the employees changed after the introduction of online communications in PAAF due to the increase in inter-departmental communications and the decease of paper work

8.5.1.6 Human Resource

From the onset of the e-Government initiative, the PAAF decided to train all staff to deal with IT and electronic service delivery in order to make 90% of its employees computer literate. All employees including managers had to attend these training programs, and 90% of all employees received the ECDL certificate. Other training courses were also conducted which included customer service training for staff dealing with the customers in the different locations of PAAF. The PAAF also sent some of their staff abroad to complete their higher

studies in order to specailze in IT/IS and in other fields such as vetenary and agricultural areas.

8.5.2 Implementation Factors

8.5.2.1 User-Centred Approach

There are many examples of the PAAF's attempt to improve the services provided to users. One of them was the improvement of services in the Agricultural Wealth Sector by the e-Government team, after much deliberation and consultation with other management in PAAF, a 5-step approach was taken to perform the three main services, instead of the traditional approach where 26 steps were taken.

There are also other benefits such as the cost of services. The minimum time spent for visits to complete a service was 2 days. This included 4 visits to PAAF premises and one of the two farming areas (Abdali or Wafra). The cost of one day for the customer was US$ 61. The total cost of a service performed was US$ 122. After the implementation of the e-service the user now can perform the services in the office or at home without any expenses, Table 8.4 .

Cost for a one day for the customer	
GNP per capita	US$ 14,360
Average working days in a year	239 days
Cost of a day's work	US$ 61

Table 8.4: Cost of a day's work for a customer visiting PAAF

8.5.2.2 e-Government Team

The Chairman formed an e-Government team included the following members:

- Team Leader (PAAF Board Member).
- Administrative and Financial Consultant.
- Legal Advisor.
- IS Department Manager.
- Business Development Manager.
- IT Consultant.

The duties of the team were to:

- Monitor the implementation of e-Government services.
- Automate and re-engineer the PAAF services that would be ready for the transfer of current services to e-Government services.

The e-Government team played a great part in improving the services provided. The team's leader was able to use his extensive experience as the head of the Agricultural Cooperative Sector in order to motivate the management and the staff to participate in the project. As the head of the e-Government team, he held meetings with department heads in order to improve services provided to the farmers. As a result, many suggestions were made.

The team worked jointly with departments within the PAAF and the consultant in order to re-engineer services by reducing the number of processes for each service and the number of approvals to a minimum, thereby reducing the time to complete each service. The team aimed to provide very important services online by the end of 2005 and to reduce the time taken to complete these services from a few months down to a few weeks.

8.5.2.3 Measurement of e-Government Implementation

A pre-implementation survey was conducted to measure user opinion about current services and new online services, and the difficulties associated with the proposed ones. The results of the survey clearly suggested the need for vast improvement of services and were very motivational for implementing e-services at the PAAF. As a result of the implementation of e-services the use of the Intranet by staff has increased significantly. Statistics have also shown that the number of user visits to offices was reduced after the implementation of online services, and the number of online users has been growing ever since.

8.5.2.4 Consultants

The PAAF used its 2 staff from the IT Department as consultants to the e-Government team.. The experience of these consultants provided valuable support for the re-engineering process and also assisted in assessing all suppliers offers and in negotiating hardware and software prices, i.e. saving the

PAAF valuable money and time in choosing the most suitable IT solutions for its online services. All these contributions made the PAAF's consultants indispensable for the IT initiative.

8.5.2.5 IT infrastructure

In order to upgrade the IT infrastructure, the IT department installed a new x25 network for the PAAF. The new network linked its remote centres together for the first time and allowed them to initiate the Intranet services. Also, the new network allowed a better link with other governmental departments. Another step in the upgrading of IT infrastructure was the launching of a PAAF portal which brought the organisation online for the first time. The new network and portal are examples of the upgrading of the IT infrastructure that supported the development of online services at the PAAF.

8.5.3 External Factors

8.5.3.1 Satisfaction

The aim of the chairman and board was to satisfy users (farmers and fishermen) of PAAF services. Statistics showed that, the use of online services have been growing since the introduction. Also the private sector has been increasingly using online services such as tender offerings and procurements.

8.6 Conclusion

The Public Authority for Agriculture & Fishes (PAAF) provides services to a large segment of society. The application of e-Government services has made it easier for the public to deal with PAAF. President and e-Government team of PAAF played a big role in supporting the implementation of e-Government initiative Their role was to identify the important services to the public and reduce steps and time to complete each of them. The online services included both G2G (Government to Government) such as online financial services with MOF and G2C (Government to Citizen) such as expansion, selling and classification of agricultural land plots. The chapter included a discussion of the CSFs relating to PAAF and explained how each CSF contributed to the successful implementation of e-services.

Chapter 9

Proposed Framework

9.1 Introduction

The 3 case studies in Chapters 6, 7 and 8 highlighted the application of e-Government initiatives in 3 public sector organizations in the GCC namely: DP, DM and PAAF. An investigation on the validity of the CSFs related to the successful implementation of e-Government initiatives (identified from the literature review in Chapter 3) was conducted in each of the 3 case studies. The result confirmed the validity of the 12 CSFs identified in Chapter 3. This chapter will present these CSFs in form of a (proposed) framework for the successful implementation of e-Government initiatives.

9.2 Application of CSFs on Case Studies

Sections 6.5, 7.3 and 8.5 have discussed the implementation and importance of the CSFs in 3 organisations. The analysis of the organisations showed that in each organisation, there is a dominant CSF that plays the vital role in the successful implementation of e-Government projects (Table 9.1).

Organisation	*Dominant CSF*	*Dimension*
DM	Consultant	Internal
PAAF	e-Government Team	External
DP	Leadership	Internal

Table 9.1 Dominant CSF in each of the Case Studies

The extent of success depends upon the effect of this dominant CSF on the rest of the CSFs Thus, managers should identify the dominant CSF and provide support for it. The dominant CSF can be different for each organisation i.e. Leadership, Consultant or e-Government team was the dominant CSF as the 3 case studies have shown. The support from managers will increase the chance of success for the e-Government project. It should be noted that other CSFs are also important and in fact crucial for the establishment of goals and activities of the e-Government initiative

In fact a goal is more specific than a CSF. Each of the three organisations in the case studies can derive their goals from the CSF according to their own situation and conditions. In this way, the CSFS analysis can lead us to develop

strategies for the successful implementation of e-Government projects. (Tables 9.2., 9.3. and 9.4.). provide examples of application of some CSFS and their transformation into goals and activities.

CSF	Goal	Activities
Commitment & Leadership	Meeting deadline	Finish e-services by sep 2002
Reform	Re-engineer services	Re-engineering off traffic services (violations –licensees)
Cultural	Change traditional management values to modern values	Provide a time period to all managers to adapt to new Information tech based environment or retire.
Human Resources	Recruit, train, and retain	Send officers on scholarships- promote achievers – train all staff on computers
User Centred Approach	Change traditional management values to modern values	Provide a time period to all managers to adapt to new Information tech based environment or retire.
	-	-
Management of Implementation	Set-up an e-services implementation team	Implementation team monitors all activities relating to implementation
e-government Team	Set-up an e-services implementation team	Implementation team monitors all activities relating to implementation
Presence of Civic Groups	Cooperation with international organizations	Establishing a human rights department within
Interagency Collaboration	Collaboration with other Dubai and UAE Departments	Start with collaboration with other Dubai departments

Table 9.2: Example of some CSFS and its transformation into, Goals and Activities in DP

CSF	*Goal*	*Activities*
Leadership	Meeting deadline	Finish e-services by sep 2002
Reform	Implement the new vision for DM	Implement a new model based on four elements of DM's vision mainly : ▪ customers ▪ services ▪ channels ▪ performance measurements
Cultural	Implement the new vision for DM.	Implement a new model based on four elements of DM's vision mainly : ▪ customers ▪ services ▪ channels ▪ performance measurements
Human Resources	Achieve well educated and motivated work force	Launch a recruiting service online
User Centred Approach	Implement new vision	Implement a new model based on four elements of DM's vision mainly: ▪ customers ▪ services ▪ channels ▪ performance
	-	-
Management of Implementation	Implement new vision	Implement a new model based on four elements of DM's vision mainly : ▪ customers ▪ services ▪ channels ▪ performance
e-Government Team	Establish an e-services team	Develop an eternal / external steering guidelines for implementation of e-services
	-	-
Interagency Collaboration	-	-

Table 9.3: Example of some CSFS and its transformation into, Goals and Activities in DM

CSF	Goal	Activities
Leadership and Commitment	The conversion of all services to electronic services	1-Set up an e-Government team 2- Hire a consultant
Strategy & Vision	The vision was to allow all farmers to complete their services online instead of visiting the PAAF in order to enable them to save time, effort and eliminate all the suffering they were currently having to go through several steps.	1- Set up 2 main branches for PAAF in Farmers Area 2- Automate transactions
Financing	Increase the budget to cover the expenses of e-Government project	Find alternative funding sources such as donations from the private sector
Reform	Re-engineer services and chose the important services	Identify important services that need to be re-engineered
Culture	Change traditional management values to modern values	Provide a time period to all managers to adapt to new Information tech based
Human Resources	Train all staff to deal with IT and electronic service	1-Set up training courses for IT 2- Encourage online education
e-Government Team	1-Monitor the implementation of e-Government services. 2- Automation and re-engineering the PAAF services that will be a ready for the transfer of current services to e-Government services	1-Hold meetings with department mangers to facilitate cooperation 2-Encourage participation of departments in e-Government project 3- Monitor the implementation of online services and inform the chairman on progress
Measurement of e-Government	Conduct a pre-implementation survey to measure user opinion about current services and new online services, and the difficulties associated with the proposed.	Redesign services that were identified as important to users
IT infrastructure	Install a new network	Hire the best network provider
User Centric Approach	Redesign services	Reduce the number of steps for each service
Satisfaction	Increase user satisfaction	Moniter statistics to measure user satisfaction

Table 9.4 Example of some CSFS and its transformation into, Goals and Activities in PAAF

9.3 Background for the Framework

The previous case studies confirmed that there are critical success factors that must exist and be followed in order to ensure the successful implementation of e-Government projects. The following sections will present the grouping of the critical successful factors from the literature review and case studies in order to form a new framework, which consists of three stages. Each factor will be discussed in terms of its role and importance to the successful implementation of e-Government projects. This chapter will also discuss the relationship of each success factor with other factors in the different stages of the e-Government (Internal factors – implementation – external factors) to successfully implement an e-Government project.

9.4 The Proposed Framework

A new framework has been proposed to guide decision makers of e-Government. by summarising the 13 CSFs (shown in Table 9.1) This proposed framework uses a top down approach which classifies the factors in three main stages (internal factors – implementation factors – external factors) The success of each stage is driven by the success of the previous one. Internal factors are the first and main step to implement e-Government. These factors are the role of leadership, importance of strategy & vision, vitality of proper financing, training of HR and -change in culture to adopt e-Government-. Implementation factors are the second stage after the integration of the first stage's elements. This stage is as important as the first stage. Implementation factors focuses on user centric approach, the role of consultants, e-Government teams, promoting the inter-agency collaboration, finding the standard and scale to identify the best practice of e-Government implementation_and preparing the required IT infrastructure. The external factors deal with the level of satisfaction from e-services by (citizen, business, inter-agency and civil group).

9.4.1 Internal factors

The internal factors stage is made of 2 parts. In part 1, the leader must have strong commitment, a clear vision and applicable strategy, and should provide

adequate financial resources for the e-Government project. In part 2, the leader must initiate the reform of the organisation by changing existing culture from traditional to modern culture which supports adoption of new technologies and application of e-Government project. Then the leader must support training of employees on the new skills which are needed for using the new technologies associated with e-Government.

9.4.2 Implementation factors

The momentum that has gathered strength from the first stage should lead to the application of user centric approach. CSFs such as the consultant's role , inter-agency collaboration, measurement of e-Government , e-Government team and IT infrastructure all support improving services to the user by improving adoption of user opinion , increasing user access and choices, increasing user engagement and protecting user privacy . All these sub-elements of user-centric approach have a direct relationship with the measurement of e-Government since these sub-elements are vital to the success of any the e-Government initiative. As for the remaining implementation factors, besides supporting user-centric approach, these factors reinforce each other. For example, the consultant can provide support for the e-Government team by providing it a scientific approach to re-engineer services, and the e-Government team in turn, can help the consultant in applying these re-engineering concepts inside the organization. Also, the consultant together with the e-Government team can identify the new IT infrastructure needed to support the new online services.

9.4.3 External factor

The final aim of any e-Government initiative is to achieve user satisfaction. For the citizen, e-Government should help provide better public services at any time and at any place, for the private sector, e-Government should be a powerful instrument in attracting investment, and for civil groups, e-Government should improve the democratic process.

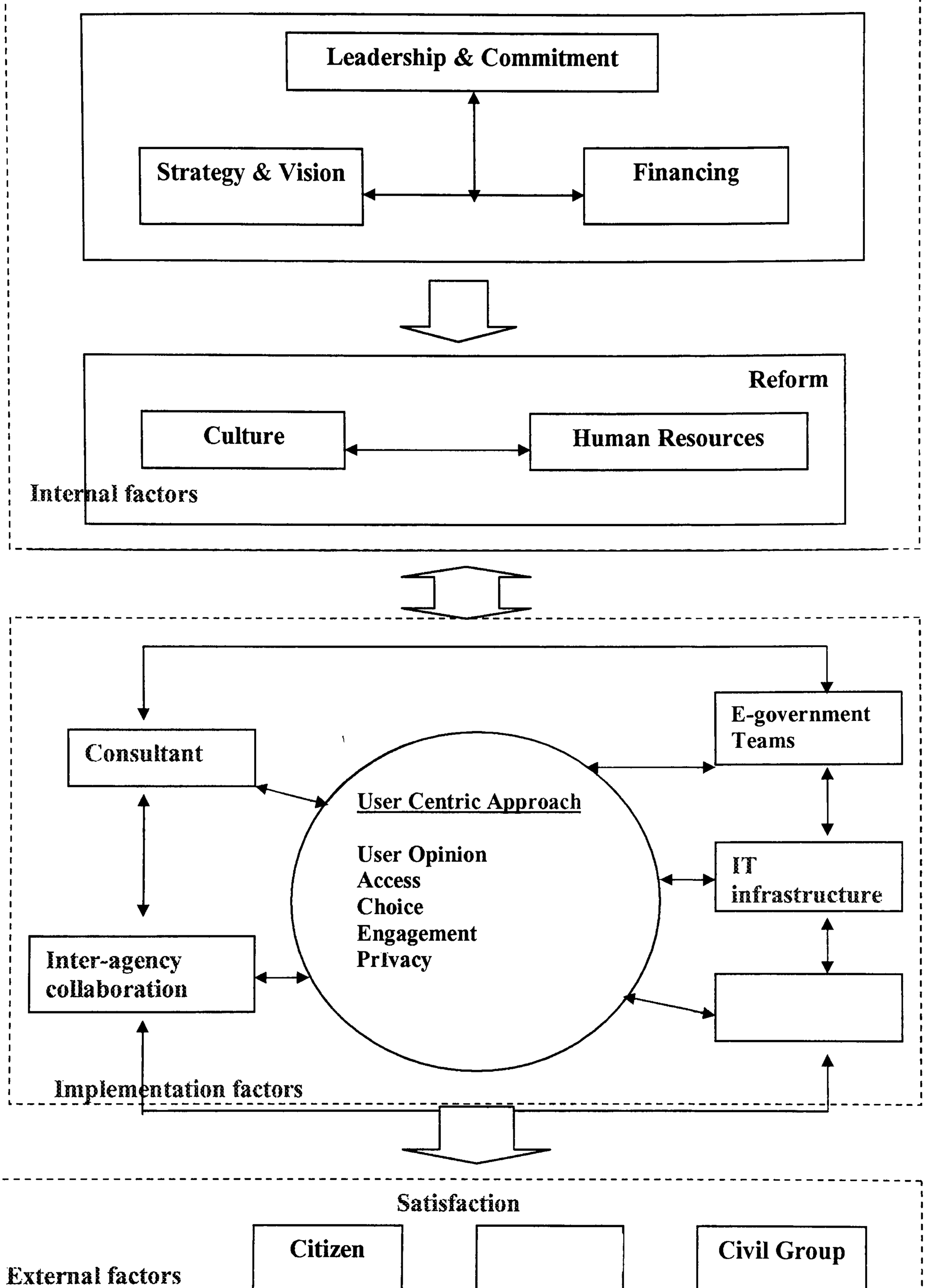

Table 9.5: Proposed Framework

9.5 Discussion of the Framework

9.5.1 Internal Factors

Internal factors are very important since it is the starting point for any successful e-Government initiative such as the Dubai e-Government. These factors can be divided into two parts. The first part includes leadership and commitment, vision and finance. The second part includes reform, culture and human resources. Internal factors will prepare the organisation to implement the e-Government projects.

9.5.1.1 Leadership and Commitment

Leadership is the set of characteristics that make a good leader (online Cambridge dictionary, 2006). Strong political leadership is critical to the success of e-Government as it ensures the long-term commitment of financial resources, personnel and technical expertise in the design, development and implementation of e-Government projects. (Pascual, 2003). Of all critical success factors, leadership is probably the most important one because without leadership e-Government projects are at a risk of delay or failure. Leadership sets the vision and timetable for implementation and steps in to remove any obstacles that might delay the e-Government initiative. For example, the commitment of the Prime Minster of Dubai ensured that all public organisations were able to provide online services within 18 months from the start of the e-Government initiative as planned. The commitment of leadership took the form of continuous follow up with management and provision of incentives for all managers to complete the e-Government projects on time. Moreover, leadership has to be present at all levels of government and the task of the leader is to identify managers who have the ability to lead and complete the required tasks. In the case of the DP, leadership was evident from the Prime Minister to the head of e-Government, to the police chief and down to the head of e-Government team.

9.5.1.2 Strategy & Vision

Strategy is defined as a detailed plan for achieving success in situations such as war, politics, business, industry or sport, or the skill of planning for such situations (Cambridge online dictionary, 2006). Vision is defined as the ability to imagine how a country, society, industry, etc. could develop in the future and to plan in a realistic way (Cambridge online dictionary, 2006). Saidi and Yared (2003) stated that a clear vision and national e-strategy are needed to rally support from the public and private sectors for e-Government. This study has found that a clear strategy and vision has existed in the case of Dubai. The vision was transforming Dubai into a world economic hub. In terms of public services, the vision has meant implicitly that public services should be at world standards in terms of quality. One of the strategies to achieve that is to have all departments online within 18 months from the commencement of the e-Government initiative in Dubai. The second stage of the e-Government strategy was to have 80% of all public services online by 2007, including the DP and the DM. e-Government projects often incur large upfront expenditures that are difficult to fund as normal operating expenditures. Therefore, e-Government strategy and vision must have independent funding in order to cover all activities.

9.5.1.3 Financing

The third internal factor is financing. Finance is defined as provision of money needed for something to happen (Cambridge online dictionary, 2006). Without the appropriate financing no leader can implement a massive project such as e-Government. Successful e-Government financing may require governments treat e-Government projects as capital expenditures. Such an approach would pave the way for funding through long-term financing instruments, such as bonds or leasing arrangements that guarantee long-term funding and smooth expenditures (Mimicopoulos, 2004). The three case studies have shown that governments have allocated sufficient funds for the successful implementation of e-Government projects. GCC states have the financial ability to properly finance such projects, which in turn make them more likely to succeed. Other states may find it more difficult to fund e-Government in the Middle East and

may require financial assistance of international organizations such as the World Bank or the UN.

9.5.1.4 Reform

e-Government can provide a framework for organising comprehensive e-reform, starting with government and the public sector. e-Government and investment in information and communication technologies are enabling factors and tools that can, and should be, used to effect, implement wide ranging policy reforms (Yard, 2003). The three case studies demonstrated evidence of a series of reforms conducted and carried out on different levels, namely organisational, process re-engineering and human capital.

9.5.1.5 Culture

Culture is the way of life, especially the general customs and beliefs of a particular group of people at a particular time (Cambridge online dictionary, 2006). The corporate culture within government is an important aspect of e-Government. The level of involvement by officials in setting policies and practices will greatly impact how fast or smooth the implementation of e-Government will be (The Working Group on e-Government in the Developing World, 2002). For example setting new human resource policies which encourage recruiting highly skilled IT professionals and providing IT training for employees can help to change the existing organizational culture. At the same time providing early retirement incentives for employees who can not adapt to the new IT environment will support the cultural change in the organisation.

9.5.1.6 Human Resources

Another important aspect of reform in public organisations and in implementing e-Government initiatives is developing human resources in a professional manner. This was evident in the serious effort to recruit professional staff at the DP. HR policy at the DP aimed at recruiting high school and university graduates and offering them rewarding jobs, incentives and scholarships in IS/IT in the Western world. On the other hand, traditional managers who cannot make the transition from a traditional style of management to a professional style were retired early and the younger well educated staff were promoted to

managerial positions. The Working Group on e-Government in the Developing World (2002) argued that human resources and training programs must be implemented at all levels of an organisation as a part of detailed plan to implement priority e-Government projects.

9.5.1.7 Conclusion for internal factors

Leadership and commitment, vision and strategy, finance along with reform, culture, and human resources all are key internal factors for a successful implementation of e-Government. Although leadership and commitment are very important, e-Government projects need a clear vision and strategy and independent financing to succeed in any e-Government initiative in the GCC.

9.5.2 Implementation Factors

9.5.2.1 Consultants

Consultants are considered as one of the important contributors to the information society and e-Government (WSIS, 2003) The consultant in the case of the DM was one of the leading IT consultants in the world, and was able to built a strong partnership with senior management and e-Government team which allowed him to implement most of what has been agreed upon. The consultant succeeded at identifying high value services both for DM and the user and was able to implement them in stages.

9.5.2.2 e-Government Teams

Since e-Government initiatives typically involve large commitments of resources, planning and personnel, they are very difficult to manage without defined teams that supervise the e-Government process from start to finish. Such teams must be provided with enough financial and human resources and administrative support to carry out their duties (Roadmap for e-Government in the Developing World, 2002). e-Government teams in the PAAF, DP and DM all played a significant role in the implementation of e-Government. In particular, the e-Government team in the PAAF was very successful, in gathering support and with involving all departments in the e-Government project. The result was a strong planning, innovation and re-engineering of services at the PAAF.

9.5.2.3 Measurement of e-Government Success

According to Gartner (2001), there are many ways to measure e-Government. Gartner recommends a metrics for determining e-Government success should:

- Administer stakeholder satisfaction and value surveys before and after service delivery.
- Quantify Web channel usage relative to other channels (e.g. walk-in, phone or mail).
- Analyse costs and improved service for delivering services.
- Itemise the extent that processes have been improved
- Identify how government has been transformed.

All three agencies in the case studies used (user) surveys in order to understand the requirements of their users. Other measures such as web usages, analysing cost and savings as result of e-services (as in the case of the DP and DM) were also used.

9.5.2.4 Inter-agency collaboration

According to the OECD (2003), information coordination is insufficient to promote cross-agency collaboration to produce seamless services. Coordination does not imply collaboration. In order for agencies to collaborate effectively, frameworks and incentives for collaboration are needed for sharing cost and benefits. The Prime Minister of Dubai set up the Dubai e-Government department which became the framework for collaboration. The Dubai e-Government department played the role of a central authority to encourage collaboration by establishing a framework for linking all departments together and centralising many e-Government functions like, procurement and unifying standards of e-services. Such framework was applied in collaboration of DP and DM in collecting fees. For example, the citizen was not able to complete any transaction with DM if he had unpaid traffic violations. Incentives for improving services were also used, i.e. the DP created a yearly award for the best e-services provided and best collaboration efforts by departments. At PAAF, a strong collaboration was established with the Ministry of Finance regarding preparation of budgets and collection of fees.

9.5.2.5 IT infrastructure

According to Hwang et al (2004), in order to introduce and promote e-Government the first and very important step is to construct the relevant IT infrastructure In Dubai generally and in the DP and DM, the availability of a relevant IT infrastructure allowed the development and implementation of e-Government. Dubai e-Government publications and news services have indicated that solution providers such as Oracle, Microsoft, IBM and many other Global IT companies helped to establish a strong IT Infrastructure.

9.5.2.6 User Centric Approach

In order to better promote user-centric electronic services, the government should better understand user preferences. This is a key element in customer services analyses (OECED e-Government studies -Finland-, 2003). DP and DM worked on implementing several elements such as access, choice, engagement and privacy to promote a user centric approach to e-Government. The two organisations (DP and DM) created a single entry point which is Dubai e-Government Website, engaged the public in several awareness campaigns and protected the privacy of the user by introducing a law to protect user information similarly, the PAAF took into account user opinions when re-engineering its services in order to reduce many of the unnecessary steps in the provision of services.

9.5.3 External Factors

9.5.3.1 Satisfaction

e-Government initiatives aim at satisfying citizens, the private sector, and civil groups by improving public services along with increasing democratic participation in government. DP and PAAF have sought to satisfy their customers by conducting a user survey and by adopting user-centric approach elements which have contributed to the development of many online services that were important for their users.

9.6 Contribution of the Research

The literature review and the case studies (surveys) conducted on three public organisations in the GCC have shown that there are 13 critical successful

factors that are vital to the successful implementation of e-Government. These 13 critical successful factors have been grouped in a three part framework, as internal, implementation and external CSFs. The framework follows a top-down approach for the implementation of e-Government. The framework starts with the leadership and commitment of a top level public leader such as the Prime Minister or ruler. The clear vision and realistic strategy of the leader along with appropriate financing, leads to a reform and reorganisation in the public sector by changing culture and development of human resources. The momentum of the internal factors provides direction for the implementation factors by stressing the roles of the consultants, e-Government teams and user- centric approach. These three implementation factors all contribute to a better inter-agency collaboration, development of appropriate IT infrastructure, and accurate measurement of e-Government success. The development of online services and greater participation of the users in e-Government is reflected in the satisfaction of all stakeholders, i.e. citizens, business community, public organisations and civil groups. In order to succeed in implementing any e-Government project in the GCC, the above framework will greatly improve the chance of success as it defines all critical areas which managers should be aware of, and manage wisely.

9.7 Summary and Conclusion

This chapter described the framework for the successful implementation of e-Government initiatives. The framework is based on 13 CSFs that were identified from the literature review and evaluated by the 3 case studies conducted. The 13 CSFs are then organised into a 3 stage top-down framework as internal factors, Implementation factors, and External factors. The framework developed, can help in evaluating the existing e-Government projects in the GCC by identifying how management is dealing with the CSFs .The efficient use of the framework will enable managers to transform CSFs into goals and activities to ensure the success of the projects.

Chapter 10

Summary & Conclusion

10.1 Introduction

The literature review and the preliminary study provided a basic understanding of the nature of e-Government, its history, development and the challenges it faces and provided a set of CSFs for e-Government projects. The study later tested the CSFs and their impact on three public organisations in the GCC, namely the Dubai Police (DP), Dubai Municipality (DM) and the Public Authority for Agriculture and Fishes (PAAF) of in form of three case studies.

The first part of this chapter provides a summary of the literature review, the development of the research methodology and the steps that have been carried out to conduct the three case studies. The second part describes the main findings from, the literature review and the research undertaken. The third part discusses the conclusions drawn from the three case studies and finally presents recommendations and suggestions for future research.

10.2 Summary

The research has focused on the implementation of e-Government projects in the G.C.C. In the first phase of the research the literature review has focused on the wide range of definitions of e-Government. e-Government is defined as, the use of all information and communications technologies (from fax machines to wireless palms) to facilitate the delivery of public services (West, 2004), a public sector use of the Internet and other digital devices to deliver services and information, the use of new information and communication technologies (ICT's) by government as applied to full range of government functions (OECD, 2001). A broader definition of e-Government is outlined by Choudrie, *et al*. (2004) as an Internet-driven activity that improves citizen access to government information, services and expertise to ensure citizen participation in and satisfaction with the government

The literature review later focused on the types of services and benefits provided by e-Government. According to the UNDP (2004), the services can be classified as government to citizen (G2C), Government to business (G2B),

government to employee (G2E) and government to government (G2G). Electronic government should enable high-performance government to deliver better outcomes for lower cost. ICT (Information and Communication Technology) provides a channel for enhanced or extremely new customer services, i.e. services that may not have been implemented previously. Providing e-services helps governments transform service delivery so that they meet their obligations to their citizens in the most efficient and cost-effective way possible (UNDP, 2004).

However, there has been growing evidence that e-Government initiatives are not providing what they promised (Accenture, 2004). Countries are trying to solve this problem by looking at new strategies that will move them forward in order to deliver high performance in a more cost-effective manner and transform all their services (Accenture, 2004). There is a direct relationship between, increasing take-up of online services verses offline services, and saving time and money (which creates value). However, the take-up rates are still low, i.e. in Canada 40% of Internet users have rarely visited a government website, and in the US the take-up is still 46% (Accenture, 2004).

The impact of e-Government on the citizen has also been varied. In the developed world, online services have increased significantly in the last decade some countries reaching over 50% of regular services, and in countries like the US thousands of web sites are in operation. Transactional services are widespread between government to citizen and government to business (UN, 2004). Online services of US government such as auctions, mortgage sales and tax payments have reached billions of dollars.

However, recent reports highlighted problems facing e-Government in the developed world too. There has been a slowing down of the rate of growth of e-Government, and where a gap exists between the national e-Government programs, which have achieved better efficiency, some savings and better e-services and the local level e-Government which is slow to happen (Gronland, 2003).

Also the problem of integration of e-Government services and coordination between government agencies to reap the benefits of e-Government are becoming challenges for the future (UN, 2004). Many speak about the need for innovative solutions in order to further advance e-Government from the provision of e-services to increasing the participation of citizens in the democratic process (Fountain, 2003). The challenge now facing e-Governance seems to be the next target for e-Government initiatives, i.e. the process of governance in democracy must be able to benefit from the opportunities that ICT provides in the form of e-voting, e-consultation or other e-governance processes.

Research questions were derived from the literature review on the implementation of IT in the public sector:

- Research Question 1: What are the CSF's that are respocible for the successful implementation of e-Government?

The answers to the research questions helped to articulate the research problem more clearly.

In the next phase, the study has sought to investigate the critical success factors behind the successful implementation of e-Government projects. In the study an evaluation model based on CSFs was developed with the help of extensive literature review on e-Government and on the implementation of IT projects in the public sector.

The next step was to conduct three case studies in order to make sure that the CSFs have an effect on the success of e-Government initiatives in public organisations.

The evaluation model explained in Chapter 5, which is based on the literature review, is a model for the implementation of e-Government. The model was developed based on the CSFs and taking into account both hard issues relating to technology, and the softer issues relating to how people deal with this technology. In order to validate the model, three case studies on three public

sector organisations in the G.C.C, namely the DP, DM and PAAF were conducted. The DP was chosen as a case study as the department, has the leading economic role of Dubai in the Middle East and is an active supporter of Dubai's ambition of becoming a leader in the new economy of the world. The DM is chosen, as it is the largest government organisation in Dubai (in terms of the number of services provided to the residents, the number of employees) and for its importance in the development of Dubai. The PAAF was chosen for the large number of citizens that needs to deal with it in Kuwait (it is the public institution responsible for making policies and the provision of services and research in agriculture, animal and fishes).

Case study as an approach to understanding e-Government was chosen because iy emphasises a detailed contextual analysis of a limited numbers of events or conditions and their relationships, such as in this case the phenomena of e-Government. One of the strengths of the case study approach is that it allows the researcher to use a variety of sources and a variety of types of data. These sources were captured from the documents obtained from all of the case studies. Case study as a research strategy focuses on understanding the dynamics present within single settings (Eisenhardt 1989). However, the definition can be extended to be applicable to multiple settings and numerous levels of analysis. According to Eisenhardt (1989), case studies can be applied in order to accomplish various aims such as providing description, testing or generating a theory. According to Layder (1993) case studies can be used for the purposes of 'theory testing' as well as 'theory building'.

A framework (based upon the 13 CSFs) is proposed in Chapter 9 to guide the decision makers of e-Government. The proposed framework follows a top-down approach which classifies the factors in three main stages (as internal, implementation and external) and the success of each stage is driven by the success on the previous one.

Internal factors are the first and main step to implement e-Government and include the factors: leadership, strategy & vision, financing, training of HR and culture change to adopt e-Government Implementation factors are the second

stage after the integration of the first stage's elements and focuses on the following factors: user-centric approach, consultants, e-Government teams, the inter-agency collaboration, and IT infrastructure. The external factors deal with the level of satisfaction from e-services by (citizen, business, inter-agency and civil group).

In summary, the study has consolidated findings from the literature with observations of the phenomenon in question from case studies to identify the challenges facing e-Governments. Also, the study sought to investigate how to measure the success of e-Government and to find out the necessary steps that needs to be taken in order to assure the success of e-Government.

10.3 Findings

The study has led to a number of results as follows:

1. E-Government is more than delivering services electronically - it is about the reform of the public sector. Therefore, e-Government is a tool but not an ultimate goal. This is very important for gaining a clear understanding of the vision of e-Government. Providing an online service is only one goal for a government, but the ultimate vision is to create transparent and participative democracies. However, e-Government itself does not provide the needed reform for government. Kin and Kramer, (2003) found that after 35 years the verdict on the success of IT as a catalyst for government reform has been elusive. The authors argue that IT does not lead to administrative reform but rather to reinforcing existing administrative arrangements. For reform to happen, leadership must establish clear goals for reform and then bring IT in. Some researchers warn of expecting too much from improving public services (Halachmi, 1997). Unrealistic expectations among government employees and users of government services, according to Halachmi (1997), may backfire and undermine the longevity of any reform effect.

2. The literature highlights the difference between e-Government and e-governance with the later being the most difficult part of e-Government

since it involves the restructuring of government services in order to facilitate the reform of government. In other words, e-Government is not a technical project but rather a method for reforming government, and unless the deep-rooted problems of government services are tackled, e-Government will not be more than an automation of existing services. Studies also have shown that e-Government evaluation methodologies have been partial and not comprehensive. There is a need for evaluation models that take into account all stakeholders' interests, as well as answer the questions of why, where, how, and when for e-Government initiatives.

3. The extent of the implementation of e-Government has been varied. The Western world has been more successful than the developing world in terms of implementation. Nonetheless, there are exceptions such as in the case of Singapore. In the Middle East there are a few countries where citizens are beginning to feel the impact of e-Government. Countries like the UAE and Dubai in particular have moved e-Government services from the informational stage to the transactional stage (UN, 2003). In Dubai, violation payments and vehicle registrations can now be carried out online. Also, there have been signs of government commitment to move from e-Government to e-governance

4. The implementation of e-Government has hit a plateau. The leap from a e-Government stage to an e-governmence stage has been the most difficult. This is because e-Government involves the participation of all segments of society. On the other hand, the impact of e-Government has been less felt in the developing world. In some regions of the world like the Middle East, online services have yet to take-off. A reason for that is the low level of IT infrastructure which is similar to that of the low income countries. Saidi, (2002) Also, in developing countries there is a need for e-Government on a national level to to support development of local e-Government in order to bring more segments of societies (like the poor segment) into the information society.

5. There are many CSFs that contribute to the successful implementation of e-Government. The critical success factors associated with the implementation of any e-Government project can vary within the same culture, i.e. as in G.C.C. states, as proven by the case studies. The analysis of the CSFs has proved that there are different CSFs for different organisations. In DP, experience of the leader in the organisation, and the authority he delegates to management and his intervention in the re-engineering of services has made leadership the most important CSF. In the case of the DM the consultant was the most important CSF since the consultant was one of the most experienced consulting houses on e-Government in the world and was able to identify which services were important to the public and DM in order to implement them online. In the case of the PAAF, the e-Government team had the authority delegated from the leader to implement the e-Government project and to make the necessary changes in the organization. The team had also a wide range of experience in technical, managerial and legal matters which made it the most important CSF.

6. Another finding from the literature on IT projects (is that it is very much grounded in the project management and CSFs approaches. In the former, the project is implemented in a stage like approach where each stage is well planned and the outcomes are defined. Issues such as planning, leadership and teamwork become important issues for successful implementation. In the latter, a structured approach to implementation with a mission, vision, goals and CSFs are supposed to be well articulated in order to successfully implement IT projects. However, this well planned top-down approach does not guarantee the success. IT projects and in particular, e-Government projects have to take into account other soft issues such as HR, politics, collaborations with other government agencies, etc. in order to focus on the implementation in a more comprehensive manner.

7. Any implementation approach should take into account both hard issues relating to technology, and the softer issues relating to how people deal

with technology. Any of the critical success factors should contain both set of factors (hard and soft) and these factors need to be dealt with in order to achieve the desired change and outcome. Managers should be aware of both set of critical success factors and use them or alternate between the use of one or the other according to what the situation requires. After all, there is no single right approach for successful implementation of e-Government projects.

8. From the analysis of the three case studies it is clear that there is a dominant CSFs that plays the vital role in the successful implementation of e-Government. The extent of success depends upon the effect of this dominant critical success factor on the rest of the other critical success factors, e.g. does it affect all of them or some of them? Is the effect large or small? If the effect is large then the chances of success are greater and visa versa. Another very important point is that organisational goals can be derived from the CSFs. Goal is more specific than the critical success factor. Each of the three organisations in the case studies can set up their goals from the critical success factor according to their own situation and conditions. In this way the critical success factor analysis can lead to develop strategies for the successful implementation of e-Government projects.

10.4 Conclusion

The preliminary study and the three case studies that have been conducted pointed out the following findings:

1. Leadership is essential for the successful implementation of e-Government projects in the G.C.C. By Leadership we mean leadership of the highest level such as the Head of State or Prime Minster as in the case of Dubai where the Prime Minster has provided leadership and vision for the e-Government initiative. Leadership on the next level such as the head of the public organisation where the e-Government project is being implemented is also important. An example of that is in the DP

where the leader of the organisation has played a direct role in the implementation and support of the e-Government project. Another point related to leadership is empowerment that leadership provides for the management of the team, responsible for the implementation of e-Government on an organisational level. In the case of the DP, the chief has empowered the e-Government team and provided continuous support and has intervened to eliminate all difficulties. In addition, the leader of the DP has provided vision and direction for the different stages of the implementation of e-Government projects.

2. When leadership has a clear vision and strategy, the implementation of e-Government projects can be carried out in less time. In the case of Dubai, the DP had a clear vision of transforming the Emirate into a world-class economic centre of the new economy. In order to reach this vision, the public sector had to be reformed and the infrastructure had to be built to world-class standards. e-Government was one of the reform initiatives and strategies for reaching the leader's vision. The resources of Dubai, which is a rich GCC state, have provided the funding of e-Government projects. Nevertheless, e-Government projects were aimed not only at revolutionising public service, but also cutting cost and saving time for both the provider and user. Training and educating the human resources of the public organisation premises led to the implementation of e-Government. In the three case studies, leadership supported the training and education of staff and the development of the necessary skills for dealing with IT/IS in their respective organisations.

3. The DM decided to hire a well-known consulting firm to help in implementing the e-services, since it had no prior experience. The consultant's experience in the e-Government field along with its scientific approach to planning and implementing e-Government projects and its close cooperation with the e-Government team in the DM, ensured that the right mix of e-services are planned and delivered to satisfy the user and the organisation's priorities.

4. The e-Government team responsible for the implementation of e-services at the PAAF was essential in the implementation of e-Government project. The team was successful in encouraging all management in the organisation to participate in the e-Government project. The participation took the form of meetings and suggestions and joint decision making which helped to re-engineer public services at the organisation. The ability of the team to encourage participation along with the set of managerial skills and professional/technical knowledge of team members was synergised to develop a successful approach to the implementation of e-Government services.

5. The success of e-Government project is related to combination of many factors even though some are more critical than others. For example, the factors mentioned in the previous points are not the only ones (the dominant factor) but their interdependence with other CSFs was very clear. Hence, careful consideration should be given to all factors as explained in the proposed framework.

6. The survey of the exploratory study indicated a strong desire of the users to use e-services to in order to solve the problems facing them in having the services at the GTD. The DP and DM were successful at providing e-services to solve the problems of the users. The result was the big increase in the demand for e-services at both organisations. It can be concluded that the satisfaction of users (from both a business and citizen perspective) is essential to successful implementation of e-services.

7. The three case studies have shown that the three public organisations have all sought to use a user centred approach. The DP has tried to solve the problems facing the users when dealing with them. Such solutions included the introduction of IVR, Kiosk, Traffic Fax, and transactional services on the Internet such as traffic payments and inquiry. The DM used a planned approach to focus on the customer by identifying and implementing the e-services that both the user and the

organisation identified as important services. The PAAF focused on offering location based solutions to users who are mainly farmers, by building e-services centres at the two main locations of farms in Kuwait. The online services reduced the time required to complete the main services of PAAF from 3 moths to two weeks.

10.5 Recommendation for Future Research

The proposed framework of CSFs will help the development of new concepts and theories about how to evaluate e-Government, as it focuses on many "soft" factors in the implementation of e-Government. The critical success factors framework will lead to further research to suggest a contingent approach for evaluating e-Government and a mix of soft and hard approaches for the evaluation of e-Governments.

Future research needs to focus on further developing a contingent approach for the implementation of e-Government that is more flexible than the well planned approach and the one that takes the non-technical factors in the successful implementation of e-Government into account. The effects of behavioural issues such as leadership, teamwork, team dynamics, and culture should be carefully studied.

In addition,it is important to identify the level of significance and interdependence of each CSFs to the successful implementation of e-Government project .The study will help the public sector to better organization its effort to buildup the right environment for e-Government including budget prioritization .

Also the effect of political factors such as power and the exercise of it, coalitions, winners and losers in the implementation of e-Government should be further studied. Other important political issues to be looked at include the move from e-Government to e-governance and an investigation on how governments can successfully tackle this challenge to the success of e-Government.

A further recommendation would to increase the awareness of e-Government benefits to the public and its role in developing society by exerting more effort and spending more money on educating the public.

The final recommendation is to establish an independent authority for the implementation of e-Government. Such an authority will be under the direct command of the Prime Minister and will oversee the implementation of e-Government projects in all ministries and public organisations of the country. The benefits of establishing an independent authority for the implementation of e-Government will be:

- Overlooking the development of e-Government strategy, its implementation and the follow up evaluation of e-Government projects in the country.
- Surveying public opinion and measuring feedback from e-Government services in order to stress a user centric approach to e-Government services.
- Supporting the private sector by building partnerships in the development and implementation of e-Government strategies in order to develop the national economy.
- Reducing the cost of implementing e-Government projects by centralising certain functions such as procurement of IS/IT systems, advertising and marketing, and consulting services.
- Unifying quality standards for the provision of e-services in all ministries and public organisations.
- Development of a single portal for the e-Government in each country of the G.C.C which will facilitate the use of e-services by the users.

References

Accenture,(2004), The Government Executive Series-e-Government Leadership: High Performance, Maximum Value,Bellamy. http://www.accenture.com/xdoc/en/industries

AFFIRM (2002). A Blueprint for Successful e-Government Implementation: Steps to accelerate cultural change and overcome stakeholder resistance, Association for Federal information Resources Management, Washington, DC

Alain Busson & Alain Keravel, (2005),interoperable government providing Services, E-gov Interpol Conference, Geneva, Switzerland

Al-Kibsi, (2001),"Putting citizens on-line, not in line" *The McKinsey Quarterly*, 2, pp. 65-73.

Barzelay Michael, (1997) Researching the politics of new public managemen,Summer Workshop of the International Public ManagementNetworkBerlin/ Potsdam, Germany

Bastaki and Geray (2005) Dubai e-government Initiative :Concept, Achievements and the Future Pillars of Success, Dubai e-Government ,UEA

Bateman, Yin, R., Moore, P.G.. (1983). *Case studies and organisational innovation: Strengthening the connection*, Washington D.C.: Cosmos Corporation.

Bent Flyvbjerg, (2006) "Five Misunderstandings About Case Study Research." *Qualitative Inquiry*, vol. 12, no. 2, pp. 219-245.

Bouckaert .G & S Van de Walle (2001), Government performance and trust in government Paper presented at the European Group of Public Administration (EGPA) Annual Conference, Vaasa, Finland

Bozeman, B. (2000). Bureaucracy and Red Tape. Upper Saddle River, NJ: Prentice Hall.SAGE JOURNALS Online.

Bludorn and Lundgren (1993). The change process and to the attainment of strategic objectives. A culture-match perspective for strategic change. Research in Organizational Change and Development, 7.

Brown, M. (1999). "Information Systems for Improved Performance Management Development Approaches in US Public Agencies." In Reinventing Government in the Information Age. International Practice in IT-Enabled Public Sector Reform, edited by Richard Heeks,113-134. London, UK: Routledge.

Bredow & Wimmer ,(2002), A holistic approach for providing security Solutions E-government Proceedings of the 35th Hawaii International Conference on System Sciences.

Bretschneider, Gant, J. , Wang, L. ,(2005), "Evaluating Web-based e-government services with a citizen-centric approach", in Proceedings of the 38thHawaii International Conference on System Science – 2005. IEEE

Caralli, Richard A.(2004) The Critical Success Factor Method :Establishing a Foundation for Enterprise Security Management , Software Engineering Institute (SET),Pittsburgh

CEC (2003) E-Government Assessment of Current Research and Proposals for Future Directions

Chadwick and May ,(2003),Governance,An International Journal of Policy,Administration and Instiutions, Vol. 16 Issue 2 Page 271

Choudrie, Jyoti; Ghinea, Gheorgita (2004).; Weerakkody, Vishanth. Evaluating global e-government sites : a view using web diagnostic tools. *Electronic Journal of e-Government.* Vol. 2, no 2 P. 105-114. http://www.ejeg.com/volume-2/volume2- -.pdf

Cornford & Song, (2005) ,Transcending e-Government: a Case of Mobile Government, The First European Conference on Mobile Government, Brighton.

Creswell, J. W. (2003), *Research Design*: Qualitative, Quantitative and Mixed Methods Approaches, Sage, USA

Cullen,(2003), An Evaluation of Local Government, Websites in New Zealand, The World of E-Government,The Haworth Press, pp 185-211, New York.

Dawes, S., (2004) The Future of E-Government , University at Albany/SUNY www.ctg.albany.edu/publications/reports/future_of_egov/future_of_egov.pdf

Dearle, (1998), Toward Ubiquitous Environments for Mobile Users, IEEE Internet, Computing. Vol. 2, pp, 22–32.

Denscombe.M, (1998), The Good Research Guide for Small-Scale Research Projects, open university press, Buckingham.

Donnell, Boyle and Timonen,(2003), Transformational aspects of e-government in Ireland: Issues to be addressed. Electronic Journal of e-Government, 1(1), 23-32.

Dong Dasheng ,(2004),Challenges Facing E-government Audit in China, The Intosal IT JOURNAL p 38,London.

Eisenhardt M,(1989), Building theories from case study research *Academy of Management. The Academy of Management Revie* ,p532,standford university.

E-government Workgroup of the Directors General,(2002). Value Creation in eGovernment projects, An exploratory analysis conducted for the Danish presidency of the eGovernment workgroup of the Directors General - http://www.e.gov.dk/sitemod/upload/ Root/English/Value_Creation_in_eGovernment_projects.pdf

E-government Act of the US government, (2002), Wikipedia, the free Encyclopedia.

E-Government Manual Guidelines for heads of public agencies 2002

Edwin Lau (2004). E-Government and the Drive for Growth and Equity ,Belfer Center for Science and International Affairs (BCSIA), www.belfercenter.org

Eisenhardt, K. M. (1989). Building Theories from Case Study Research. Academy of Management Review, 14 (4), 532-550.

Electronic Commerce (EC Directive) Regulations ,(2002), Queen's Printer of Acts

of Parliament,UK.

Elena Larsen,(2003). Research Fellow, Pew Internet & American Life Project, 1100 Connecticut Avenue, NW-Suite 710, Washington, DC.

European Information Society for growth and employment,(2005), Commission of theEuropean Communities, Brussels.

Feagin, J., Orum, A., and Sjoberg, G, (1991), A case for case study, University of North Carolina Press, Chapel Hill, NC.

Fink, C. & Kenny, C.J. (2003) 'W(h)ither the digital divide ?', info, 5(6), pp.15-24 , Bradford: Emerald.

Finger Matthias ,(2004), From e-Government to e-Governance? Towards a model of e-Governance, Dublin, Ireland.

Fowler, Mangione, TW ,(1990), Standardized Survey Interviewing, Sage Publications, Newbury Park.

Fountain, (2001) ,Mobile E-government,The Virtual State: Information Technology And Institutional Change. Brookings Institution Press, Washington DC.

Fountain, Jane ,(2003), "Prospects for Improving the Regulatory Process Using E-Rulemaking" in COMMUNICATIONS OF THE AMC.

Gable,(1994) "Integrating Case Study and Survey Research Methods: An Example in Information Systems," European Journal of Information Systems, (3:2),pp. 112-126.

Gavin. Kelly and Stephen Muers, (2002)"Creating public value. An analytical framework for public sector reform"_Strategy Unit of U.K. Cabinet Office.

Gant.J,& Gant.D,(2002), Web portal functionality and state government e-service System Sciences, HICSS. Proceedings of the 35th Annual Hawaii International Conference on Volume , Page(s): 1627 – 1636.

Gant & Wang (2004).The evaluation of e-government by brestchmeider,

Gartner: G. Kreizman, A. Di Maio (2001) "E-Government Study Gauges Service Breadth, Not Success" ,E-14-7354.

Ghyasi, A. and Kushchu, I. (2004) Uses of Mobile Government in Developing Contries, mGovLab, http://www.mgovlab.org.

Glesne, C. & Peshkin, A. (1992), Becoming qualitative researchers, An introduction, New York, Longman.

Gore, A. (1993). Creating a Government that Works Better and Costs Less." ,Government Printing Office Washington, DC.

Graves, RN. (2003) Secondary Data Analysis , http:// stti-web.iupui. edu/library/ second.html.

Grossman, L. K. (1995),The electronic republic: Reshaping democracy in the information age, New York, Viking.

Gronland ,(2003), E-Government – Assessment of Current Research and Proposals for Future Directions Department of Information Technology and Media Mid, Sweden University. http://www.hia.no/iris28/Docs/IRIS2028-1008.pdf

Hala Yared & Nasser Saidi, (2002), E-Government, Technology for Good Governance,Development and Democracy in the MENA countries, Universit College London.

Hague B. H.& Loader B.D. ,(1999), Digital Democracy, Discourse and decision making in the information age. Routledge, London.

Halachmi Arie,(1997), Value for Money, Best Value and Measuring Government Performance: An Introduction to the Symposium

Hauschild, (2002), Top Priority E-Government, Guidelines for heads of public agencies, E-Government Project Team, Federal Office for Information Security, Germany.

Heeks, R. (1999). "Re inventing Government in the Information Age." In Re inventing Government in the Information Age. International Practice in IT-Enabled Public Sector Reform, edited by Richard Heeks, 9-21. London, UK: Routledge.

Heeks.R (2001) “Understanding e-Governance for Development”, http://unpan1.un.org/intradoc/groups/public/documents/NISPAce

Heeks.R,(2002),E-Government for Development,The Impact of e-Government Failure,IDPM, University of Mancheste,UK.

Hendry (2003) Communications of the International Information Management Association, Volume2, Issue3, Critical Factors in the Delivery of e-Government Services: Perceptions of Technology Executives.

Hjelm, J. (2000) Designing Wireless Information Services. New York: John Wiley & Sons. Ho, A. (2002) “Reinventing Local Government and the E-Government Initiative”, Public Administration Review, Vo. 62, No. 4, pp.434-444

H. Mantar, J.Hwang, S. Chapin, I. Okumus,(2004), "A Scalable Model for Inter-Bandwidth Broker Resource Reservation and Provisioning", IEEE Journal on Selected Areas in Communications (JSAC), Vol.22, No.10.

IDABC (2005) E-Government Observatory .Institute for Development Policy and Management, (IDPM 2003).

Janowski ,(2001),Introduction to e-Governance, United Nations University, International Institute for Software Technology.

Jon Sibson, (2005) ,PricewaterhouseCoopers partner and Commission member, states, UK.

Johannessen , (1994), European Journal of Innovation Management, Information Technology and Innovation: Identifying Critical Innovation Factors.

Joseph, Kwan, Brian (2004) Development of sequential olefin cross metathesis-organ catalysis methodology.

Kanter, R. M., Stein, B. M., & Jick, T. (1992). The challenge of organizational change: How companies experience it and leaders guide it, Free Press .NewYork.

Kerry Brown, Neal Ryan and Rachel Parker ,(2000), New Modes of Service Delivery in the Public Sector,Commercializing Government Services,School of Management Queensland University Technology.

Kramer, K. L., and King, J. L. ,(2003), Information Technology and Administrative Reform, Will the Time After E-Government Be Different, Unpublished manuscript, Irvine, CA.

Kuhn.T,(1996), The Structure of Scientific Revolutions. Chicago, University of Chicago Press.

Kunstelj, M., Vinter, M. ,(2004),"Evaluating the progress of e-government Development a critical analysis", in *Information Polity* 9, pp. 131-148.

Kushchu, I. & H. Kuscu (2003) "From E-government to M-government: Facing the Inevitable?" in the *proceeding of European Conference on E-Government (ECEG 2003)*, Trinity College.

KR .Sriram & K Srinivasan ,(2004), E-Governance Risk Assessment - Alignment of Business Needs and IT Requirements, state audit institution, Oman.

Kris Peach&Partner,(2003), KPMG Department of professional Practice, Australia. http://www.kpmg.com.au/

Lakatos I. ,(1978), The Methodology of Scientific Research Programmes, Cambridge University Press ,Cambridge.

Lax ,(2001), Access Denied in the Information Age, Hampshire, Palgrave.

Layder, D. (1993) New Strategies in Social Research, Polity Press, Cambridge.

Lan Zhiyong & David Rosen bloom, (1992) ,Public Administration in Transition, Journal Information for Public Administration Review.www.jstor.org

Larsen, E. and L. Rainie,(2002), The rise of the e-citizen,How people use government agencies' web sites. Pew Internet and American Life Project,US.

Lee, A. S.(1991) "Integrating Positivist and Interpretive Approaches to Organizational Research," Organization Science, (2), ,pp. 342-365.

Lee, A,(2003), Using a case study to test the role of three key social enablers in ERP implementation, Information and Management, Volume 40 , Issue 8 .

Mark Forman ,(2002), Associate Director for Information Technology and E-Government, E-Government Strategy EXECUTIVE OFFICE OF THE PRESIDENT OFFICE OF MANAGEMENT AND BUDGET WASHINGTON, D.C.

Matthias Finger and Gaëlle Pécoud ,(2003), e-Government to e- Governance Towards a model of Federal Institute of Technology Lausanne Switzerland.

Frankfort-Nachmias, Chava, and David Nachmias, (1996), 'Ethics in Social Science Research', Chapter 4 in Research Methods in the Social Sciences. 5th ed. Arnold, London.

National conference of e-government in Kuwait (2001).

Mckenney's ,(1994), The success of e-government will depend on the civic groups and non profit .

McDaniel C. and Gates, R. (2002) Marketing Research: the Impact of the Internet. South-Western. Cincinnati, Ohio, USA.

Mellor & Parr ,(2002), Government Online, An International Perspective Annual Global Report.

Michael G. Mimicopoulos,(2004), E-Government Cost and Financing

Miles, M. and Huberman, A. ,(1994), Qualitative Data Analysis,An Expanded Sourcebook.second Edition, SAGE Publucation , London.

Moon ,(2002),The Evolution of E-Government among Municipalities, Rhetoric or Reality.

Mustafa, (1994),The Cost Benefit Analysis method, CBA.

Myers, Michael D. (1997). "Qualitative Research in Information Systems," MIS Quarterly, Vol. 21, No. 2, pp. 241-242.

North Carolina's Governmental Services and Operations in the Digital Age, (2001).

OECD, (2003),The e-Government Imperative, Organisation for Economic Co-operation and Development, Paris, France.

OGC, (2003), Measuring the expected benefits of e-Government ,Office of Government Computing, London.

Organization for Economic Co-operation and Development, (2006) E-government Project, Policy Brief, Paris, France.

Organization for Economic Co-operation and Development, (2001), The Hidden Threat to e-Government, Policy Brief, Paris, France.

Organization for Economic Co-operation and Development, (2002) E-government Project, Policy Brief, Paris, France.

Osborn, D. and P. Plastrik. (1997). Banishing Bureaucracy: Five Strategies for Re inventing Government. Reading, MA: Addison-Wesley Publishing Company, Inc.

Osborne and Gaebler, (1993)Models of Public Administration Reform: "New Public Management (NPM)"

Online Cambridge dictionary, 2006 www.cambridge.org

Patricia J. Pascual (2003) E-government e-ASEAN Task Force

Patton,(1990),Choosing Qualitative Research,A Primer for Technology Education Researchers.

Phil Noble & Associates (2001) E-DEMOCRACY AROUND THE WORLD, A Survey for the Bertelsmann Foundation) http://www.begix.de/hintergrund/Noble%20paper.pdf

Pollit C. (1990):Public management and policy networks

Prins, (2001)Electronic Government, Variations on a Concept in J.E.J. (ed.) Designing E-government, Kluwer Law International, Netherlands http://www.grchina.com/transcending_egov.pdf

Rachel Parker and Lisa Bradley ,(2000), Organizational culture in the public sector, evidence from six organizations.

Ralph Klischewski,(2005) German University in Cairo, Al Tagamoa Al Khames, New Cairo City, Egypt in Migrating Small Government Websites to the Semantic Web,

Ramsey C Bronk (2000), Comment on 'The Use of Bayesian Statistics for 14C dates of chronologically ordered samples: a critical analysis', Radiocarbon, 42 (2) 199-202.

Reinhard and Riedl (2005) Engineering, E-Government Platforms and G2G Solutions. Department of Informatics, University of Zurich.

Riley (2002)Chair and Executive Director, Commonwealth Centre for electronic Governance, Visiting Professor, University of Glasgow, President Riley Information Services,

Riely,(2004) develop information policies that encompass all the citizens in the countries.

Riley Thomas (2003) B , E-Government vs. E-Governance: Examining the Differences in a changing Public Sector Climate

Rimmer,(2003), Chief Executive Officer of the Australian National Office for the Information Economy, Measuring the Impacts and benefits of eGovernment, CISCO Public Services Summit, StockHolm,

Roadmap for E-government in the Developing World. The Working Group on E-Government in the Developing World (2002).

Sadeh,(2002), wireless technologies to deliver government services .

Sameer Sachdeva (2002).VISION OF E-GOVERNMENT IN ANDHRA PRADESH .

Scavo, C. and Y. Shi. (1999). "World Wide Web Site Design and Use in Public Management." InInformation Technology and Computer Applications in Public Administration Issues and Trends, edited by G. David Garson, 246-266. Hershey, PA: Idea Group Publishing.

Seneviratne, S. J. (1999). "Information Technology and Organizational Change in the Public Sector." In Information Technology and Computer Applications in Public Administration: Issues and Trends, edited by G. David Garson, 41-61. Hershey, PA: Idea Group Publishing

Servon, (2002).Tthe National Telecommunications and Information Administration (NTIA) .

Sheikh Mohamed bin Rashid (2005) – My Vision,UEA .

Sharon S Dawes,(2004),The Future of E-Government Director, Center for Technology in Government, University at Albany/SUNY www.ctg.albany.edu/publications/reports/future-egov.pdf

Silcock (2001) Institute of Public Administration & Management, University of Liverpool, Liverpool, UK

Singapore E-government Strategy (2005) http://www.igov.gov.sg/Strategic_Plans/iGov

Sorenson, O. (2003), From conception to birth: Opportunity perception and resource mobilization in entrepreneurship," Sorensen, J.B., Advances in Strategic Management.

Sorin Kertesz (2003) Cost Benefit Analysis Of e-Government Investments by Harvard University

Smith (2003) From youth work to youth development. The new government framework for English youth services. http://www.infed.org/archives/jeffs_and_smith/

Smithson, Steve; Serafeimidis, V. (1999).'Rethinking the Approaches to Information Systems Investment Evaluation.

Smith & Jamieson, (2006), Determining Key Factors in E-Government Information System Security, Director SEAR, Director SAFE, Asia Pacific.

Snow David and Leon Anderson (1991) "Researching the Homeless: The Characteristic Features of the Case Study," in A Case for the Case Study, Joe Feagin, Anthony Orum, and Gideon Sjoberg (eds.), Charlotte, NC: University of North Carolina Press. http://www.edemocratie.ro/publicatii/Cost-Benefit.pdf

Stake, R. ,(1995), The art of case research,Thousand Oaks, Sage Publications, CA.

State e-government services State of California (2001)

Statan and Becker (2000), The evaluation of more participatory democratic governance .

Statmikova (2005) Asbjorn Folstad, SINTEF IKT, Oslo, Norway. The Role Of HCI Practitioners in eGovernment Projects.

Tat-Kei Ho, A. (2002). "Reinventing Local Government and the E-Government Initiative." Public Administration Review (forthcoming).

Tashakkori and Teddlie, (2003) Mixed methods research, Alternative Approaches and Unresolved Issues in Conceptualization and Design of Mixed Methods

Tashakkori, A., & Teddlie, C. (1998). Mixed methodology, Combining qualitative and quantitative approaches. Thousand Oaks, Sage ,CA.

Taylor,(1998), Governing in the Information Age. Open University Press Buckingham, UK.

Texas online progrom,(2001),Electronic Government Strategic plan,
Version 1.0,January,State of Texas.www.dir.state.tx.us/egov

Trochim, M. (2000) Research Methods Knowledge Base : Types of Data,
http://trochim.human.cornel.rdu/kb/datatype.htm.
Accessed on 10 May 2003.

Trochim, William ,(2001),The Research Methods Knowledge Base, Second Edition by (Paperback - Aug)

Tellis Winston (1997) Introduction to Case Study
http://www.nova.edu/ssss/QR/QR3-2/tellis1.html

T. Carbo and J.G. Williams, "Some Determinants of User.Perceptions of Information Quality".

The government of Kuwait E-Government Goals (2004)
www.e.gov.kw/Default.aspx?pageId=13

The international tracking survey (2002)

The e-envoy of the UK government has suggested a model for e- Government security requirements (2002).

Thomas Wijsman.(2004).The challenge of E-Government- the Netherlands Court of Audit

Tommy Rosen (2001). The report E-Democracy in Practice municipalities , county councils and regions in Sweden
http://www.sociedadinformacion.unam. /E-democracySwedish.pdf

The Working Group on E-Government in the Developing World, 2002

United Nations Development Program UNDP (2004)

United Nations Development Program UNDP (2003)

United State's E-Government Strategy, (2002)

UK e-government strategy

http://www.cabinetoffice.gov.uk/e-government/strategy/

United Nation, (2004) http://www.un.org

UN Global E-government Survey (2004)

United State's E-Government Strategy, (2003)

United Nation, (2003) http://www.un.org

United Nations Proposal for Implementing e-Government: a strategy for transitional countries (2002)

United Nations, World Public Sector Report 2003: E-Government at the Crossroads

West, D. (2004). Global E-Government, 2004, Center for Public Policy, Brown University.

West ,(2000) ,West, Assessing e-government: The Internet, Democracy and Service Delivery by State and Federal Governments, Brown University, Providence,

Westhuizen &Streak J,(2004), Fitting the Pieces to Together: A composite view of government's strategy to assist the unemployed in South Africa 1994-2004' Idasa Occasional Paper.

Whittaker, B. (1999). What went wrong? Unsuccessful information technology projects. Information Management & Computer Security, 7(1), 23-29.Wikipedia, the free encyclopedia (2006)

World Bank (2004) www.wordbank.org

World Bank Introduction to e-Government (2006) www.wordbank.org

World Bank (2005). www.wordbank.org

WSIS, 2003 Policy Guidelines For The Development and Promotion of Governmental Public Domain Information.

Yin (2003) Case Study Research, 3rd ed. (Thousand Oaks, CA: Sage Publications).

Yin R. K. (2002). case Study Research, Design and Methods, 3rd ed. Newbury Park, Sage Publications.

Yin R. (1994). Case study research: Design and methods (2nd ed.). Beverly Hills, CA: Sage Publishing.

Zakon, R. 2002. "Hobbes' Internet Timeline v5.3,"

http://www.zakon.org/robert/internet/timeline/

Zhiyuan Fang, (2002) (E-Government in Digital Era: Concept, Practice and Development, School Of Public Administration, National Institute of Development Administration, Thailand,

http://www.inst- informatica.pt/v20/cid/biblioteca_digital/e-government/eGov_Digital.pdf

Appendix

Section A: Questionnaire For public General Traffic's Department (GTD)

This questionnaire is to be answered by the public at the General Traffic's Department in the presence of the researcher or any one working for him in order to provide assistance to the individual responding to this questionnaire. The questionnaire should be answered in a friendly atmosphere.

Personal Information:

SEX:

Male:
(464) 92.8%
Female:
(36) 7.2%

Age :

8-20Years:
(37) 7.4%
21-30 Years:
(163) 32.6%
31-40 Years:
(178) 35.6%
41-50 Years:
(101) 24.4%
51 Years & Above:
(21) 4.1%

41-50 Years:
(101) 24.4%
51 Years & Above:
(21) 4.1%

Nationality:

Kuwaiti:
(363) (72.6%)
Non Kuwaiti:
(137) (27.4%)

Education:

Below Secondary:
(88) (17.6%)
Secondary:
(156) (31.2%)
Diploma:(Two Years above Secondary)
(144) (28.8%)
Bachelors:
(112) (22.4%)

Questions

Q1: Do you have a P.C. at home or Work?

Yes:
299 59.8%
No:
201 40.1%%

If the answer is yes to this question, please mark the level of activity that best discribes your use.

Not used
59 19.73%
Sometimes
108 36.12%
Average user
82 27.42%
Frequent User
50 16.72%

Please mark the type of activity:

Keyboard Typing
74 24.75%
Word Processing
64 21.40%
Spreadsheets
30 10.03%
Email
108 36.12%
Internet Browsing
82 27.42%
Buying over the internet
45 15.05%

If the answer to question 1 is no, Do you expect to buy a computer within the next twelve months?

Yes:
(133/201) 66.2%
No:
(68/201) 33.8%

Q2: For what reason are you visiting the GTD, and what are the number of visits for each service performed?

(117 visits) Issuance or Renewal of Driving License:
Once (39) :Twice (37): Three times (8) :More than 3 Times: (33)
(126 visits) Renewal of Vehicle Permit Once:
(37) Twice: (45) Three times (10) More than 3 Times (3 4)
Payment of Traffic Violation:
Once: (68) Twice: (17) Three times: (5)) 149 visits More than 3 Times (59)
(108 visits) Transfer of Vehicle Ownership: Once :
(44) Twice: (14) Three times: (6) More than 3 Times : (43)

Q3: How much time do you spend at the GTD on each visit on the average?

Less than or about an hour
(114) 22.8%
Between 1-2 Hour
28.8%) 144 (
More than Two Hours:
(242) 48.4%

Q4: Would you like to make secure payments of traffic violations through the Internet?

Yes:
(361) 72.2%

No:
(139) 27.8%

Q5: Which of these services are you satisfied with? And if you are not satisfied, please state your reason.

Issuance or Renewal of Driving License
Extremely Unsatisfied
(81) 16.2%
Unsatisfied
(49) 9.8%
Satisfied
(263) 52.6%
Extremely Satisfied
(107) 21.4%
Issuance or Renewal of Vehicle Permit:
Extremely Unsatisfied
(77) 15.4%
Unsatisfied
(71) 14.2%
Satisfied
(298) 59.6%
Extremely Satisfied
(54) 10.8%
Payment of Traffic Violation
Extremely Unsatisfied
(148) 29.6%
Unsatisfied
(132) 26.45
Satisfied
(179) 35.8%
Extremely Satisfied
(51) 10.2%
Transfer of Vehicle Ownership:
Extremely Unsatisfied
(81) 16.2%
Unsatisfied
(101) 20.2%
Satisfied
(210) 42.0%
Extremely Satisfied
(89) 17.8%

Reason for not being satisfied:

- Crowded premises at the GTD.
- Poor services.
- No Que., or numbers given for public.
- The long time it takes to complete a service.

- Too many people paying their traffic violations for speeding in person, especially after the installations of cameras in the Highways.
- The breaking down of the Computer network at the GTD from one time to another forces the public to wait until the network is restored (network is used to retrieve information from mainframe).

Q6: Please state the services which you think are important to you but are not provided by the GTD?

- Payment of traffic violations by mail or automated telephone services.
- Inquiring about traffic violations by automated telephone services.
- Payment of traffic violations at the large grocery stores (Cooperatives) or gas stations.
- Placing electronic traffic signs that dispenses traffic information to help fight road congestion.

Other respondents did not distinguish between services and processes. There answers were such as :

- Delegating authority for one employee in order for him to deliver the required service, instead of having many employees each doing part of the service, which results in more time spent on each service.
- Getting red of paper when performing any service.
- Increasing work hours
- Unifying forms at the GTD
- Etc…

Q7: Would you like to be able to perform the following services through the Internet?

Issuance or Renewal of Driving License

Yes:	(383)	76.6%
No:	(117)	23.4%

Issuance or Renewal of Vehicle Permit:

Yes:	(378)	75.6%
No:	(122)	24.4%

Payment of Traffic Violation

Yes:	(403)	80.6%
No:	(97)	19.4%

Transfer of Vehicle Ownership:

Yes:	(308)	61.6%
No:	(192)	38.4%

Q8: Which of the following GTD's services would you view as important and can be improved

Issuance or Renewal of Driving License
Extremely Unimportant
(11) 2.2%
Unimportant
(52) 10.4%
Important
(136) 30.6%
Extremely Important
(284) 56.8%
Issuance or Renewal of Vehicle Permit:
Extremely Unimportant
(9) 1.8%
Unimportant
(37) 7.4%
Important
(151) 30.2%
Extremely Important
(303) 60.6%
Payment of Traffic Violation
Extremely Unimportant
(32) 6.4%
Unimportant
(39) 7.8%
Important
(117) 23.4%
Extremely Important
(312) 62.4%
Transfer of Vehicle Ownership:
Extremely Unimportant
(10) 2%
Unimportant
(34) 6.8%
Important
(164) 32.8%
Extremely Important
(292) 58.4%

Q9: Would you like to be informed about traffic congestion, road conditions and emergency information through your mobile Telephone? (the aim of this question is to find out if users would like to such reports in order to avoid being delayed while driving to and back from work.
Yes:
(310) 77.5%
No:
(90) 22.5%

Q10: How would you like to pay for your traffic violations?

GTD's Web site using banking card's number : (145) 29%
A local bank or banks using your banking card number: (111)
22.2%
Any of the above : (244) 48.8%

Q11: Are you willing to pay a little more to perform GTD's services through the Internet?

Yes:
(158) 31.6%
No:
(342) 68.4%

Q12: Electronic Government (e-government) is an activity by which Kuwaiti or any government provides some of it services online. These services can include filling up forms or applying for employment with the government or doing business with it. Would you like the GTD's Online services be linked other Online government services provided by one Web site?

Yes:
(366) 73.2%
No:
(134) 26.8%

Q13: Provision of Online government services involves some costs. Do you expect these services to be provided at no cost?

Issuance or Renewal of Driving License
Yes:
(307) 61.4%
No:
(193) 38.6%
Issuance or Renewal of Vehicle Permit:
Yes:
(322) 64.4%
No:
(178) 35.6%
Payment of Traffic Violation
Yes:
(363) 72.6%
No:
(137) 27.4%
Transfer of Vehicle Ownership:

Yes:
(314) 62.8%
No:
(186) 37.2%

Finally : please if you would like to get a copy of the results of the questionnaire, please write down your address:

Name:
Address: ----------

Thank you for taking the time to respond to this questionnaire.

Section B- Management Of GTD

Q1: What are the benefits of introducing Online services through the Internet to the public and department
1- Providing better services to the public.
2- Saving money on the GTD and time.
3- Staying in touch with latest technologies available.
4- Possibility of linking web site to other government sites and other GCC Traffic departments sites. -

Q2 : which of the following services do you think are important to the public and should be provided Online?
Issuance and Renewal of Driving License:
Extremely Unimportant
Unimportant
Important
(16) 80%
Extremely Important
(4) 20%

Issuance and Renewal of Vehicle Ownership
Extremely Unimportant
Unimportant
Important
(17) 85%
Extremely Important
(3) 15%

Payment of Traffic Violation:

Extremely Unimportant
Unimportant
Important
(18) 90%
Extremely Important
(2) 10%

Transfer of Vehicle Ownership:
Extremely Unimportant
Unimportant
(6) 30%
Important
(14) 70%
Extremely Important

Your Reason:

Saves Time and money and improves services.

Q3: which of the following services are you satisfied with the way they are

delivered to the Public to the public?

Issuance and Renewal of Driving License:
Extremely non-Satisfied
non- Satisfied
Satisfied
(4) 20%
Extremely Satisfied
(16) 80%

Issuance and Renewal of Vehicle Ownership

Extremely non-Satisfied

non- Satisfied

(2) 10%

Satisfied

(4) 20%

Extremely Satisfied

(14) 70%

Payment of Traffic Violation:
Extremely non-Satisfied

(4) 20%
non- Satisfied
(3) 15%
Satisfied
(5) 25%
Extremely Satisfied
(8) 40%

Transfer of Vehicle Ownership:
Extremely non-Satisfied
(1) 5%
non-Satisfied
(2) 10%
Satisfied
(12) 60%
Extremely Satisfied
(5) 25%

Reason for not being satisfied:

1- Too many visitors at the premises of the GTD.
2- Very few outlets for delivering GTD services.
3- Lack of knowledge of requirements to complete services at the GTD by the visitors.

Q4: Specify any other services you think are important to the public and should be provided by the internet.

1- Educational information using presented using multimedia
2- Information about traffic congestion, traffic reports, latest announcements from the GTD.
3- Links to other traffic departments in the GCC.

Q5 : What do you think the benefits for management from provision of GTD services online will be?

1- Reduction of time it takes to complete services at the GTD.
2- Improves services presented to the public.
3- Catch up with the latest technology, namely the internet.
4- Saving money by reducing the cost of delivering these services.

Q6: In your opinion which of the following challenges might face the GTD in the implementation of online services by the Internet? Please rank these challenges according to their importance.

A- Availability of skills
Total pints : 171 Average : 171/20 = 8.55 points
B- People & Culture
Total points 148 Average : 148/20 = 7.40 points
C- Organization structure and decision making process:
Total points : 119: Average = 119/20 = 5.95 points
D- Change Management

Total points : 177 Average : 177/20 = 8.85 points

E- Old Procedures difficult to change

Total points 176 Average : 176/20 = 8.80 points

F- Training staff

Total points 161 Average : 161/20 = 8.05 points

G- IT infrastructure

Total points 152 Average : 152/20 = 7.60 points

H- IT support

Total points 144 Average : 144/20 = 7.20 points

I- Other

Q7: In your opinion what are the costs of such project. And can they be justified?

1- Some of management said It should not exceed $ 100.000 -200.000 (hundred thousand - two hundred thousand dollars), otherwise,it would not be justified since it would be expensive.

2- Some others said, even if the cost exceeds $100.000-$200.000 (hundred thousand dollars - two hundred thousand dollars), the investment would be justified on the long run because it will improve services and help collect revenues more efficiently.

Q8: Management leadership and participation are critical to the success of innovative projects. Would you

1st- Be fully committed to the change program

Yes:

(20) 100%

No:

(0) 0%

Don't Know:

2nd- Invest your time to manage and control the project

Yes:

(20) 100%

No: (

(0) 100 %

Don't Know:

(0) 0%

C- Empower GTD employees to carry on the change

Yes:

(17) 85%

No:

(3) 15%

Don't Know :

(0) 0%

Section C- Technical Staff of the Information and Computer Systems Center (ICSC) in GTD

The GTD is planning to provide some of its important services (renewal of Vehicle Permit, Renewal of Driving license, payment of traffic violations ...etc) online. We would like to take your opinion on the following technical issues regarding such project.

Q1: What are the technical requirements for making the GTD services available to the public over the Internet?

Server

1- Powerful server or servers capable of storing all files about GTD's clients.
2- These servers should be linked to the GTD.
3- Trained personal.

Database:

1-Has to be connected to Public Information Authority + GTD's system.

2- Has to be installed on the server and needs to be updated daily.

4- Should be an Oracle, MS-SQL.
5- Has to be well organized.
6- Has to include all personal information of clients
7- We need to build a database that can serve al systems used by Internet User . This database, however, has to be linked to the GTD's Mainframe's database, or some other way has to be found, so information can be exchanged by both databases.

Network Hardware:

1- State of the art equipment: hubs, routers, fax modems , and cables.
2- More than one telephone line.
3- A specialized firm should conduct a study of the exact requirements.

Software:

1- Needs to be well studied.
2- Oracle, C++ or Windows 2000.
3- Very advanced software.

Security:

1- Use of password and firewall.

2- Use of firewall on servers and routers.
3- Special attention should be given, in case the Internet users can access GTD's mainframe files online. This will create a lot of security risks.

Q2: What are the current technical Difficulties facing the implementation of Internet technology at?
the GTD?

1- specialized personal.
2- Security of information.
3- Ability of users to use the systems.
4- Lack of motivation.
5- Training users.

Q3 which of the following services do you think are important to the public and should be provided Online?

Issuance and Renewal of Driving License:
Extremely Unimportant
Unimportant
Important
(6) 30%
Extremely Important
(14) 70%

Issuance and Renewal of Vehicle Ownership
Extremely Unimportant
Unimportant
Important
(3) 15%
Extremely Important
(17) 85%

Payment of Traffic Violation:
Extremely Unimportant
Unimportant
Important
(6) 30%
Extremely Important
(14) 70%

Transfer of Vehicle Ownership:
Extremely Unimportant
Unimportant
(2) 10%
Important
(7) 35%
Extremely Important
(11) 55%

Q4: which of the following services are you satisfied with the way they are delivered to the Public to the public?

Issuance and Renewal of Driving License:
Extremely non-Satisfied
non- Satisfied
Satisfied
(5) 25%
Extremely Satisfied
(15) 75%

Issuance and Renewal of Vehicle Ownership
Extremely non-Satisfied
non- Satisfied
Satisfied
(4) 20%
Extremely Satisfied
(16) 80%

Payment of Traffic Violation:
Extremely non-Satisfied
(4) 20%
non- Satisfied
(5) 25%
Satisfied
(11) 55%
Extremely Satisfied

Transfer of Vehicle Ownership:
Extremely non-Satisfied
(1) 5%
non-Satisfied
(2) 10%
Satisfied
(12) 60%
Extremely Satisfied
(5) 25%

Reason for not being satisfied

Only one place to pay for traffic violations in each governarate, and it it usually very crowded.

Q5: What are the benefits of providing GTD's services online from the viewpoint of the technical staff?

1- Saves time and money for the GTD.
2- Improves the skills of the technical
3- Introduces new technologies to the GTD.

Q6 : What factors would you judge as important in evaluating the success of

online services at the GTD starting from 1 being extremely unimportant and 10 being extremely important?

A- Availability of skills
Total points: 131 Average : 131/20 = 6.55 points
B- People & Culture
Total points :133 Average: 133/20 = 6.65 points
C- Organization structure and decision making process
Total points: 168 Average: 168/20 = 8.4 points
D- Change Management
Total points: 144 Average: 144/20 = 7.2 points
E- Old Procedures difficult to change
Total points : 166 Average : 166/20 = 8.3 points
F- Training staff
Total points: 137 Average : 137/20 = 6.85
G- IT infrastructure
Total points : 159 Average : 159 / 20 = 7.95 points
H- IT support
Total points 149 Average : 149/20 = 7.45 points
I- Other

Q7 : Do you think the benefits of this project justifies the costs of it and why?

1- Yes, since the Internet is the way of the future.
2- The public sector is starting to provide online services in other parts of the Gulf, and the world.
3- Improves services provided for visitors and saves them time it takes to go tot the GTD and finish their business.

Q8 : What are the technical training requirements for such projects, and who needs to be trained?

Answers ranged from teaching users how to use the Internet to training those involved in this project
on designing web pages, training on security of information, HTML language and XML.

Q9: What kind of technical structure and human resources needed to carry out and operate an online services at the GTD?

No specific structure was suggested. Answers stressed need for sufficient servers, hubs...etc. Answers also stressed the need to have programmers for Java and Oracle, and personnel with specific skills in Internet.

One interesting answer stressed the need for a study to determine requirements for technical and human resources

Questions for the Case Study Dubai Police (DP)

Q1:How do you evaluate the following e-government system that you have implemented in your organization?

Accessibility to the government's web sites (portal)

- ❑Strongly Agree
- ❑Agree
- ❑Disagree
- ❑Strongly Disagree

Government web sites (portal) are easy to browse

- ❑Strongly Agree
- ❑Agree
- ❑Disagree
- ❑Strongly Disagree

The privacy of user's information is well protected

- ❑Strongly Agree
- ❑Agree
- ❑Disagree
- ❑Strongly Disagree

Q2: What are the internal issues pertaining to your organization that affect the success and the speed of which the implementation of e-government project at your organization is carried out (such as change management, resistance to change, competition between competing groups and coalitions inside the organization) ?

1) ----------
2) ----------
3) ----------
4) ----------
5) ----------

Q3: Do you agree that the internal issues pertaining to your organization affect the success and the speed of which the implementation of e-government project at your organization is carried out (such as change management, resistance to change, competition between competing groups and coalitions inside the organization)?

- ❑ Strongly Agree
- ❑ Agree
- ❑ Disagree
- ❑ Strongly Disagree

Q4: Have you made sure that the online services presented on your organizations web site are the ones demanded by citizens (do you survey the users before or after the presentation of the services? Are the users satisfied with your services.How?

Q5: In your opinion what are the steps required to improve the bureaucratic model in management at the public sector and your organization to a management model that focuses on customer service (steps such as implementation of Business Process re-engineering , management, Quality management...etc)?

Q6: Do you agree that the steps required to help transform the bureaucratic model in management at the public sector and your organization to a management model that focuses on customer service (steps such as implementation of Business Process re-engineering , management, Quality management...etc) are sufficient ?

- ❑ Strongly Agree
- ❑ Agree
- ❑ Disagree
- ❑ Strongly Disagree

If not what are then the steps required for such transformation?

Q7: What are the steps that are taken to know the opinion of the user about the online services provided by your government? And are such steps sufficient?

Q8: What are the procedures taken by your organization to improve the process of risk management in the implementation of e-government projects (completion of project on time – adherence to budget) ? Are these procedures sufficient and why?

Q9: In your opinion what are the criteria and methods that are necessary to evaluate and measure the efficient implementation of e-government projects? Are such criteria and methods sufficient and why?

Q10: In your opinion what are the specifications that any team responsible for the implementation of e-government project should have in order to be successful in his task (specifications such as diversity in the profession among the participants e.g. technical, managerial along with strong leader, and the ability of such team to work independently and diligently in order to complete the project)?

Does the team you are part of posses such specifications?

Q11: Is there any framework for the cooperation among the deferent departments in you organization or among ministries or government organizations that you work in order to improve the flow of information that is required to implement e-government projects? What are these frameworks?

Q12: Is there any mutual support or coordination between you organization and civic groups and non-profit organizations to help spread basic information and awareness regarding on e-government? What are they?

Q13: How do you describe the quality of training for all employees or members of project teams that are involved in the implementation of e-government?

- ❑ High
- ❑ Good
- ❑ Average
- ❑ Below Average

How are these training programs being improved?

Q14: What is the nature of the communication plans and awareness programs that are provided for all employees involved in the implementation of e-government projects?

Q15: What are the obstacles that arise from the culture of bureaucracies (favoritism, bureaucratic procedures ...etc) that stand in the way of implementing e-government?

Q16: In your opinion what other Critical Success factors that are necessary to implement e-government projects.

Q17: In your opinion did the implementation of e-government projects help realize the vision and objectives for which your organization was created?

Q18: Do you think the implementation of e-government projects to service the citizens can be viewed at as one of the pillars of social justice for society (citizens and expatriates) How?

Questions of (PAAF)

Q1: Do you have a P.C. at home or Work?

- Yes
- No

Q2 - If the answer is yes to this question, please mark the level of activity that best describes your use.

- Not used
- Sometimes
- Average user
- Frequent User

Q3 - what the type of activity:

- Keyboard Typing
- Word Processing
- Spreadsheets
- Email
- Internet Browsing
- Buying over the internet

Q4 - Do you expect to buy a computer within the next twelve months?

- Yes
- No

Q5- Are you employ

Yes

No

Q6 – If the answer Yes

- in government
- in the privet sector

Q7 – Why are you visiting PAAF and what are the numbers of visits for each service performed?

- Expansion of Agricultural Land Plots:

Once ( ) :Twice ( ): Three times ( ) :More than 3 Times: ( )

- Relinquishment of Agricultural Land plots:

Once ( ) :Twice ( ): Three times ( ) :More than 3 Times: ( )

- Classification of Agricultural Land Plots

Once ( ) :Twice ( ): Three times ( ) :More than 3 Times: ( )

- Transfer of Agricultural Land Plots

Once ( ) :Twice ( ): Three times ( ) :More than 3 Times: ( )

- Merger of Agricultural Land Plots

Once ( ) :Twice ( ): Three times ( ) :More than 3 Times: ( )

- Drilling of Water wells

Once ( ) :Twice ( ): Three times ( ) :More than 3 Times: ( )

- Connecting Electricity to Agricultural Land Plots

Once ( ) :Twice ( ): Three times ( ) :More than 3 Times: ( )

- Advising Farmers

Once ( ) :Twice ( ): Three times ( ) :More than 3 Times: ( )

Q8: How much time do you spend at the PAAF on each visit on the average?

- Less than or about an hour
- Between 1-2 Hour
- More than Two Hours

Q9- Would you like to be able to perform the following services through the Internet?

- Expansion of Agricultural Land Plots

Yes No

- Relinquishment of Agricultural Land plots

Yes No

- Classification of Agricultural Land Plots

Yes No

- Transfer of Agricultural Land Plots

Yes No

- Merger of Agricultural Land Plots

Yes No

- Drilling of Water wells

Yes No

- Connecting Electricity to Agricultural Land Plots

Yes No

- Advising Farmers

Yes No

Q10 - Please state the services which you think are important to you but are not provided by the PAAF?

-
-
-

Q11- Which of the following PAAF services would you view as important and can be improved

- Expansion of Agricultural Land Plots:
  - Extremely Unimportant
  - Unimportant
  - Important
  - Extremely Important

- Relinquishment of Agricultural Land plots
  - Extremely Unimportant
  - Unimportant
  - Important
  - Extremely Important

- Classification of Agricultural Land Plots
  - Extremely Unimportant
  - Unimportant
  - Important
  - Extremely Important
- Transfer of Agricultural Land Plots
  - Extremely Unimportant
  - Unimportant
  - Important

- Extremely Important
- Merger of Agricultural Land Plots
- Extremely Unimportant
- Unimportant
- Important
- Extremely Important
- Drilling of Water wells
- Extremely Unimportant
- Unimportant
- Important
- Extremely Important
- Connecting Electricity to Agricultural Land Plots
- Extremely Unimportant
- Unimportant
- Important
- Extremely Important
- Advising Farmers
- Extremely Unimportant
- Unimportant
- Important
- Extremely Important

Q12 - Are you willing to pay a little more to perform PAAF services through the Internet?

Yes

No

Q13 If the PAAF provide these serves thought the internet you can save cost and time?

Yes
No

Q14 - Do you support the idea providing important information about plants diseases, plantation sessions and agriculture advise on the PAAF web site.

- Yes 95%
- No 5%

Q15 - Do you support the idea of providing important information about livestock, such as: (poultry, cows, and lamb diseases. Ways to prevent those diseases. Vaccination schedule. Fodder support) on the PAAF web site.

- Yes 90%
- No 10%

Q16- Do you support issuing required licensees and registrations for planting, and pay required fees through the PAAF web site.

- Yes 93%
- No 3%