Government Initiatives Case study:
Dubai e-Government Initiative

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Aisha Bin Bishr
MANCHESTER BUSINESS SCHOOL
(FACULTY OF HUMANITIES)
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ABSTRACT

World-over, E-Government has been recognised as a tool for radically improving the way governments interact with their citizens. While the obvious benefits of E-Government include providing convenience and easy access to customers thereby resulting in improved services to citizens, reduction of costs (by re-deploying resources from back-end processing to front-end customer service); providing easier access to information, increasing transparency and communication between government departments and with the public, the long term benefit of E-Government is also to make it easier for people to conduct their daily lives and business in the nation, thereby making it an attractive location to attract global talent. On the other hand, introducing E-Government requires a transformation in the way the government structure functions – thereby requiring a change in the organisational culture, managerial styles, systems and procedures apart from large financial investments towards technology upgrades. In order to ensure that e-Government is actually bringing about the changes that are desired (via the benefits) it is vital that strict performance measures be instituted on a continuous basis to check the effectiveness of e-Government.

This study investigates 8 government departments employing e-Government in Dubai through a case study method and seeks to identify the challenges faced by each department in providing their services to their customers, the performance measures that have been instituted by these departments to evaluate the effectiveness of their e-services and the benefits that they have derived there from. The key challenges and performance issues have been studied and how these challenges could be managed effectively has been analysed.

The study utilised the case study method by interviewing key members from each of the 8 departments studied. Important documents were reviewed and the researcher made personal observations from visiting the websites and portals of each of these departments. The results show that while the e-Government initiative in Dubai is quite advanced in comparison with the similar initiatives in countries across the world, there are several challenges faced by these departments. These include – no clear and standardised performance measures being used across the board, lack of technological knowledge and education initiatives for department staff and perhaps not enough organisational learning to improve the efficiency and effectiveness of the e-Government Initiative.
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List of abbreviations

ACSI: American Customer Satisfaction Index
AED: Arab Emirates Dirham
APEC: Asia Pacific Economic Cooperation
APMS: Airport Pass Management System
ASPA: American Society for Public Administration
BVPI: Best Value Performance Indicator
CMT: Common Measurements Tool
CSF: Critical Success Factors
DEA: Dubai Excellence Award
DED: Department of Economic Development
DEG: Dubai e-Government
DHMS: Department of Health and Medical Services
Dhs: Dirhams
DLD: Dubai Land Department
DFM: Dubai Financial Market
DIFC: Dubai International Financial Centre
DIH: Dubai International Hotel
DMD: Dubai Municipality
DNRD: Dubai Naturalisation and Residency Department
DP: Dubai Police
DPADM: United Nations Division for Public Administration
DTCM: Department of Dubai Tourism and Commerce Marketing
EFS: Executive Flight Services
EFQM: European Foundation Quality Management
e-OSIC: One-Step Information Centre
ESCWA: United Nations Economic and Social Commission for Western Asia
G2B: Government to Business
G2C: Government to Citizen
GOVERNMENT INITIATIVES CASE STUDY: DUBAI E-GOVERNMENT INITIATIVE

GAO: US Government Accountability Office
GITEX: Gulf IT Exhibitions
ICCS: International Council for Canadian Studies
ICT: Information Communications Technology
IEG: Electronic Local Government
IS: Information Systems
ISO: International Standards Organisation
IT: Information Technology
ITL: IT Laboratory
IVR: Interactive Voice response
KPI: Key Performance Indicators
MoH: Ministry of Health
MoL: Ministry of Labour
NGO: Non-Governmental Organisation
NOC: No Objection Certificates
NPM: New public Management
ODPM: Office of Deputy Prime Minister
OECD: Organisation for Economic Co-operation and Development
OMB Office of Management and Budget
OPORS: Overseas Promotion Online Registration System
PDA: Personal Digital Assistant
SMS: Short messaging Service
TEO: The Executive Office
TBS: Treasury Board Secretariat
UAE: United Arab Emirates
UNDESA: United Nations department of Economic and Social Affairs
UNDPEPA United Nations Division for Public Economics and Public Administration
USA: United States of America
WAP: Wireless Application protocol
WCM: Web Content Manager
CHAPTER 1: INTRODUCTION

This chapter provides a complete background of the current study. It gives a brief overview of why this area of research – that is performance evaluation of e-Government initiatives in selected departments in Dubai – has been selected as an important area for analysis and learning. It also provides a very brief background of the history of Information Technology (IT) as applied to public sector delivery, the importance of organisational learning with regard to improvement of e-Government initiatives, the e-services that are covered under the scope of this study and finally it gives a detailed account of the research questions being answered through this research, its aims objectives and scope and why the results are significant for public sector reform in Dubai.

I. Background of the Study

A. Information Technology (IT) in Public Service Delivery

Modern IT emerged from the crucial connection between digital systems and communication technologies. This connection has been perceived as the fundamental core of an information system, which involves various interactions between data, software and hardware as well as engaging private businesses and public corporations as users (Denhardt & Denhardt 2002).

Following World War II, the governments of various countries started focusing on rebuilding their economies, implementing national security plans and public health and safety. By the 1980’s there was such a heavy burden on government machinery, that public sector reform became inevitable. (Barzelay, 2001). Pre-reform, the public service delivery was organised according to the needs of the administration rather than the needs of the public. However the advent of Information Technology enabled the government to implement its reform measures in accordance with the perceived needs of the citizens. (Snijkers, 2005). IT has strongly supported the reform of public sector administration by improving the delivery of services to the public. Besides this, IT has also has had a positive impact on back-office processes and communication between public service delivery organisations, thereby facilitating public sector reform. Moreover, advanced information technologies have enabled public
organisations to obtain continuous feedback from users about the services they receive and how they could be improved. (Gray, 2007)

However, public organisations have encountered many setbacks with their IT and projects (Doherty & Horne 2002). According to an OECD research, a majority of government IT projects in the US have failed. Only 28% of all IT projects in 2000 in the US, in both government and industry, were successful with regard to budget, functionality and timeliness. Moreover, 23% were cancelled and the remainder succeeded only partially, failing on at least one of the three counts. The OECD recommends that governments must learn to manage the risks connected with large public IT projects and get the fundamentals of IT right if they want to harvest the huge potential of going online (OECD, 2001). Similarly, in the UK, in 2003 alone, the cost of failed governmental IT projects topped £1.5 billion. (Computing News 2003). In the developing nations, 35% of all e-Government projects have failed completely and 50% have failed partially. (Heeks, 2003).

In the context of the middle-east, research indicates that a large number of IT and e-Government projects in the Arab world have failed due to factors such as lack of citizen trust in using IT to interact with government, cultural barriers, and lack of IT readiness. The OECD has recommends that it is important for governments in the Arab region to listen to people’s needs and find the best way to organise itself to meet these needs. (OECD, 2007)

In this context, it would be safe to say that public sector organisations must understand all the factors involved in information systems, including management and organisational aspects. There is need for these organisations to have a comprehensive understanding of information systems to support effective operational applications: their dynamics and associated economic, political and social factors. Unless public organisations engage in such a learning process, they are unlikely to realise the full benefits derivable from IT systems (McLaughlin, Osborne & Ferli 2002).

This research seeks to contribute to such organisational learning. It does so by investigating the application of IT in public service delivery through e-Government, by deriving new information on the integration of IT applied to public service delivery in an actual e-Government context, together with the clarification of issues arising in this model of integration. I focus on the case study of e-Government in Dubai, and analyse on how selected government departments have attempted to evaluate the success or failure of the e-Government initiative through the use of performance management methodology.
B. Organisational Learning in the Public Sector

Organisational learning is the effective processing, constructing and reacting to information coming from within and outside of the organisation (Argyris & Schön, 1996, P. 15). Organisational learning comprises 'the capacity or processes within an organisation to maintain or improve performance based on experience'. Nevis et al (1995, p. 15) With regard to organizational learning in the context of e-Government, it requires developing cross-agency communication and contact - such that various government departments are able to create and sustain mutually beneficial dialogues, learn from each other's experiences, pool resources and utilise information (Lazer & Binz-Scharf 2008). In order to benefit from the organisational learning, it is necessary to create learning processes at the levels of organisational structure that involves vertical and horizontal linkages of personnel or departments and management that covers leadership and policymaking. This is especially important in view of the high degree of uncertainty about the impact of the e-Government programmes on improving public sector reform, user satisfaction, and perception about the improvement in services provided by the government. This uncertainty reflects the large number of intervening factors and adjustments that the public organisation needs to deal with. Public organisations providing e-Government services initially undergo a trial-and-error process, from which important lessons are (ideally) learned, that propel the public organisation towards the development of better practices, suiting its particular context. These lessons and associated practices could also be drawn upon by other government organisations going through similar experiences in e-Governance. There is need to consider and understand the various aspects of the learning process for e-Government in order to maximise learning, as a basis for improving practices for the public sector. This will include examining the nature of a public service, and the ways in which it can be integrated with IT to provide e-Government services. Ultimately, the learning process should catalyse general and widespread improvements in online public service delivery (McLaughlin, Osborne & Ferlie 2002).

C. Defining Public Services in the context of IT

The Strategic Planning & E-Service Provisioning Divisions, 2005 defined public service as “a set of tasks and/or processes carried out by one or more government department(s) to provide a benefit/value to the customer”. Additionally, Thomas and Miles (1989) provide a general classification of e-services that could also apply to public service. An e-service could be
distinguished into informational, interactive or transactional services, based on the extent of IT integration into public service delivery. Informational services provide data to the end user in which the users have no control to change, update or modify the given information. Interactive service allows customers to ask or inquire different questions, which the government department answers through direct interaction with customers in real time. The department, in this case, is responsible for the outright updates of information given to the customers through a series of context-based questions instead of selecting pre-listed questions. Lastly, transactional service usually results in a status change of the customer or service profile within the departments’ records thus requiring certain actions from the government department involving the initiation of internal processes. Most of these transactional services (if not all) require payment when delivered as private services (McDavid & Hawthorn, 2006).

These types of service are also roughly aligned to historical processes in service development. The development of e-Government services is a process constituted by different service provision channels provided to the public. Typically, of course, we begin with traditional offline services being supplemented by a number of online services. These include enhanced offline service, automated backend, manual backend, online, transactional semi-online, transactional fully-online and incomplete.

D. Performance measures to evaluate the impact of e-Government services

These e-Government service provisions involve analysis of the services being provided and alternative approaches to service delivery. This examination and the subsequent action offer opportunities for multifaceted organisational learning. This in turn could contribute to the enrichment of e-Government service delivery practices. This is especially so since experiences with e-Governance are diverse, depending upon the context of the public service institutions, extent of IT mastery and public service needs of the community. Various governments are engaged in the integration of IT into public service delivery, and they are likely to be at different stages of implementation – or even to be stuck at certain stages, due to issues that may arise from the structure of the public organisation or from the process of IT integration into public service delivery.

The effectiveness of e-Government service provisions is determined through the use of performance measures. Performance measures determine success by looking at the extent that e-Governance and e-Government goals have been achieved together with the problems
encountered during the process of completion. As such, performance measures constitute one important tool to promote organisational learning by enabling governments to derive information on various areas of e-Governance and determine the effectiveness of e-Governance based on a set of pre-determined expectations. Evaluation of the areas of successes and weaknesses leads to the derivation of lessons and the ways of enhancing e-Governance. This thesis aims to study various government departments in Dubai in terms of the performance measures utilised by each to evaluate the effectiveness of their e-Government programmes and the success/failure of these measures. The study also aims to provide a number of recommendations/suggestions to improve these performance measures in order to enhance the effectiveness of the services being provided by the government department.

II. Statement of the Problem

The research is based on a case study of Dubai’s e-Government initiatives. It uses this case to examine organisational learning and how the use of performance measures contributes to this. It proceeds with the following problem statement:

“How are performance measures used in this e-Government initiative implementation in order to improve service delivery?”

Organisational learning should, in principle, be derived from the comprehensive evaluation of the development and progress of the e-Government initiative of the Dubai Government. This thesis examines how far this is the case. It also investigates the issues of, and constraints associated with, efforts to introduce and implement online information and service provision to improve existing services. The thesis develops empirical data on the dynamics of the implementation of e-Government information systems, relative to performance evaluation measures, in Dubai. It uses these as basis for generalisations on better e-Government practice and performance evaluation measures. Addressing this problem should result in recommendations on improving the existing e-Government initiative in Dubai, as well as providing insight into e-Government practice more generally. These recommendations will be based on the analysis of tools used to measure performance, on the premise that performance measures comprise significant indicators of the strengths and weaknesses of the e-service initiative.

To address the research problem, this project seeks to answer the following questions and sub-questions:
A. Research Questions
- What are the existing performance measures available for use in the implementation of e-Government initiatives?
- Which are being applied in the case of Dubai, and why have these been chosen?
- What are the advantages and disadvantages of these performance measures in improving the implementation or delivery of the e-Government initiative (e.g. when selecting the appropriate measures to apply to this purpose)?
- How important are these performance measures in e-Government in improving e-Government services?
- How can performance measurement systems lead to improvements in public sector service delivery in and through e-Government?

B. Sub-Questions
1. How did the Dubai government select the performance measures to apply in the e-Government initiative?
2. What benefits were originally expected in utilising these performance measures in the e-Government initiative?
3. How are performance measurements based on private sector experiences implemented in the Dubai e-Government initiative?
4. How were these performance measures used to improve service delivery in the Dubai e-Government initiative (if they were)?
5. How effective were these performance measures in improving e-Government service delivery?

III. Significance of the Study

The possibilities of new inventions and innovations in the field of IT have raised the profile of e-Government. Challenges are posed by the broader socio-economic issues of cost-effectiveness, organisational adoptability and public ratification of the IT project, and the increasing and increasingly complex needs of clients and customers (of different social segments) from service and product providers.

However, IT in public service delivery is relatively underdeveloped compared to IT operations of private organisations because of the later adoption of the public sector of IT (Stowers, 2004a). This implies two things. One is that lessons may be drawn from the
experiences of private organisations to support the implementation of e-Government initiatives - especially where there are similarities between the structure and capabilities of business and government organisations. Another implication is the need to carefully derive standards or guides for IT integration into public service delivery. Lessons from the experiences of private institutions will be derived from the literature review while e-Government practical issues and lessons will come from both literature review and empirical data. The study seeks to contribute to knowledge in good practice for e-Governance initiatives by comparing theoretical ideas and approaches with the experiences of a government in implementing e-Government. In particular this study will focus on the use of performance measures applicable to e-Government to derive implications for public service delivery improvements.

The purpose of this research is to provide a more appropriate framework for assessing e-Government initiatives to provide better services to citizens and businesses. This should enable public service organisations to have a better idea of how to provide services to the people through IT systems, and thus inform decision-making about the design, acquisition and application of such systems. Since the benefits and drawbacks of the e-Government system will be presented, proper evaluation and assessment of such systems, and their application in public services will also contribute in designing improved public services to the people. The research should contribute to academic knowledge about how good practice is established and how the implementation of IT systems in public service proceeds. It will contribute new information, and affirm or challenge existing knowledge, from the evaluation of the IT experience of selected government departments in Dubai.

IV. Aim of the Study

This research project examines the benefits and challenges that six Dubai Government Departments face in the application of e-Government information systems with the objective of improving public services. The departments were selected based on their size or number of employees that each department houses. These include the Dubai Land Department and the Department of Dubai Tourism and Commerce Marketing (DTCM) for Category I, the Department of Economic Development (DED) and the Department of Health and Medical Services (DHMS) for Category II, and the Dubai Municipality (DMD) and the Dubai Police for Category III. Basically, this study aimed to evaluate the development of and derive better
understanding of the best practices for e-Government initiatives or IT transformation among the given categories.

V. Objectives of the Study:

Performance measurement is a critical issue. It is important for assessing the type and extent of success achieved in e-Government initiatives. It is also an important topic in its own right. How can we understand and explain the types of performance measure in use, and the effects of their use? These are questions that will help us make sense of the rich and evolving phenomenon of e-Government, and to provide practical advice to those organising initiatives in this area. But in order to begin to address the questions seriously, it is also necessary to undertake considerable work in generating and organising information about actual experiences of e-Government. Thus, among our primary objectives are ones of explicating and reporting on the details of e-Government initiatives in the country we are examining. Investigating and analysing the performance measurement approaches that are used in assessing the implementation of e-Government, and specifically in the case of the e-Government initiatives in Dubai, involves the accomplishment of the following tasks:

- To describe the e-Government initiative of Dubai in terms of goals, scope and extent of application, types of e-services offered, implementing government agencies, and performance measures.
- To determine the manner by which the government departments measure their performance in implementing the Dubai e-Government initiative in terms of:
  - Assessing the achievement of the goals pre-determined for the initiative, particularly the adoption of e-service delivery by the concerned public organisations, e-service delivery objectives, and consideration of the service delivery demands and expectations of citizens;
  - Improving implementation of the e-Government initiative in Dubai based on the results of the performance measures;
  - Taking into account the implications of e-Government system in the public service decision-making process;
  - Taking into account the contributions of the e-Government system in the design of government policies;
GOVERNMENT INITIATIVES CASE STUDY: DUBAI E-GOVERNMENT INITIATIVE

- Analysing the problems and issues that affect the implementation of the e-Government system as well as the measures used to address such concerns; and
- Analysing the current concerns in the implementation and utilisation of e-Government in the context of Dubai

- To determine the approaches to measuring the functionality of the available e-services offered by the Dubai Government Departments in terms of the:
  - Accessibility of the website;
  - Availability of online information and services;
  - Reliability of e-services transactions;
  - Clarity of website content;
  - Efficiency of service delivery;
  - Interactivity with public users;
  - Interactivity with other government departments;
  - Sophistication or extent of available critical services;
  - User-friendliness of the website;
  - Attractiveness of the website design and features;
  - Innovativeness; and
  - Flexibility towards systems change

- To analyse the underpinning ideas, and on-going developments, in the government of Dubai’s performance measurement approaches for implementing the e-Government initiative.

- To derive generalisations and ideas for best practice in the utilisation of performance measures to improve existing e-service initiatives in the public sector, by drawing on the experiences of the Dubai government agencies in implementing e-Government initiative.

VI. Scope of the Study

A largely descriptive and exploratory approach has been utilised in this research project. In addition to examining the Dubai context, this will encompass a discussion of: the characteristics of existing framework of performance management, the need and motivations for such performance management evaluation, the practice’s impact on the general governance in Dubai, and the economic benefits of having performance management systems. In addition to this, this study has resulted in the introduction of a new way of understanding the delivery of
public services in Dubai and of assessing e-Government performance similar to the approach utilised in the private sector. This reflected the researcher’s aim to assess the worth of such initiatives in Dubai municipal governance through using a case study research methodology. Moreover, the data gathering procedures are intended to provide a holistic approach enabling an in-depth investigation into the overall effect of modernising the operation systems of Dubai Government Departments. This accounts for the research questions of this study and thus the academic objectives set by the researcher.

VII. Conclusion
In view of the research indicating that most e-Government initiatives across the world have failed either fully or partially, the significance of a study of this kind cannot be understated. Research also indicates the importance of having standard performance measures to continuously evaluate the effectiveness and efficiency of e-Government initiatives to ensure that they continue to meet the needs of the main customers – that is the public. Without such measures, it would be difficult to sustain the e-Government initiative to a degree where it can continue to provide user-friendly services to the public and achieve its objectives. At the same time, different government departments must communicate with each other and share experiences in the interest of organisational learning and improvement. This study poses a number of research questions for study in terms of the e-Government initiative in Dubai, and how the above elements have been translated towards improving the e-services provided to the public.
CHAPTER 2: LITERATURE REVIEW

I. Introduction

The purpose of this chapter is to provide an outline of the existing research in the area of e-Government and how performance measures have contributed to organisational learning in the public as well as private sector context. It outlines the significant research that has been conducted in the context of integration of IT into public service delivery and to situate the results of this research within the framework of the present study. The importance of performance measures to drive organisational learning in the public sector and how this can be used to derive effectiveness of e-Government is discussed along with several management concepts that impact the successful integration of E-Government into overall government functioning.

The existing literature on the topic of IT systems in public service includes books, journal articles, and research papers – and a great deal of material published on the Internet – which covers the general research themes as well as the specific topics forming part of the study. The literature review has been organised into six general topic areas:

- A discussion concerning e-Government and its evolution,
- A discussion of the organisational concepts applicable to public organisations seeking to engage in e-Government initiatives,
- A background examination of the links between IT and public service,
- Documentation of the implementation of e-Government initiatives,
- A discussion of performance measures needed in assessing the viability of e-Government initiatives, and how these may facilitate learning from improvement of public services delivered through e-Government initiatives,
- Empirical data on the utilisation of performance measures in actual e-Government initiatives of different countries.

Each section was written as a management report, with the main results of the literature review being presented as implications for action. In this way conclusions are regarded as provisional, as they are subject to further exploration in the course of this research study. The
conclusions served as foundation for the development of the research problem and helped establish the objectives of the study.

I have also at appropriate points summarised the discussion on literature in light of the seven foci that I have used to gather data in this study. These seven foci are detailed in Section V, Chapter 3.

II. E-Government and its Evolution

In the context of this present research, it is important to have a clear background of the way E-Government has evolved across the world and how various governments have integrated public services with Information Technology. This will provide an insight into how the e-Government function has developed in Dubai in contrast to the rest of the world and thereby situate the specific challenges that are being faced by the selected government departments being studied in the present study.

The Internet is deeply changing lives and is affecting the way people work, learn and interact. Over the last 30 years, the internet has provided a tremendous scope for conducting commercial transactions, exchanging information, communicating and interacting between people, between organisations and between nations. Governments worldwide have also leveraged this opportunity to streamline their services and provide citizens with customer friendly procedures to save them time, cost and energy. Bureaucratic procedures which used to take hours and sometimes days to complete, are now transacted with a few clicks of the mouse, thereby eliminating frustrating red-tapism which was once the bane of government systems worldwide.

At this point, it would be useful to define the concept of “E-Government” and its benefits to provide a clear understanding in the context of the present study. Silcock defines E-Government as “the use of technology to enhance access to and delivery of government services to benefit citizens, business partners and employees”. (Silcock, 2001). E-Government leverages tools such as geographic information technology to provide customers including government staff, citizens and businesses with a portal for a more convenient access to government information and services, as well as to improve the quality of those services. E-Government presents local government agencies with tremendous opportunities to provide higher quality, cost-effective services that will improve the relationship between citizens and their government.
E-Government is important to the economic and social prosperity of individual citizens and community.

The government agencies that have adopted internet technology find that it increasingly drives their enterprise information management and data dissemination strategies, primarily because a majority of the data used by government is geographically referenced. More importantly, internet technology acts as a vehicle for sharing information and integrating services within and among many local government agencies. Information developed by one department or agency is useful to and needed by others. A local government agency looks the same, has the same assets, infrastructure, natural resources and other issues, whether the agency is trying to develop mass transit, provide economic development, clean up the environment, or improve utility services. The rationale behind E-Government is to provide people with an integrated service setting where they can access any and all of the public services being provided preferably through one portal.

E-Government as an IT system can be broadly defined as the concept that helps make governmental transactions simple and efficient (Sprecher 2000). Fountain (2001) also suggests that e-Government is somewhat synonymous to a virtual state wherein most of the operations, structure and capacity of the government are based on information and communication technology. In public administration the use of web technologies can actually be divided into two internal and external categories. Internal web technologies pertain to tools that can be used to organise, store and manage huge amounts of information or data. With these functions, up to date government information can easily be uploaded and downloaded by the clients or displayed on the website on real-time basis. The internal web function also allows governments to transfer funds through electronic means to other government agencies; and the intranet or internet system provided by internal web technology can also be used for relaying information to public employees. Responding to the requests of employees is also made easy through this function (Moon 2002).

External web technology on the other hand, also provides similar functions as with its internal counterpart. Through this, government linkages with the citizens are established through government web sites. Specifically, these online sites allow government agencies to conduct better public relations and communication with the clients. Information or data sharing is also made easy through external web technology; external stakeholders such as the public, interest groups, businesses and non-profit organisations can benefit from this feature. Interactive bulletin
boards accessed online also enable government agencies to encourage the public to participate in various government activities such as policy-making. Relaying important updates and information to the public is also made easier by posting public notices through the internet (Moon 2002).

Moon (2002) notes that e-Government is actually made up of four main internal and external aspects. This includes the development of a secure central database and government intranet for the purpose of observing more cooperative and efficient interaction among different agencies of the government; the delivery of service based on internet services; the application of e-commerce knowledge and expertise in order to conduct better government transaction activities; and the utilization of e-Government digital democracy, which in turn creates a more transparent and accountable government.

Some background information on how e-Government has evolved generally over the past few decades would help at this point in order to contrast it with the development of e-Government in Dubai and specifically in the context of the selected Dubai government departments being studied in the present research. Across the world, democratic governments have tried to provide transparent and efficient services and access to information for their citizens. Before the advent of the World Wide Web, governments utilised different methodologies to ease public service procedures (such as telephone hotlines, helpdesks and information newsletters). (Redmond, 1986; Seidle, 1995). With the coming of the internet revolution in the 1990s, the concept and use of e-Government had been introduced to public service delivery (Ni and Ho, 2004). During this time, both practitioners and scholars were still unaware on how e-Government works. Nonetheless, similar to other managerial practices and concepts for public administration, the e-Government concept followed the idea behind e-commerce and e-business.

The rapid evolution of technology as well as information and communication systems introduced new opportunities not only for the manufacturing industry but also for public service agencies including the government. Within the network of information, commerce and knowledge, ICT was able to bring servicing bodies and the public together. Indeed several technologies have already been used in order to support the e-Government concept. Some examples are interactive voice response, wireless service delivery, electronic and voice mail, public key infrastructure and electronic data interchange. With this, the government and its
officers become more accessible and transparent to the people. This outcome is in fact one of the reasons why governments realized the significant value technology has to their operations.

The e-Government evolution has proven to be good news for future e-citizens and e-businesses as it offers potential for services that are designed for the evolving needs of citizens. The augmented efficiency also results in significant cost reduction e-Government and improves transparency in intra-government collaboration – a fresh stage of accountability for political affairs. Bhatnagar and Singh (2010) for example, analysed 8 significant e-Government projects in India and identified a number of benefits to a variety of users. The user benefits include reduced cost to users of the public service, increased user satisfaction with the quality of service, decrease in corruption, increased user perception of transparency and fairness and general improvement in the user satisfaction with the public service. For agencies implementing the e-Government initiatives, the benefits included reduction in employee workloads, cost savings, and increased process efficiency.

At the same time, in order to ensure that all citizens have access to the technology that would enable them to access government services which will over the years increasingly be conducted online, the government agencies must plan better E-Government strategies in such a way that:

- conventional means of government service and data access are maintained for those customers who need them,
- access to the Internet and tools like Web GIS are available for those customers who cannot access it from their homes or businesses, and
- education and public information programmes are used to help the citizens of a community take advantage of the Web GIS functionality.

III. Information and Communications Technology (ICT) in Public Service

The on-going ICT revolution in different countries has transformed many activities and economic realities, and governments around the world are coming to accept this. As such, technology such as computers, mobile phones, televisions, and other such devices are becoming a mainstream method for gathering information and for gaining services from the government (Ho, 2002). Dubai, which is the focus of this study, is slowly catching up with the other Middle-East countries and North Africa in this respect (Burkhart & Older, 2003).
Al-Kibsi et al (2001) pointed out that e-Government can be advantageous both for the citizens and the government department, as it should lessen the cost that both parties pay in the interchange of information and the delivery of services that they may require and may be finished in lesser time and thus leave the department more opportunity to serve other people. Benefits will also increase, as the people will be more likely to use these services to their convenience. However, it is imperative that the IT used is based on the assessment of the government itself of its context-based ICT needs and the appropriate method for providing the service.

The positive outlook of much of the existing literature about in integrating ICT into public services indicates that there is strong support for the feasibility of e-Government initiatives. Since e-Government initiatives are likely to emerge, then, public organisations have to focus on ensuring that their strategic planning can allow them to achieve their targeted success rate.

At the same time, as governments are turning more and more towards ICT as their preferred mode for providing public services to citizens, some research studies have cautioned public sector organisations to keep the focus on the overarching goals of government which primarily being social welfare. Unless the aims of e-Government are aligned with overarching government philosophies, they are unlikely to have any major impact on public service delivery (Visser and Twinomurinzi, 2008) While it is well documented that use of ICT will and does reduce costs of providing services in some contexts (for example in the year 2000 alone, US Banks were able to reduce their costs from $ 1.27 per teller transaction and $0.27 per ATM transaction to a low as $0.01 per online transaction by shifting to an ICT based service thereby saving millions of dollars) (Lucking-Reilley and Spulber, 2001), there may be some fallouts of an overdependence on ICT to provide public services. One of these is the risk of potentially excluding a large section of the public who may not have access to the technology required to access ICT based public services – most notably the poor or those on the fringes of the society (Jones and Williams, 2005). This is even more relevant in the present context due to the fact that a large percentage of the expatriate population (which in itself comprises around 80% of the population of Dubai) comprises of labour workforce and they may not have access to computers or other devices that may be required to access such public services being offered by the government.
While most of the literature that I have provided above indicates that the use of ICT in providing public service is growing, there is also conversely, there is also some evidence that this may be true only of the developed world and that it may already have reached its peak in the industrialised nations. Heeks and Davies (2001) for example put forward the 4 stages of relations between ICT and public sector reform. These are:

- **Ignore**: ICTs are entirely disregarded in considering reform.
- **Isolate**: ICTs are included but disconnected from the reform process.
- **Idolise**: ICTs become a centrepiece of reform, seen as the transformative lever.
- **Integrate**: Reform goals are the ends, and ICTs are an integral means to achieve those ends.

According to the authors, it is at the “idolise” stage where the demand for e-Government is at its peak. After this stage, they have found evidence that e-Government programmes often fail, leading to a decline in e-Government as a mode of public sector reform. In some cases, of course, e-Government projects move into the “integration” stage where they are merged into overall reform goals and ICT becomes merely a means to the end of larger public sector transformation.

However, the authors find that in industrialised nations, the rate of e-Government failure is significant and therefore much of the reform ends at the “idolise” stage (Heeks and Davies, 2006 pp 22-48). In the context of our current study (this thesis), it would be interesting to take the research further and identify whether there are good chances of the Dubai e-Government Programme succeeding in this context as evidenced by the results of our study.

**IV. E-Government Initiatives**

It would be useful at this point to expand more on how various governments have utilised e-Government initiatives to provide better public service delivery and how the e-Government progresses in a society. In the literature, e-Government is defined in a number of different ways. However, most common features of these definitions are included in that of McClure, Sprehe and Eschenfelder (2002) (cited in Stowers, 2004a:169); that is “the use of technology particularly web-based internet applications, to enhance the access to and delivery of government information and services, and government entities”. E-Government is also described as a ‘tool to enhance the economic competitiveness of business and to empower citizens’ (ESCWA, 2003:2),
and as a means to improve both service delivery and government decision-making (OECD, 2001). Some of the benefits to citizens and businesses from this initiative are identified as following: better delivery of services and information; the creation of new employment opportunities; reform of the public sector; empowering citizens through access to information; bridging the digital divide; and improving efficiency, effectiveness, transparency and accountability of government processes (ESCWA, 2003). The perceived benefits even stretch to increase the possibility of foreign investment and assistance (ITU, 2002).

E-Government is thus variously described as a particular tool or set of techniques, and as a more general strategic orientation. One reason for the range of definitions and of supposed benefits is that E-Governance is still in the process of evolution and development – as new ICT permits new applications, and as governments learn about how better to match these applications to their requirements. With the development of the Internet and Web, e-Government has been increasingly viewed as a matter of online services, not just back-office computerisation. In order to give a clearer view of the development of online Government presence, the following is a description of the e-Government stages of progress derived from UNDPEPA (2002):

- **Emerging**: In this stage, a few independent government official websites establish their presence. The websites contain limited, basic and static information. The Internet functions as a brochure for posting government information online. In this stage customers cannot interact with officials.

- **Enhanced**: a comprehensive regular updating for the content and information of the websites, including publications, legislation, newsletters, links, search engine and e-mail capabilities.

- **Interactive**: great deal of communication through downloadable forms, official emails through which users can make appointments and requests.

- **Transactional**: a financial transaction presence where users can pay for services online. In addition, more sophisticated functions including digital signatures, passwords and encryption are also provided.

- **Seamless**: full integration across departments to present e-Services and functions. All services can be accessed instantly from one portal without differentiation between government agencies and departments (UNDPEPA, 2002). In practice, this stage has been realised by few if any governments, and represents more of an aspiration than a reality.
These stages are representative of the government’s level of development, in terms primarily of the content and deliverable services available through official websites. They represent a method for quantifying progress: and, indeed, as the earlier stages in e-Government initiatives have become operational, so governments have begun to focus attention on measuring the efficacy, performance and impact of their websites. Performance measurement is a very important tool for e-Government efforts. It can monitor the process of the e-Government initiatives and ensure that government’s time and fund are being well spent (Stowers, 2004b).

However, the achievement of the objectives of such government initiatives is not simple nor is it linear. A straightforward progression through the stages mentioned above is problematic. In practice, various intervening variables that would necessarily complicate the process of developing and implementing e-Government initiatives. There are context-based differences between governments that result in governments remaining in the same stage, skipping some stages or moving in a cyclical pattern.

Not surprisingly, then, other stages have been propounded in the available literature. Windley (2002) classified the e-Government initiative process into four broad stages, which are:

1) providing convenient access to citizens and businesses of government information and services;
2) improving the quality of public services;
3) providing better opportunities for citizens and businesses to engage in democratic associations and processes; and
4) transformation of government.

Although these steps appear to be simple, in application the stages are complex. For instance, while the initial stage of development in many different governments will involve the introduction of online government information services, it is often the case that while this stage is still progressing, there will be some integration of government services on websites. Even with the provision of government services on the internet, some aspects of the service may not be fully accessible online, furthermore: this may for example be because of the requirement for full identity authentication or verification prior to any entitlements so that people still need to transact with the government agency in question, by traditional means in order to complete the service.

Windley’s stages offer a more realistic perspective on the development of e-Government initiatives for several reasons, one being the consideration of the practical steps leading to
transformation. Another is its recognition of the non-linearity of the stage-based processes in actual practice because of the recognition of improvements. Still another reason is Windley’s four stages move from a focus on initial service delivery followed by improvement in the service, to the transformation of government. However, these stages may still not take sufficient account of the various intervening factors that are liable to influence the e-Government initiative process.

Another approach to e-Government initiatives considers the process as a development cycle moving from being government-centric towards becoming citizen-centric – which is seen as parallel to the cyclical movement from an informational service to a transactional service (State Services Commission, 2007). This constitutes a cycle, because of the continuing assessment of services and refocus of service delivery towards citizen welfare but could go back to government focus through time.

The cyclical e-Government initiative stages discussed above describes the initiative process continuum. However, in itself it is too broad to be useful for planning. The “stage” terminology is not being used in an organic development way, though there is the implication that some stages are more advanced than others; but different stages can coexist in different parts of the organisation. The first stage could mean something different if another part of the organisation is already in the succeeding stages. This means that there is wide room for the development of a stages approach that integrates these different elements into a more encompassing perspective that can provide clear and applicable guidelines for the e-Government initiative.

An enhanced e-Government strategic perspective being used in the initiative perspective encompasses the different aspects of the process. This necessitates the development of new forms of governance, funding, system architectures, and technologies. In addition, rethinking the system of public management is another necessary aspect of the process. This implies the need for performance measurement systems to facilitate the determination of the areas targeted for improvement.

Table 2.1 below shows the various models of e-Government initiative implementation described in the literature. The mode or combination of modes to be applied by a public organisation depends upon its characteristics so a comprehensive approach is not possible. Public organisations that are still developing usually follow the five-stage approach because the stages of e-Government initiative implementation coincide with the stages of development. This is
because it is within the stages of development that the initiative is considered for implementation. Commonly, governments in the process of developing e-Government consider the initiative as part of development. Developed organisations usually apply the cyclical stages because these offer room for changes and flexibility to accommodate e-Government initiatives. Developed organisations can use the cyclical approach to introduce, enhance and reintroduce e-Government initiatives. In other contexts, between the developing and developed organisational perspective continuum, the four-stage model could be combined with the five-stage model or the cyclical model according to the needs of public organisations to provide an applicable framework for implementing e-Government initiatives.

Table 2.1 Various models of e-Government initiative implementation

<table>
<thead>
<tr>
<th>Models of e-Government Initiative Implementation</th>
<th>Core Strength</th>
<th>Core Weakness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Five Stages of e-Government Initiative (UNDPEPA, 2002 – see page 31 of this thesis)</td>
<td>Coincides with the stages of development of Governments, Governance and Public Service Delivery</td>
<td>Linear Approach</td>
</tr>
<tr>
<td>Four Stages of e-Government Initiative Stages (Windley, 2002 – see page 32 of this thesis)</td>
<td>Non-linear Approach</td>
<td>Over Simplification of Complex Processes</td>
</tr>
<tr>
<td>Cyclical Stages of e-Government Initiative (State Services Commission, 2007 – see page 33 of this thesis)</td>
<td>Wide Room for Initiative</td>
<td>Broad Coverage</td>
</tr>
</tbody>
</table>

Source: (The Author, based on the descriptions of the concepts by different authors as mentioned in column 1)

Research presented in Sections II, III and IV above is particularly relevant to the first of the seven foci that I have used to collect the data that is: “the utilisation of the e-Government system in improving public services”.

V. E-Government Challenges

Literature on e-Government projects and their rates of success has consistently pointed out the high failure rates of such projects both in developing nations as well as developed nations. For example, using the results of a poll in September 2002 of members of the e-Government for Development Information Exchange, who have relevant e-government expertise
and analysis of more than 40 reports on e-government cases from developing and transitional countries, submitted for academic assessment at the University of Manchester, Heeks (2003) produced the following working estimates for e-Government projects in developing/transitional countries:

- 35% are total failures,
- 50% are partial failures, and
- 15% are successes.

The author attributed these failures to a number of factors including the gaps between design of the e-Government project and the reality of the situation. The author holds that e-Government success and failure depends upon the gap that exists between "Where we are now" (the current realities of the situation) and the "Where the e-Government project wants to get us" (that is the model or conceptions and assumptions built into the project's design) (Heeks, 2003, pp 2 – 5). The author suggests that the larger this design-reality gap, the greater the risk of e-government failure and conversely of course, the smaller the gap, the greater the chance of success. Further, the author recommends seven dimensions that need to be managed in order to ensure a success of an e-Government project that is:

- Information
- Technology
- Processes
- Objectives and values
- Staffing and skills
- Management systems and structures
- Other resources: time and money

The author attributes these failures to a number of gaps. These include the following:

*Hard-Soft Gaps*: that is the gap between technology and the soft factors that is people, politics, emotions and culture. According to the author, when technology is imposed willy-nilly to an e-Government project without regard to the political and cultural factors, they are often rejected by the users and result in complete or partial failures.
Private-Public Gaps: When an e-Government project utilises information systems designed for the private sector and try to fit it into the context of the public sector which has a very different operating culture and requirements, the e-Government project is much more likely to fail.

Country Context Gaps: When Governments of transitional and developing nations (or the IT consultants) try to pull solutions off-the-shelf from other countries (usually developed nations) and impose it on their situation without considering country-specific realities, partial or total failures is the frequent result.

The issues related to Information Technology have been highlighted as another major challenge faced by governments attempting to put in place effective e-government initiatives. Jaeger and Thompson (2003) have outlined a number of factors related to this area. Simply put, for e-government to be effective, the necessary technological infrastructure must be present and provide service to all citizens. How well a user is able to access and utilise e-government is directly dependant on how easy it is to access the service and upon the user’s skill. If for example less advantaged sections of the citizenry are limited by their lack of skill, education or access, e-government will not be successful. (Jaeger and Thompson, 2003).

Similarly, according to Holmes (2001), government has a moral obligation to ensure that all citizens have equal access to public services regardless of their age, ethnicity, education, income, location or skill level. This author has also has presented a number of challenges faced by e-Government currently and also envisages new problems as e-governments become more sophisticated in the way they provide public services online. Some of the future challenges for e-government envisaged by the author include cyber terrorism and the threat from hackers and internet viruses; power outages that can take down a web server and perhaps a department's website with it; or loss of transaction because of a tenuous connection to the back office platform. The author suggests that successful e-government initiatives have adopted the “think big, start small, scale fast” approach allowing public services to be placed quickly online and making it easy for users to access each service before introducing the next one; and in this way avoiding some of the failures faced by larger and more cumbersome projects which tried to put everything online at once. The most important point made by Holmes (2001) however is the contention that organisational and political challenges are the greater threat to e-government than Information Technology alone and the major concern for e-Government should be to provide
“better governance” rather than merely ease of access or automation of public services. The author has suggested more and closer partnership between the public and private sector and for designers of e-government transformation to be more context specific (keep in mind cultural, political and organisational issues while designing e-government platforms rather than trying to impose private sector frameworks to government without taking into account critical differences).

In this context Lau (2003) has outlined a number of challenges faced by e-governments in OECD countries. These include:

Rapid technological change: According to the author, technological advancements have resulted in a bewildering array of technical solutions and governments face the challenge of fostering the development of e-government while there is still great uncertainty regarding fast moving technological change. While new technologies promise better solutions, there is a greater risk of failure with new and untested technology.

The digital divide: The author states that in OECD countries, while a growing number of people have access to the Internet, there are still remain large numbers of people who do not. While e-government can improve services to citizens through other channels, the inability to provide online services to all citizens can hold back e-government projects.

Citizen expectations and seamless services: Another constraint postulated by the author is the difficulty with which governments are developing services that are customer-focused. As governments are developing more and more electronic services, they are also coming to the realisation that they often do not know what kind of e-government citizens want. The challenge for e-government then is determining the preferences of citizens and businesses with regard to the structure and content of electronic services.

Future challenges for e-Government envisaged by the author relate to privacy and security concerns. E-Governments which do not address citizens’ concerns around maintenance of privacy and security of the information provided are not likely to be as effective as those which demonstrate a strong interest in maintaining citizens’ trust that information provided will not be misused. The challenge facing e-government coordinators and implementers is to respect
accepted privacy principles while allowing the benefits of the Internet and other technologies to flow to citizens. (Lau, 2003).

Similarly, in a longitudinal analysis of the evolution of e-Government from the 1990s to date, Dawes (2008) concludes that while concern for service delivery, effective management, IT investments, and public access all continue to remain a challenge for e-government, security has taken on renewed importance associated with increasing dependence on massive data bases and networks and the related need to protect individuals, organisations, systems, and infrastructure from fraud, errors, hackers, and attacks. This author echoes previous research by stating that the future and current challenges for e-government revolve around factors such as:

Citizen access and engagement: pointing towards concerns for closing the digital divide, broadband deployment, public comment, and community discourse.

Collaboration, information sharing, and integration: concerning the importance of integrating services and partnership between different government departments to provide seamless services to citizens and users. According to the author, these integration efforts are technologically, organisationally, and politically challenging and therefore often involve the need for cross-boundary governance structures, new work processes, and significant policy attention, as well as technical tools and organisational change that respond to the needs, capabilities, and limitations of multiple organisations.

Information management: relating to the use and preservation of user information including electronic records and archives. These issues, according to the author address information quality, authenticity, and stewardship, as well as strategies for effective information collection, storage, management, and access by government and others. They also include concerns for electronic documents, databases, transaction records, e-mail, and multimedia material that need to be archived and protected.

Through an empirical, web based research of 15 case studies undertaken in developing countries (Argentina, Brazil, Chile, China, Colombia, Guatemala, India, Jamaica, the Philippines) which have already explored and implemented e-government initiatives, Ndou (2004) has presented several insights into the challenges of e-government in developing countries. These include:
ICT Infrastructure: According to the author, many developing countries suffer from the digital divide, and they are not able to deploy the appropriate ICT infrastructure for e-Government deployment. The development of basic infrastructure to capture the advantages of new technologies and communications tools is essential for implementing e-government. The author suggests that different access methods, such as remote access by cellular phones, satellite receivers, kiosks, etc., need to be taken into consideration by governments in order that all members of society can be served irrespective of their physical and financial capabilities. Moreover, e-readiness and ICT literacy are also necessary in order for people to be able to use and benefit from e-government applications.

Policy Issues: According to the author, processing of e-government principles and functions requires a range of new rules, policies, laws and legislative changes to address electronic activities including electronic signatures, electronic archiving, freedom of information, data protection, computer crime, intellectual property rights and copyright issues. In many developing countries, e business and e-Government laws are not yet available. Establishing protections and legal reforms will be needed to ensure, among other things, the privacy, security and legal recognition of electronic interactions and electronic signatures. Hence, governments all over the world need to tackle the design and development of a public key infrastructure, which will guarantee secure transactions between organisations and individuals.

Human Capital Development and Life Long Learning: A major challenge of an eGovernment initiative is the lack of ICT skills in the public sector. According to the author, this is a particular problem in developing countries, where the chronic lack of qualified staff and inadequate human resources training has been a problem for years. The availability of appropriate skills is central for successful e-government implementation.

Change Management: The author states that change management issues need to be addressed as new work practices, new ways of processing and performing tasks are introduced. Ndou’s research in this context has been discussed at length in another section in this thesis.

Partnership and Collaboration: Collaboration and cooperation at local, regional and national levels, as well as between public and private organisations, are important elements in the e-government development process. The author found that governments in developing nations often exhibit considerable resistance to open and transparent systems as they try to preserve their
authority, power and hierarchical status. To ensure that the public and stakeholders will be partners in the e-government effort, it is important to try to build trust in government.

**Strategy:** The author contends that one of the main challenges for an e-government project is the establishment of an appropriate and context tailored strategy. Every project or initiative needs to be rooted in a very careful, analytical and dynamic strategy with a focus on many aspects and processes, a holistic vision, long-term focus and objectives. Many public institutions limit their activities to a simple transfer of their information and services online without taking into consideration the re-engineering process needed to grasp the full benefits.

**Leadership Role:** The public sector presents unique challenges for leadership, according to the author. Leadership is one of the main driving forces of every new and innovative project or initiative. Since e-government is a complex process, accompanied by high costs, risks and challenges, public organisations are generally resistant to the initiation of change. A leading player (organization, institution), which is able to understand the real costs and benefits of the project, to motivate, influence, include and support other organizations and institutions, is required. Leadership is necessary before, during and after project implementation. Before the project is initiated, leadership is needed in order to explain the concept, the model and create awareness; during the project, leadership is needed to manage change and support the project; and after the project, it is needed to pledge the required flexibility and adaptability of the initiative.

A number of contextual and design challenges have also been identified in e-Government research literature. According to Heeks (2005), in understanding e-government applications, we need to pay close attention to the application designers and their context; particularly their values and their perceptions. The e-Government project is likely to face failure if there is a large mismatch between what designers inscribe into an e-government application; and the realities of the users’ context. This is particularly likely if the designer is drawn from a context which is very different from the context the e-Government project applies to.

The author of that research identifies several externalities which could create a mismatch including "disciplinary externality" (the designer belongs to the IT department which is different from the department which eventually administers the e-Government project and is therefore closer to the user requirement); "sectoral externality" (the designer is hired from the private sector and lacks the understanding of the unique processes, systems, structures, and culture in the
The author then goes on to recommend certain enablers and drivers which would increase the chances of the e-Government project succeeding. These include a flexible technology which allows the users to adapt the framework and infrastructure to their own needs and requirements; a flexible project design (such as placing the design consultants into the user context for longer periods and thereby enabling them to have a better grasp of user realities as well as continuously involving actual users into the system design through seminars and feedback thereby allowing the e-Government project to evolve with user needs) and finally local capacities that are hybrids and act either as a bridge between those two contexts, or as having a foot in both contexts (for example design consultants who are experienced in developing e-Government projects in another successful context but also have a grasp on local realities and culture). Moreover, it is important to analyse and take into account the network of interests that may operate to either support or thwart the successful implementation of the e-Government project (such as political interests, user groups etc).

Bhatnagar and Singh (2010) also note that the success of e-Government projects could be significantly challenged by strong vested interests who may resist the transformation to a more transparent and accountable form of governance. The authors recommend that baseline surveys should be conducted prior to implementing projects so that locally relevant, concrete improvements can be targeted and that impact evaluation should be built into e-Government projects.

Similarly, Carter and Weerakkody (2008) note that local agencies need to highlight the benefits of e-government services compared to the other options for contacting the government. Local agencies also need to employ trust building strategies to increase citizen confidence in e-enabled services since a lack of trust decreases e-government adoption. While the latter study was conducted in the context of UK, this recommendation would be useful for a study of e-Government projects in a transitional economy like Dubai.

Andersen (2006) argues that e-Government holds the potential to facilitate the complementary use of information systems in government comprising both operational and
strategic use; however if this metamorphosis is to occur, managers are facing five key strategic challenges:

**Table 2.2: Strategic Key Challenges for E-Government**

<table>
<thead>
<tr>
<th>Strategic key challenge</th>
<th>Proposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand paradox</td>
<td>Costs for online presence and explicit visions for whether the associated costs should be seen as operating costs and a need for centralization in decisions on how and where IT is being adopted</td>
</tr>
<tr>
<td>Gate keeping</td>
<td>Implementing e-government visions with respect to queuing, routines, time allocation, and psychological barriers.</td>
</tr>
<tr>
<td>Reduction of high labour intensity in service provision</td>
<td>Complementing the digital wheelbarrow view of IT with a vision on how to reduce the labour intensity in service provision.</td>
</tr>
<tr>
<td>Assessment of employees’ readiness</td>
<td>Reorganizing the division of labour from the individual cases solved rather than simply following the existing organizational conventions.</td>
</tr>
<tr>
<td>Competence building mechanisms</td>
<td>Envisioning how competence building for government workers should evolve. Piloting of reward mechanisms for competence building using IT</td>
</tr>
</tbody>
</table>

*Source: Andersen (2006)*

Having provided all of the above research on e-Government, it is important to note that e-Government literature has not reached the level of rigor and analysis that some of the other fields of academic study have done especially those which have close linkages with e-Government such as political science, Information Technology and public administration. Heeks and Bailur (2007) for example conducted content analysis of 84 e-Government academic papers from three refereed journals and discovered a strong theme of over-optimism, even hype, and a consequent lack of balance in considering the impact of e-government. They also identified that most of the research studies utilise insufficient theoretical frameworks, nor do they postulate any significant models for use in further e-Government research. Moreover, research on e-Government lacks critical work that could provide significant practical recommendations or encourage an accumulation of knowledge on practices, theories, models etc. The current research hopes to
derive some important recommendations and lessons for application in the context of UAE as well as the region in general.

The research presented above is particularly relevant to the fifth and sixth focus areas that I have used to gather data. These are: The problems and issues in the implementation of the e-Government initiative, and the current concerns of the government in implementing and utilising the e-Government system.

VI. Concepts Underlying IT Use in Public Service

In accordance to IT used by organisations some key points from the more general literature bearing on public sector reform is important. With this, the following discussions cover three organisational concepts closely encompassing the efforts of public organisations to engage and implement e-Government initiatives in delivering public service. Basically there are commonplace ideas used in the discussion of public sector reform. These concepts were selected as providing useful, if partial, accounts and frameworks bearing on the evolving experiences of the public sector with IT transformation. It is important to review these concepts in the context of the present study as they provide valuable insights into the specific challenges being faced by the studied government departments in implementing their e-Government, and effectively evaluating these services thereby driving their organisational learning.

The first concept is change management, which involves the strategies for achieving systematic change within the organisation. It is valuable to provide a background of change management within the context of the present study as e-Government provides an opportunity for radical cultural and value transformation across the board for governments that implement it. Moving to e-Government requires the entire government functioning to move to a completely different way of functioning reducing the dependence on people and increasing the dependence on IT systems. As such it requires employees to think and act differently in relation to their customers and the services they provide and therefore change management becomes critical in this context. At the same time, Performance management often takes into account change management procedures while evaluating the effectiveness of any new methodology being instituted and effective change management procedures can often be the key to ensuring the success of a new venture such as e-Government.
Change Management is an idea that is not unique to public services of course, and there is considerable literature relating to the private sector. But it is particularly relevant here because of the need for public organisations to undertake changes in organisational structure, competencies and culture in order to bring forth an organisational environment conducive to the development and implementation of e-Government initiatives. Likewise, change management may be required for the application of performance measures to evaluate progress in the e-Government initiatives, especially in contexts where the use of such measures is unfamiliar.

The second conceptual framework is that associated with new public management (McLaughlin, Osborne & Ferli 2002). This is a broad label commonly used for an approach (and the philosophy behind this approach) that focuses on the tools needed by members of the public organisation to modernise their administrations. As the practice of e-Government is in part included in the efforts of public sector organisations’ efforts to reform their workings and make their procedures more transparent and less bureaucratic for their customers (namely citizens, other government departments and suppliers etc) it is important to provide an overview of this concept. In the discussion chapter, we will focus on how various selected government departments have integrated their e-Government offerings with their efforts towards general overall transformation for more transparent and efficient government functioning.

New Public Management derives from policy research that has critically compared public and private sector bodies, with an aim to identifying and reducing management inefficiencies in the former. While the concept applies to a wide range of reform initiatives, it is relevant to the strategies whereby public sector bodies can successfully adopt and comply with the requirements of e-Government initiatives. Across the world, e-Government initiatives are based on the general concepts of New Public Management. (Hammer, 1990; Chadwick and May, 2003). These concepts include in general, accountability, efficiency, performance focus, results orientation, decentralization, as well as some key private sector practices such as customer focus, competition, human resources management and outsourcing. New Public Management focuses on the separation of politics and administration to a large extent. (Bonina and Cordella (2008).

More specifically, New Public Management involves the broader use of Information and Communication technology (ICT). (Gruenig, 2001; Hood, 1991, Kettl, 2005; Borins, 1997) In the context of the present study therefore, a discussion on some of the concepts derived from New Public Management would be largely useful in order to understand how e-Government has transformed the selected departments being studied in the present study and to what extent such
transformation has resulted in increased efficiency, accountability and transparency in government functioning as well as government–citizen interaction, and whether the performance measures being utilised by these departments have served to evaluate these impacts effectively.

The tools of New Public Management discussed include, for example, ways of motivating members of the public organisation to encourage them to cooperate in the changes needed to push through with e-Government initiatives that applies concepts of change management, communication channels in order to encourage strong working relationships to foster coordination of and group participation in efforts, and performance measures to develop the value of responsibility and accountability among the organisation members in implementing e-Government initiatives (McLaughlin, Osborne & Ferli 2002).

The third pair of concepts, privatisation and outsourcing, applies to e-Government initiatives because of the frequent application of practices such as “public-private partnerships” in these initiatives. (Note that the term “public-private partnership” sometimes has a more specialised meaning than we shall use here) (McLaughlin, Osborne & Ferli 2002). Such practices constitute growing trends in public service delivery more generally. Public-private partnerships are used in e-Government initiatives so that the private sector can bring knowledge and capabilities to bear that can overcome innate weaknesses or limitations of public organisations in engaging in IT-based public service delivery.

Taken together, these three sets of concepts provide a description of some major ideas applied in public organisations and influencing their strategies for e-Government; they indicate some of the capabilities that public organisations require when engaging in E-Government initiatives; and they point to approaches that public organisations can use to successfully implement e-Government initiatives.

A. Change Management in Contemporary Public Organisations

Change management basically helps organisations to adapt to changes in an orderly and efficient way. Change management is defined as the formulation and assimilation of change in a methodical process (Burnes, 1996). During phases of radical change in organisations, the practice of change management helps people to adopt new systems and ways of working, manage their fears, assist in training, generate new competencies and skills that may be required under the changed conditions and generally assist the transformation from one state to another in an efficient manner.
In the context of the present research project, it is important to study the concept of change management because as government departments shift from more traditional form of functioning to e-Government, a radical shift would also be required in the way the department functions. Apart from the vast technological changes that are required to institute a new e-Government programme, a number of other changes are also required. Moving to e-Government requires changes in managerial and leadership methods, change in systems and procedures, and change in the way employees think about and serve their customers. How public sector officials adapt to these changes will in part determine the success of the e-Government initiative. In this regards, an effective change management process will be key to the success of an e-Government programme. (Riley 2002)

In this section, we will review the available literature on some general change management concepts and link it to the concept of e-Government functioning. The present study aims to study how the change management processes adopted by the various government departments studied have resulted in the perceived success or failure of the e-Government initiatives.

The major objective of change management in general is the introduction of innovative methods and systems in work organisation. Organisational change is part of, and a result of, struggles between contradictory interests. Change management practice is also related with endeavouring to manage these competing demands. It is first necessary to understand management structures and behaviour to understand why and how to change organisations. According to Burnes (1996), these management structures and behaviours are crucial to change management in two respects. They provide models of how an organisation should be structured and managed in order to achieve change. Then they provide guidelines for judging and prescribing the behaviour and effectiveness of individuals and groups in an organisation in adopting and handling change.

Hardy and Clegg (1996) believe that as organisations grow larger in the course of industrial and economic evolution, skills become increasingly fragmented and specialised and positions become more functionally differentiated. Organisational change is one of the critical determinants in organisational success and failure (Appelbaum et al, 1998). Without initiatives to support change, organisations could experience confusion or end up trapped in traditional practices, which are ineffective in solving or handling the current problems faced by the organisation. Appropriate initiatives require that strategic organisational change be flexible, as
opposed to more static forms of strategic planning. However, too many initiatives can also constitute a problem, especially where major government changes are involved; one needs the right initiatives at the right time and pace (Appelbaum et al. 1998).

Introducing and implementing a new organisation design such as e-Government requires flexible strategic organisational change. People are adaptive to change. However, the initiators of change must deploy certain skills in order to successfully implement their project. Thus, managers need to have the necessary abilities not only for detecting what needs to be changed, but also for identifying how to introduce the change effectively. Managers are also required to have broad managerial skills to take effective e-Government based decisions (Human Resources Steering Group of APEC, 2004). Similarly, employees need to have the required competencies in order to effectively adopt the technological and intellectual changes that are required in successfully managing the e-Government initiative. Thus, in terms of implementing new e-Government initiatives, it is imperative that all human resources involved in the application of these services need to be trained intensively. A World Bank survey of e-Government projects that successful e-Government initiatives spend at least 10% of the budget on training of human resources (World Bank, 2004).

The Model of Continuous Improvement (see below figure 3.1) offers insights into how to manage change. It involves the linking of the tools or resources of an organisation, its human resources and the systems employed in processing transactions and directing these towards the desired change. To achieve change such as adoption of e-Governance, changes in culture encompassing values, attitudes and behaviour towards IT, communication and commitment constitute important tools in the overall and continuous improvement of an organisation (Slack, Chambers & Johnston, 2004).
Change management is also defined as the formulation and assimilation of change through a systematic process (Nickols, 2000). Organisations must normally undergo change in order to evolve to a higher level of performance in terms of stability, management or production. E-Government initiatives fall under this ambit as they are primarily designed to take government functioning to these kind of higher levels of performance by improving efficiency and customer satisfaction (by meeting the needs of the public in an efficient manner. Appointing a new head officer, for example, can greatly enhance the performance of subordinates when the manager’s principles and personality support this. On the surface, this appears to be a straightforward and simple concept. But close examination reveals that it is a broad and complex concept. This finds expression in the different foci that organisations can have in applying change management.

Moran and Avergun (1997) focused on managing changes that arise as the organisations draw nearer to its actualisation of change-related goals through the adoption of these goals by an increasing share of the organisation’s members. The authors define change as consisting of “a series of closer and closer approximation of increasingly ambiguous goals which are embraced by more and more members of the organisation. For this reason, change often seems endless and confusing. Often those involved in the change process feel overwhelmed and powerless.” (p. 147)

Based on this definition, we suggest that change management focuses on the issues arising among the members of the organisation in developing widespread support for the achievement of common goals. In the case of e-Government initiatives, the focus of change
management would be motivating the members of the organisation to support the changes involved in actualising these initiatives from acceptance to adoption and then to implementation.

To effectively motivate employees, managers need to clarify and understand the complexities of the change process to be able to monitor the organisation’s progress towards the desired change. Nickols (2000) focuses on managing changes arising from the process of problem solving. The author provides a very useful framework for thinking about the change process, in which managing change is seen as a matter of moving from one state to another, specifically, from the problem state to the solved state. Diagnosis or problem analysis is generally acknowledged as essential. Goals are set and achieved at various levels and in various areas or functions. Ends and means are discussed and related to one another. Careful planning is accompanied by efforts to obtain buy-in, support, and commitment. The net effect is a transition from one state to another, in a planned, orderly fashion.

In application to e-Government initiatives, this framework means that the focus of the public organisation would be the establishment of a smooth problem solving process or system necessary in meeting issues that arise in the development of e-Government initiatives. In addition, the e-Government initiative is in itself a form of problem solving so that lessons can be derived from the initiative. Such a problem solving process would be crucial to the success of the e-Government initiative. Moreover, it would become important to gauge the level of such an organisational learning in order to ensure that the positive impact of the initiative is maintained over a long period of time and that the e-Government programme continues to meet its goals and objectives on a continuous basis. In this regard, performance measurement is a critical tool in the process of change management. These concepts are very relevant to the present study and it will be one of the aims of the study to evaluate the performance measures that are being used as part of the change management process in the selected government departments being studied.

Appelbaum et al (1998) focus on change management activities as related to the end beneficiaries, which is very relevant to e-Government initiatives. The authors state that the focus of successful organisations is on customers and their needs, which includes investing in ways to improve product or service delivery to achieve customer satisfaction and provide superior service to clients. Organisations should maintain a customer-centric view: those customers and their needs underlie the organisations’ existence. In addition, adapting factors crucial to the success of certain missions and the implementation of solutions to problems are common traits of a successful organisation (Appelbaum et al 1998). The lack of such initiatives can throw an
organisation into confusion, and/or leave it stuck in traditional practices that cannot handle the current problems faced. Thus, the lack of such factors stresses the need for a strategic organisational change – as already indicated, moving to a flexible strategic planning process as opposed to a static form of strategic planning.

Drucker (1999) focuses on leadership in bringing about change as a critical feature of change management. The author emphasized that being a change leader requires the willingness and ability to change what is already being done just as much as the ability to do new and different things. He suggests a set of required leadership-based practices that make the present create the future. Drucker (1999) also sees leaders as the basic resource for an organisation: without forward-looking managers, organisations cannot function properly. Instituting new e-Government initiatives require a change in the way leaders manage their human resource functions. They must create systems for organisational learning and knowledge management, re-work compensation and benefits strategies, support results based performance management measures, implement innovative recruitment and talent management programmes. Applying this focus means that effectively achieving the changes needed to achieve e-Government initiative goals requires strong leadership to direct and motivate the organisation towards the desired changes. There is a strong link between a leader’s competencies and organisation performance. It has been recognised that leaders are a significant power behind the progress and successful development of an organisation’s e-Government strategy and such success is very much dependent upon their attitudes, behaviour and commitment to their specific responsibilities. Values, skills and most importantly, the involvement of the members of the entire organisation must be part of the effective organisational change framework. The committed, authoritative and adaptable role of the management is also significant in establishing quality customer relationship.

Slobodnik and Slobodnik (1998) focused on the system components of a human systems change management model. The authors review the human systems theory and the dynamic relationship between the change agent and the target system. As such, leaders play a key role in change implementation - but leadership only forms one-half of the effective strategy for quality integration of changes needed in the organisation with the other half pertaining to factors such as resources and planning. Senge (1990) adds that apart from the key role of the leadership, good working relationships among members of the organisation are also important in achieving the changes needed in achieving the goals of the organisation. All the members of the organisation
can only realise continuous improvement if there are good working relationships between and among employees. To be able to function effectively with clients and customers, the organisation should be aware that success starts internally or within the organisation. Good working relationships should be instituted so that the entire organisational operation can answer to the demands of the transactions with clients. This approach leads to emphasis on ideas like controlling interpersonal relations, making decisions, aligning individual member actions and perceptions with corporate goals, planning, budgeting and directing the effort of the several followers engaged in the work with people. The leader role involves insuring that group activity is timed, controlled and predictable while good working relations usher continuous change and organisational learning.

The message of such an approach for e-Government initiatives is that public organisations need to focus on both leadership for direction and good working relationships in order to achieve widespread change in the organisation necessary in goal actualisation. Moreover, the quality and effectiveness of the performance management system will play a crucial role in identifying whether the change management efforts to create this kind of cultural transformation have been effective or not.

Nickols (2000) propounds that, in addition to a consideration of the needs and expectations for resolution through the change as well as the strength of leadership of the organisation in directing the organisation towards change, there is need to consider infrastructural support for change. This refers to targeting the overall capability of the organisation in terms of improved workflow, feedback, service delivery, and public consultation instead of focusing only on a particular area. In e-Government initiatives, leadership and good working relationships are important but infrastructural support for change is also equally important. Infrastructural support is necessary in order to link the efforts of the leader with the contributions of the members as well as the contribution of all members towards goal realisation.

A consideration of the various foci of these studies of change management shows that this organisational concept applies to public organisations seeking to engage in e-Government initiatives. Change management applies to e-Government initiatives because the introduction of an IT-based public service system involves concurrent changes in the organisation of the government agencies, the skills and competencies required of the public servants, as well as the shifts in resources allocation to accommodate the new system.
The researcher has discovered that literature pertaining to change management in e-governance is scanty and that while some aspects of this issue have been covered, we could not find a comprehensive integrated framework or a conceptual model that would identify a process or specific changes that have to be managed in e-government implementation in general. Some general frameworks have been identified that may provide a reasonable understanding of how the change management process works in an e-government context. For example, Apostololou et al. (2011) present an approach and a software framework for representing changes in service models in the e-Governance context. Their model enables administrators of e-Government projects to identify inconsistencies caused by a requested change, and to generate and propagate changes to affected service artifacts, and to alert users about such changes. However this model is specific to ICT related changes and does not take into account cultural, sociological and people related issues in the process of change management.

There are instances where specific and generic change management models have been applied somewhat successfully in specific e-Government projects in different countries. For example Low et al. (2010) compared the implementation of e-Government in two countries – Singapore and Brunei – and concluded that the success of the Singapore e-Government model as compared to the only partial success of the Brunei model – could be clearly attributed to effective change management processes implemented by the former. Processes such as obtaining people buy in and integrating cultural issues into the implementation process are cited as key defining factors.

According to Ndou (2004), a well-managed change management process within the e-Government programme will help to revolutionalise and re-invent government functioning. The author identified two aspects of change that must be effectively managed if e-Government projects are to succeed. These are – Change Management Approach and Management of Resistance to Change. Change Management Approach refers to the change management procedures established within the organization (such as those dealing with cultural issues) and is an aspect that if managed well will positively impact the success of the e-Government project. However the author stresses on Management of Resistance to Change as the key factor that will enable the e-Government project to succeed. The author identifies employee resistance to change as a factor that has been responsible for the downfall of many a well –intentioned e-Government programme.
In the context of resistance to change, Sachdeva (2009) has identified a number of reasons why people may experience a resistance to change in the e-Government context which include long implementation cycles, unknown driver (managers of the project), lack of vision clarity, uneven support from top management, vast process changes required, fear of confidential information leakage, corruption, difficulty in moving from legacy systems, un-measurable benefits, no integrated standards, disjointed systems and departments, fear of job loss, personal clashes, changes in job profiles, resistance to outsiders and consultants, IT specialisation required, cultural gaps, media hype and criticism, lack of reward systems, financial bottlenecks, poor change track records, suspicion, comfort with status quo, fear of the unknown, complicated guidelines and work overload. The author has also attempted to compare some e-Government projects against existing change management models such as Kotter’s 8 step model of change.

On the other hand, Nograšek (2011) has presented a conceptual change management model of e-government implementation which is based on Leavitt's model. This model envisages the organisation as a system of people, structure, tasks and technology and the author of that research believes that if managers take into an account at least this set of changes, e-government projects would be more successful. The model is presented in the figure below:
In light of the available research, we can say that change management in e-Government initiatives need to be investigated holistically. Applying a holistic approach as discussed above, to a change management plan for an e-Government initiative involves the utilisation of performance measures concerning the three issues highlighted. These are (i) the understanding of policy-makers of the purpose and objectives of the e-Government initiative in relation to the government departments and public service delivery, (ii) the degree of acceptance of the different government departments and individual employees of the shifts in their roles due to the e-Government initiative, and (iii) the engagement of people in public service expressed through frequency of engagement and positive feedback. These performance measures should indicate the extent that holistic change management has achieved these “key success factors” for e-Government, and thus hopefully facilitated the success of launching e-Government service. These general success factors encompass specific features of performance - such as the existence of channels of communication, and the openness or accessibility of these communication channels to different government departments and the public; cultural change or the extent of IT transformation achieved by the government departments; as well as the performance of
management roles in facilitating the change towards e-Government. The present study aims to further the knowledge in this regard.

B. New Public Management (NPM)

In this section, we discuss the concept of New Public Management and its close linkage to the concept of e-Government. We discuss how both these concepts focus on similar goals and therefore how the effective study of one (e-Government) as part of this present research project can assist in furthering the knowledge about the other (New Public Management) in Dubai, and therefore assist in improving public sector reforms in the region.

New Public Management is a concept that was developed during the 1970’s following a movement towards large scale re-organisation of the public sector to make it more efficient and accountable. This concept was a result of the public’s demand for a more efficient and transparent government across the western world and the citizen’s demand for greater participation in the government functioning. (Bonina and Cordella, 2008) New Public Management as a concept focuses on wide spread reforms and in public organisations as well as on the specific area of developing human relations in public organisations to achieve public service goals (McLaughlin, Osborne & Ferli 2002). The concepts under new Public Management include productivity, marketization, service orientation, decentralization, policy, accountability (Kettl, 2005); disaggregation, competition, incentivazation (Dunleavy et al, 2006); organizational restructuring, and performance orientation (Batley and Larbi 2004). In short, scholars have agreed that New Public Management focuses on creating cost efficiency, procedural efficiency and accountability in government functioning and specifically the use of such business practices (often adapted from private sector functioning) that drive these core values. While different scholars have provided varying accounts of what New Public Management constitutes, one of the key themes that flows through all definitions is the use of Information and Communication technology in instituting public sector reforms. Scholars have argued that ICT and specifically the World Wide Web have played a great role in assisting the reform and transformation of the public sector into an accountable and transparent body (Bonina and Cordella, 2008). As stated earlier in this text, e-Government integrates the use of Information Technology to provide efficient customer friendly government services to the public and therefore, New Public Management can be considered an umbrella concept in the context of a study of e-Government (such as the present research).
Over a couple of decades, the term NPM has been widely used in academic, governmental and organisational discussions and strategy soundness debates. Since the concept of NPM directly relates to cost containment, public support and performance improvement of government services, studies focusing on the application of an NPM managerial framework, such as this research project, provide relevant information that will hopefully contribute to the successful implementation of reforms in the field of public administration.

Hood (in Osborne & McLaughlin, 2002) defines the nature of NPM under seven doctrines:

- A focus on hands-on and entrepreneurial management, as opposed to the traditional bureaucratic focus of the public administrator;
- Explicit standards and measure of performance;
- An emphasis on output controls;
- The importance of the disaggregating and decentralisation of public services;
- A shift to the promotion of competition in the provision of public services;
- A stress on private sector styles of management and their superiority; and
- The promotion of discipline and parsimony in resource allocation.

One underlying assumption of the new public management approach here is that one of the most critical aspects of reform is to use contact or interaction between and among the parties involved in the adoption of IT in public service to facilitate acceptance and change, instead of depending on hierarchical relations as the dominant means of control. This means that there should be communication between the different organisational units involved in the adoption process to ensure a unified understanding of the process and the respective contributions of the various units to the endeavour - instead of merely expecting organisation members in the lower segments of the hierarchy to automatically follow the commands of the key decision-maker by virtue of hierarchical authority. This is necessary because they need to be able to decide and act in an informed way such as providing feedback as to problems and needs. Organisational units need to be enlisted in the mission rather than just required to follow specific commands with little sense of what the command relates to or needs coordination with what other units are doing.

A move to e-Government can assist in the transformation of the public sector from a hierarchical, centralised body with decision making held by few towards a decentralised, participatory and democratic organisation with decision making distributed to those closest to the customer/user – administrators and customer service professionals. Therefore E-Government closely follows the
goals of the New Public Management – that is creating a democratic and participatory public sector with a strong focus on performance, results and meeting customer needs.

Another underlying concept is the application of ‘business-like’ management practices in human resource management (appraisal, performance management and seeking to recruit senior managers from the private sector) and a requirement to account, and to pay, for capital utilisation (Dawson & Dargie in McLaughlin, Osborne & Ferli, 2002). Once again, there is a close linkage of this concept to the practice of e-Government with its strong focus on performance management, customer complaint management and its efforts to ensure that user (customers) have easy access to government services.

The New Public Management (NPM) approach emerged to change how public administration functioned. NPM proponents claimed that public administration has traditionally focused only on the hierarchical aspects of public management such as the organisation of these institutions, the political dynamics of the organisation members, and the value systems applicable to all members in general when public management involves other areas such as culture change, communications, and other cooperative practices. The NPM concept has been used to diffuse relevant practices from the private sector into public service. The aim has been to balance the focus from exclusively considering the hierarchical aspects of the organisation, and towards including other context-based relational factors important in directing the organisation towards the targeted goals. (Hood in Osborne & McLaughlin, 2002) Private sector management practices applicable to public service include performance incentives, communications, and market knowledge.

According to Dawson and Dargie (in McLaughlin, Osborne & Ferli, 2002) “NPM drew on two competing conceptual frameworks. One, akin to managerialism, supported the introduction of private sector practices, which included attempts to manage professionals, introduce performance measures and incentive reward system. The other, placed emphasis on markets and market knowledge, derived from variants of public choice, rational choice and ‘New institutional economics’, and led to an emphasis on decentralisation and competition that is at odds with the centralising tendencies of the other.” (p. 38)

Jones and Thompson (1999) discuss the manifestations of the integration of the competing frameworks into public service. Public servants may have internalised a mixed sense of managerial values in which two different sets of contending values coexist, they suggest. These are the reinvention values such as (a) market efficiency, (b) competition, and (c)
outsourcing and the alternative administrative values characterised by (d) equity, (e) accountability, (f) control, and (g) public openness.

While NPM proponents have forwarded a set of reinvention values such as efficiency, cost-effectiveness and customer satisfaction, an alternative set of administrative values, such as accountability, democratic procedure and equity, has been reemphasized by other theorists in reaction to the entrepreneurial government paradigm. Developed mainly in the European context, NPM is considered an umbrella concept of neo-managerialism that includes various managerial reforms for market efficiency, decentralisation, devolution, customer satisfaction, and quality improvement. (Jones & Thompson, 1999)

Public management scholars have placed emphasis on the application of efficiency measures and benchmarking to support managerial reforms (Stark, 2002). NPM proponents focused on their attention on market efficiency, entrepreneurship and performance-based/benchmarking management in the public sector. There are four major elements of NPM, including use of market-like mechanisms, decentralisation, improvement of service quality, and customer satisfaction (Minogue et al., 1998; Jones & Thompson, 1999; Barzelay, 2000).

However, the integration of different NPM frameworks into public management is not without challenges. Tensions between the reinvention values and the alternative administrative values, which are observable in the NPM literature and invite the rational or logical reaction of seeking reform through the intervention of management accountability, procedures to secure equity, and other, non-market, indicators for instance, those dealing with equity issues). Despite numerous analyses of the theories and practices of government reinvention through both normative analyses and empirical studies, little research has been conducted to assess overall adoption and implementation of various managerial innovations with a broad sample base. Many of the existing studies have been done by using anecdotal and case study methods and most of these have viewed reinvention at the federal level (Ingraham, Thompson & Sanders, 1997). It is the aim of this present research project to further study the impact of such public sector reform as e-Government and its effectiveness in achieving its goals of meeting customer needs and building greater participation of the public into the government functioning.

Furthermore, new public management also has links to privatisation and outsourcing initiatives. The relationship derives from the fact that privatisation is one of the administrative tools for the public managers to implement the concept of NPM in the public sectors while
outsourcing is one the tools under the umbrella of privatisation (Wood in Osborne & McLaughlin, 2002).

New public management constitutes an important theoretical foundation for e-Government initiatives because of the close linkage between New Public Management and e-Government. These are concepts which have similar outputs that is reform of government and the public sector. E-Government has also proved to be a reliable means to achieve the goals of New Public Management because the advances in Information and Communication Technologies and the advent of the World Wide Web has provided a strong tool for public sector reform by radically transforming the way governments provide services to the public. The advances in Information and Communication Technologies and the advent of the World Wide Web has provided a strong tool for public sector reform by radically transforming the way governments provide services to the public by integrating many of the concepts of private sector functioning. In order to institute an effective e-Government, government departments need to function efficiently, with less bureaucratic procedures, be transparent, accessible and accountable in general. Apart from this, e-Government provides an opportunity for the public sector to utilise some of the private sector business practices such as outsourcing, downsizing, competition (towards improved customer services), customer focus and performance management – a movement that is part of the NPM framework. Moreover, in order to institute an effective e-Government, government departments need to function efficiently, with less bureaucratic procedures, be transparent, accessible and accountable in general – all of these are concepts propagated by the NPM movement.

In short, e-Government can greatly facilitate public sector reform by achieving some of the core values of New Public Management. (Bonina and Cordella (2008).) It facilitates New Public Management and is thus promoted by public sector reformers as a means to attaining some of the core values of NPM. Therefore an e-Government which has been effectively instituted in the context of NPM should incorporate some of the practices that are promoted by NPM such as good private sector practices, transparent and accountable functioning of government and finally – an improvement in public policy, involvement and empowerment of citizens in government functioning, etc. In short, NPM provides a rationale for using e-Government for the reasons mentioned above and allows the public sector to function in an improved way and thus to perform more in the idealised way proposed by NPM.
Part of the realignment of public organisations is the shifting of some aspects of public service delivery to the private sector. Certain areas of public service delivery are transferred to the private sector on the grounds that these areas involve particular problems that the private sector is perceived as being able to address more efficiently. This means that privatisation and outsourcing are linked closely to the e-Government initiatives of many states.

C. Privatisation and Outsourcing of Public Services

The concept of privatisation is related to both the doctrine of disaggregating or decentralisation of public services, and to the promotion of competition in the provision of public services. As such it falls under the ambit of New Public Management already discussed in the previous section. However it is important to expand on this concept as part of the literature review for the present study because e-Government initiatives involve a multitude of private sector partnerships in terms of technology imports, outsourcing of contracts, etc. This section will review research in this area and also link the role of privatisation and outsourcing (such as that would be required to set up and maintain e-Government services) in public sector reform.

Privatisation as ‘an umbrella term’ that has come to describe a multitude of government initiatives designed to increase the role of the private sector (Chang, 2006). Privatisation includes several forms of alternative service production and delivery schemes. In general, there are nine forms of privatisation (Ascher, 1987; Chang, 2006):

- Service shedding – reduction or stoppage of services and shifting the provision of these services to the private sector;
- Asset sales – selling public corporations, land, buildings and other assets to the private sector;
- Franchising – granting of privilege to the private sector to provide specific services to identified consumers;
- Vouching services – provision of public services paid for by the government but provided by the private sector;
- Grant processing and approval – consideration and selection of entities from the private sector to whom grant is given to provide a certain public service or handle a public programme;
- Subsidy processing and approval – payment of parties in the private sector offering certain public service as a form of incentive for continuing to address public benefit;
Public-private partnership – provision of government service or completion of government programme through a collaboration between government and selected partners from the private sector;

Volunteer activities – provision of public service is made through volunteers via programmes sponsored by the government or in partnership with non-government organisation;

Contracting in – provision of public service through the contracting of service provision to other government agencies;

Contracting out – provision of public service through the contracting of service provision to the private sector covering profit and non-profit firms; and

Competitive contracting – provision of public service through the competitive contracting of service provision to the private sector, covering profit and non-profit firms, and other government agencies.

The benefits of privatisation have immediate relevance to the present study particularly in the context of e-Government. Economic theorists have argued (Elam, 1997) that the government may not be as motivated to keep costs of a public service to the lowest possible (thereby keeping down the costs to the public exchequer and thereby lowering the taxes for the general public) as a private organisation who might be contracted to provide the same service on behalf of the government. Private organisations who operate for profit would obviously have more incentive to provide the same service at lower cost and higher value in order to maximise their profit margins and also satisfy the customers so that they could justify keeping the contract for a longer period of time. Due to the fact that government departments function as a monopoly in their area of service (lack of competition) and have no incentive to maximise profits they are less likely to focus on customer delight, cost reduction, or working to higher and higher levels of quality and performance as would any private organisation that may be contracted to provide that same public service. (Elam, 1997) Due to this, it is likely that private organisations would be able to implement specific public services at a higher level of quality and customer satisfaction than a public organisation.

In the context of the present study, e-Government has many opportunities for private contractors to play a role in providing the right services to the consumers of these public services. Due to the fact that government departments (especially as we found in our present research) do not have the internal human resources talent to implement the advanced
technological programmes required for setting up a communications portal to provide
government services to the public, they would necessarily need to contract private consultants
and private organisations in various areas in order to successfully set up and maintain such a
service. Moreover, private sector organisations that may be contracted to set up and maintain an
e-Government initiative (or specific parts thereof) would be able to do so much faster due to the
fact that they are likely to be able to put in the place the right resources (human resources,
technology etc). Therefore, by privatising specific public services, the government would
actually be serving the public better thereby meeting its public service goals in a more efficient
manner.

The benefits of privatisation therefore can be summarized as follows: Increased
flexibility resulting from a reduction of bureaucratic complexity and procedures, reduced costs
resulting from improved efficiency, especially if there is a truly competitive process with clear
performance criteria, procurement of special skills or supplement staff for short periods of time,
meeting demands beyond current government capacity, reduced costs, improved service quality
and providing clients with more choice of providers and levels of service. (Allen et al, 1989
P.19)

Among these privatisation options, contracting out or outsourcing is the most commonly
used. In general, outsourcing occurs where one organisation contracts with another for the
provision of a particular good or service. It is an essential form of procurement, in the sense that
contractors may be considered suppliers of intermediate or final products. But in common usage
concerning public sector reform, it has come to refer more specifically to the purchase of an end
product (or, more accurately, purchase of the service of supplying that end product to citizens
and consumers), which could otherwise be provided in-house by the purchaser. Outsourcing
here, then, involves a contractual agreement by which a government pays a private firm or
outside entity to provide all of part of a specific service. On one hand, the government typically
retains much or all of the ownership and overall control of the outsourced services or goods;
though citizens may actually come to possess outsourced services in the form of knowledge
sharing or transfers, and on the other, the government employs the private company to provide
the services or goods that were delivered by in-house efforts previously (Brown & Wilson,
2005).

Moreover, there are many reasons for outsourcing in a company or a public organisation
as summarised in table 2.2 below.
Table 2.3 Justifications for Outsourcing

<table>
<thead>
<tr>
<th>Reasons for Outsourcing</th>
<th>Problem being Addressed</th>
<th>Drawbacks of Outsourcing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for Expertise</td>
<td>Lack of Learning Curve &amp; Creativity (technical expertise, managerial expertise, and new knowledge)</td>
<td>Possible Hidden Costs</td>
</tr>
<tr>
<td></td>
<td>Need for Manpower</td>
<td>Possible Hidden Costs</td>
</tr>
<tr>
<td></td>
<td>Lack of Staff (unwillingness to take on new staff or new staff of a particular type that could seek higher wages and pensions, which makes them more prone to strikes)</td>
<td></td>
</tr>
<tr>
<td>Time Consideration</td>
<td>Limited Time Available for Job Completion (lack of flexibility in deploying substantial resources rapidly and for a limited period)</td>
<td>Outsourcing contracts can also take time especially when conflicts arise</td>
</tr>
<tr>
<td>Economic Considerations</td>
<td>Cost Efficiency and Other Issues such as Financial Flexibility</td>
<td>Transaction Cost Issues and Hidden Costs</td>
</tr>
<tr>
<td>Shifting of Responsibility</td>
<td>Deniability</td>
<td>Conflict of Public and Private Interests and Trust Problems arising between the Private Sector and Consumers</td>
</tr>
<tr>
<td>Removal of Hindrance to Work Flow</td>
<td>Scarcity of other Human Resources such as Call Centre Staff or Construction Workers, etc.</td>
<td>Poor Communications or Coordination in Service Delivery</td>
</tr>
</tbody>
</table>

O’Looney (1998) also provides three main objectives for outsourcing a government service – these are to reduce, to make more efficient, and to reform government services. To reduce means improving service delivery by contracting external parties to meet the IT skills, which are lacking in the public organisation, together with the concurrent trimming of the bureaucracy. Meanwhile, enhancing the efficiency of the government can occur through (1) considering competitiveness strategies, (2) tapping economies of scale, and (3) discovering the most efficient production techniques. Lastly, reforming the government can be made by introducing competition, again, and by shifting to managing contracts rather than managing programmes. Most of the above forms of outsourcing would become a possibility as the government departments start relying more and more on information technology to provide services and information to the public.
As stated previously, there are several considerations in outsourcing public services. Domberger (1998) laid down four keywords for successful outsourcing which includes: (1) specialisation or concentrating on those activities in which the organisation has established a distinctive capability, letting others produce supporting goods and services; (2) market discipline or the process of identifying conditions in which the purchaser is separated from the provider and a formal transaction takes place under contract; (3) flexibility or the ability to adjust the scale and scope of production upwards or downwards at low cost and rapid rate; and (4) cost saving by lowering resource costs of service delivery compared to in-house production.

As indicated by Domberger (1998), the concept of specialisation leads to enumerating the relevance of identifying the organisation’s core competencies, such as financial resources or technical skills, in order to maximise its full potential. According to Alexander and Young (in Domberger, 1998) core competencies are skills and actions needed to accomplish work. These competencies could be (a) organisational activities that are traditionally performed in-house; (b) organisational activities that are critical to business performance; (c) organisational activities that create current or potential competitive advantage; and (d) organisational activities that will drive future growth, innovation, or rejuvenation. Public organisations can achieve specialisation by maximizing its core competencies listed under these four categories.

Having enumerated the benefits of outsourcing of public services to private organisations, it is important to mention that researchers and theorists have also drawn attention to some of the drawbacks of privatisation and outsourcing in general. For example, Kakabadse and Kakabadse (2003) suggested that organisations should be aim to cultivate the competencies, which will be more enduring than the particular products they currently produce, they will not diminish with use through continuous organisational learning, and will be the platform from which the organisations will launch new and successful products in the future. Furthermore, while outsourcing can provide a shortcut to more competitive products, outsourcing the provision of key parts and components can lead to an organisation losing some of its core competences, or the opportunity to renew these or create some new ones. As such, organisations must highly consider very carefully and thoroughly the potential gains as well as the losses of outsourcing. (Brown & Wilson, 2005).

Market discipline provides several advantages, which include: (1) the separation of, and/or being able to draw clear distinctions between, the purchaser and the provider, not least to enhance incentives to perform and to deliver services that meet client needs; (2) focus or
concentration on key organisational performances directed towards quality service delivery to justify resource use; (3) effective interfaces and/or the efficient communication and sound relationship between purchasers and providers, particularly when it comes to specifying the details of contracts and expectations which will lead to constructive dialogues for the benefit of both parties, and utilising performance monitoring or “metering” so that communication allows purchasers to see how far requirements are being met; and 4) competition or gaining market advantage against other organisations to create positive effects on, for example, working practices, innovative approaches to work and service redesign, and production costs (Domberger, 1998).

Furthermore, flexibility indicates the capability to adjust speedily and cost-effectively to changes in demand or supply situations. Flexibility has been interpreted as signifying how fast a particular organisation’s system can adjust to external stimuli, while keeping costs low compared to the costs of change in other systems (Domberger, 1998). Finally, competitive contracts should reduce price but can also increase the quality. This assumes that the public sector purchaser will not follow the concept of ‘lowest price wins’ but rather pursue the concept of ‘value for money’. This guarantees the quality of goods or services outsourced, it is argued, since the introduction of contracting as well as the competition that accompanies it, tends to enhance quality irrespective of its influence on prices (Domberger, 1998). However, in reality, lowest prices are often pursued. Often, governments do so in part because they have little ability to assess value – one reason for the importance of performance measurements.

According to Seidenstat (1999), the growing fiscal difficulties of state and local governments, and the increasing opposition to tax increases, has meant that in the US outsourcing has become one of the methods to ease the pressures by cutting cost to avoid raising taxes or drastically cutting the level of services provided by the government. Seidenstat (1999) defined outsourcing as a management tool, as well as a device to realign the public-private sector mix in order to lower costs, improve the quality of services produced, or both. Most frequently, in practice, the primary aim has been to cut costs in order to relieve budgetary pressures rather than to improve service (Seidanstat, 1999). This follows from pressures to limit state expenditure (and taxation), and also reflects difficulties in assessing the equality of output of many government services – often a complex and time-consuming activity, involving indicators that themselves may be contentious. Like all indicators, they can only capture parts of a complex and multifaceted phenomenon – and those parts may not be the ones that some stakeholders consider.
to be most important. Outsourcing was also aimed at increasing the flexibility of government operations, such that introduction, expansion, contraction, or complete elimination of specific services can be accomplished with fewer obstacles and with greater speed (Seidenstat, 1999).

Seidenstat (1999) enumerated three environmental factors for successful outsourcing in the public sector, which include (1) political support; (2) managerial/political leadership; and (3) a supportive private market structure. Full support of political leaders, particularly the members of the executive branch, greatly enhances the chances of success. This applies not only in relation to the provision of approval for specific changes, but also to the sustaining of such initiative over the longer-term, through enthusiastic and careful backing of the effort. Alongside this, cautious consideration is required concerning the possible pitfalls of shifting away from public monopoly – factors such as political favouritism, corruption, and the toleration of poor contractor performance can apply in circumstances of privatisation as well as within public monopolies, and may require new safeguards.

Moreover, to achieve the maximum benefits of outsourcing, the private sector needs to have particular characteristics. If there are no competent private service suppliers, outsourcing is evidently out of the question. Even where competent suppliers do exist, they may not have the capacity to rapidly achieve a given level and quality of service provision. It may take time for an adequate supply side to develop. Seidenstat (1999) suggests that the private sector needs to feature (a) in the case of load-shedding: suppliers to compete in providing the service (b) in the case of contracting out or franchising: ability to compete for contracts; and (c) in the case of use of a voucher system (to avoid a private monopoly arising that only substitutes for the pre-existing government monopoly): ability to supply comprehensive and sufficient services (Seidenstat, 1999). Seidenstat (1999) further suggests that the conditions for successful outsourcing include (a) a small number of public servants being affected, (b) requirement of specialised services, (c) easily defined and measured output, and (d) numerous service beneficiaries, as well as successful implementation of outsourcing goods or services.

The decision to engage in privatisation and outsourcing requires consideration of the needs and objectives of the e-Government initiative together with the development and matching of capabilities and competencies of the members of the public organisation to the activities involved in e-Governance. Also important to this decision is establishing a balanced and effective relationship between the public and private sectors, so that even if some areas of IT-based public service delivery are assigned to the public sector, public organisations still operate
to ensure public welfare and community well-being. As Osborne and Gaebler said "[p]rivatization is one answer, not the answer...Services can be contracted out or turned over to the private sector. But governance cannot..." (Osborne and Gaebler, 1992, p. 45)

D. Comparison of the Concepts

Table 2.3 below summarises the core underlying ideas of the three organisational conceptual approaches that apply to e-Government initiatives.

Table 2.4 Summary of Organisational Concepts

<table>
<thead>
<tr>
<th>Concept</th>
<th>Authors</th>
<th>Application</th>
<th>Organisational Focus</th>
<th>Public Service Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Public Management</td>
<td>Bonina &amp; Cordella, 2008; McLaughlin, Osborne &amp; Ferli, 2000; Kettl, 2005; Dunleavy et al, 2006; Batley &amp; Larbi, 2004; Jones &amp; Thompson, 1999; Minogue et al, 1998; Barzelay,</td>
<td>Public Organisations</td>
<td>Human Relations and Reinvention of Public Organisations through Strategic Partnerships with Private Sector</td>
<td>Enhancement of Human Relations and Partnerships with the Private Sector to achieve Efficiency in Public Service Delivery</td>
</tr>
</tbody>
</table>
In terms of application, the change management approach is broadest because it draws empirical application in both private and public organisations, while new public management as well as privatisation (and outsourcing of public services) approaches emerged from public organisations. Nevertheless, a combination of these concepts supports the successful implementation of e-Government initiatives, because these concepts together cover the various aspects of public organisations that need to be considered to successfully launch and maintain e-Government initiatives. It should be possible to combine these concepts that are all geared towards the achievement of efficiency in public service delivery. But how to combine them is the challenge. Utilising the new public management concept in facilitating the implementation of e-Government initiatives is a topic where there is little guidance from empirical research. This study aims to help fill this knowledge by means of a relevant piece of case study research. Specifically, the aim is to study how selected government departments in Dubai have implemented these three concepts in the process of providing e-Government services to the public, how these measures have resulted in the success or failure of this initiative in the various departments.
VII. Performance Measurement Systems for E-Government Initiatives

In this section, I will review the overall literature in the context of general organisational performance management – methods, benefits and value; as well as in the context of how effective performance measurement can be critical to the success of an e-Government initiative. This is extremely relevant to the present research project given that this study analyses the use of various types of performance measurement methods utilised by the selected government departments in Dubai in order to measure the effectiveness of their e-Government initiatives. Performance measurement of an e-Government initiative necessarily needs to take into account the final end-results of the initiative in terms of whether it meets its stated objectives (more generally achieving efficiency, transparency, accountability of government functioning and increasing the participation of citizens in government functioning); whether it achieves the quality standards that it aspires for; and whether it meets or exceeds the expectations of its users/customers. In the general organisational context, a number of different performance measurement approaches have been identified by researchers. These have been outlined below.

In the context of e-Government, one of the most significant challenges is to ensure that the technological projects are implemented effectively and to ensure that the mistakes made on previous projects are not repeated on subsequent ones. (Jones and Williams, 2005). Here is where performance measurement comes in. In application to an e-Government initiative, performance measurements serve as the foundational support for using new public management approaches here. The results derived from the application of the measurement criteria should inform and direct the managerial and marketing-related decisions, within the context of the improvement objectives associated with the initiative.

The US federal government (GAO, 1998b) defines performance measurement as “the ongoing process of gathering information on dimensions of performance considered important by the organisation for the purposes of monitoring institutional standing with respect to these dimensions”. The information gathered usually covers results (so that it could be used as an instrument in performance management systems) as well as data on inputs, processes and efficiency. Ideally, the set of indicators making up a performance measurement system would reflect the ability of an organisation to achieve and sustain excellent results (GAO, 1998b).

Generally speaking and with reference to private sector organisations, performance measurement is usually part of the strategic planning process to measure the implementation of goals and objectives derived from the mission and strategic value statements, and elaborated
through means as SWOT (Strength, Weaknesses, Opportunities, and Threats) analysis. It can also be implemented directly as part of the budgeting process in performance budgets, and sometimes is established as a stand-alone function (Stowers, 2004b:7). The model below in figure 2.2 illustrates the processes and dynamics in managing a typical organisation, which includes (1) strategic planning, (2) business planning, and (3) business operations. It is evident that performance measurement occupies a critical role within the entire management system in order to help review, assess and decide on the activities and projects of the organisation.

**Figure 2.3 Performance Measurements in the Context of Organisational Management**

![Performance Measurements in the Context of Organisational Management](image)

*Source: (Performance Institute, 2002)*

At this point, it would be useful and necessary to differentiate the concepts of evaluation, performance management, and performance measurement. In this present study, the researcher aims to analyse which of these three are usually used by the government departments studied and which of these is most effective in accurately measuring the impact and effectiveness of e-Government initiatives. Evaluation refers to systematic, usually individual, studies that may be conducted periodically or on an ad hoc basis, and aimed at assessing how well a programme or policy is working. It should determine the relevance of actions and the fulfilment of objectives, and thus throw light on the efficiency, effectiveness, impact and sustainability of a particular organisation. An evaluation should provide information that is credible and useful, enabling the incorporation of lessons learned into the decision–making process. Evaluation is an analytical
attempt to determine the worth or significance of an activity, policy or programme, or of the accomplishments of an institution highlighting the past and the present activities as well as the results (outputs, outcomes, impacts). Because it is comprehensive, it would be inefficient to conduct full evaluations frequently (GAO, 1998b).

McDavid and Hawthorn (2006, 3) explains evaluation “as a structured process that creates and synthesizes information intended to reduce the level of uncertainty for stakeholders about a given programme or policy. It is intended to answer questions or test hypotheses, the results of which are then incorporated into the information bases used by those who have a stake in the programme or policy.” This definition carries a different perception than the previous definition since the previous definition refers to evaluation as the study itself or the result thereof while this definition considers evaluation as the process of deriving results. However, there is no disparity between the definitions since evaluation has a number of aspects including the process of deriving information and the outcomes of the data collection.

A number of evaluation approaches have developed, signifying the interest in investigating this area of management study. These approaches fall under several classifications based on the characteristics of the models. Patton (1982) propounds two general models of evaluation differentiated according to the purpose of the evaluation. One general type is formative evaluation, which measures the manner in which the programme has been implemented and the ways of improving the programme. This primary objective of formative evaluation is to enable decision-makers to determine the extent that programmes have been implemented according to plans in the context of the emergence of unanticipated results. The other is summative evaluation, which assesses the effect of programmes and answers the question on the extent that implementing actions have generated the intended results. This type of evaluation works in supporting the decisions to continue programmes or extend the application of programmes. This takes place after the lapse of sufficient period to allow programme impacts to set in. Although in theory, these types of evaluation have a difference but in practice, these two types are interspersed into a single but continuous evaluation. As such, this classification of evaluation may not hold such significance in practice. However in terms of evaluating an e-Government initiative, both these types of evaluation are likely to provide useful data to aid organisational learning in the area. Results of such an evaluation could be used by the government department to improve systems and processes, improve the type of technology being
used to provide the e-services and thereby improve the end result – primarily the quality of services, the user-satisfaction levels, the reduction in costs etc.

Parrado-Diez (2002) identified a number of classical evaluation models, from which modern evaluation systems have evolved, which are grouped according to their general characteristics.

In terms of orientation, there are two evaluation models. First is goal-centred evaluation that focuses on the goals or objectives of the programme. This evaluation model considers the goals or objectives as the measures of evaluating programme performance. Second is “goal-free evaluation” that pertains to the ways of assessing the extent that client or stakeholder needs have been achieved. (Parrado-Diez, 2002). In the context of e-Government initiatives, both these evaluation models would be extremely useful. As stated in the previous section, unless e-Government initiatives are aligned with overarching government philosophies and public welfare goals, they are unlikely to be effective. An effective performance evaluation of e-Government programmes needs to take into account a measure of whether the e-Government initiative serves to meet these public service goals while at the same time meeting customer/user needs.

With regard to approach, there are also two evaluation models. One is labelled the “scientific approach”, in that it claims to utilise scientific principles to determine whether the intended outcomes have been achieved by using tools such as experimental designs as well as quantitative measures. The other is illuminative evaluation that focuses on the method used in collecting data, specifically naturalistic investigation, inductive form of analysis, and qualitative methods. This is the counterpart of scientific evaluation. (Parrado-Diez, 2002)

With regard to the factors assessed, there are five evaluation models focusing on the coverage of the evaluation. First is “comparative evaluation” that refers to the process of weighing the benefits and relative costs of at least two programmes. This model uses cost-benefit measures to determine the merit of the programmes. Second is the valuation method that applies through the process of judging, using a set of pre-determined criteria, the value of programmes. This model covers the determination of the value of programmes to different stakeholders so that this uses conflicting interests as measures of evaluation. Third is discrepancy evaluation that requires the evaluators to consider discrepancies between intended and actual results. This is closely related to the first two models because of the similar purpose of comparing planned actions and implemented results. Fourth is practical evaluation, which pertains to the consideration of particular judgments and situations on useful factors, based on the facts about
GOVERNMENT INITIATIVES CASE STUDY: DUBAI E-GOVERNMENT INITIATIVE

the programme and the parties involved in implementation. This evaluation looks into actual
issues and outcomes together with the implications of these factors. Fifth is the decision-making
model that involves the structuring of the evaluation to support decision-making on various
aspects of programme evaluation. The evaluator then supplies data to support informed decision-
making (Parrado-Diez, 2002). All these models have their advantages and disadvantages and
would provide useful data into the effectiveness of e-Government initiatives if applied correctly.

With regard to utilisation, there are three evaluation models. One is client-centred
evaluation that involves the assessment of programmes based on the information required by the
client for the improvement of the programme. This model is similar to the sixth model except
that the focus of the data collection is on meeting the information needs of clients. Another is art
criticism approach that relies upon the expertise of the evaluator to derive the standards used in
judging programmes. This evaluation is highly dependent on the level of skill of the evaluator
and carries a semblance of subjectivity since the measures depends upon the experiences of the
evaluator. Last is the adversary approach that involves the use of two teams of evaluators in
exploring the advantages and disadvantages of programmes in an adversarial manner as a means
of clarifying major issues, especially those divided into two parallel directions. This model
focuses both on the evaluators and the evaluation process to settle conflicting perspectives on
issues arising in the implementation of programmes or disagreements on the value of
programmes. In terms of e-Government performance measurement, it might be presumed that the
client-centred evaluation would provide the most useful data considering that one of the
objectives of e-Government is to make it easier for clients (users, customers, citizens) to use
offered public services.

These are independently operating models, but some of these models such as goal-
centred evaluation and goal-free evaluation are too broad to support specific application while
other models are too specific such as the scientific and practical models that specify the areas of
application but provides limited guide to actual application. To address these issues and identify
an effective model for specific programmes, organisations commonly adopt an integrated
approach to these models by combining models to ensure the selection of appropriate models that
are also effective in supporting the evaluative goals of organisations.

Meanwhile, performance management - which is sometimes referred to as results-based
management (or managing for results) - refers to the use of information on performance to guide
decision making on future goals, plans, and institutional actions. It is a continuous process of
translating overall institutional goals into individual actions and outputs, or aligning strategic goals with intermediate outcomes and activities at all levels within the institution (e.g., teams, individuals). A comprehensive performance management system would include integrated planning, performance measurement, evaluation and reward systems for different levels in the organisation (GAO, 1998b).

Performance measurement is a necessary but not sufficient element of a performance management system. It refers to the on-going process of gathering information on dimensions of performance considered important by the organisation for the purposes of monitoring the institution’s standing with respect to these dimensions. The information gathered usually covers results (so that it could be used as an instrument in performance management and evaluation systems) as well as data on inputs, processes and efficiency. Ideally, the set of indicators making up a performance measurement system would reflect the ability of an organisation to achieve and sustain excellent results (GAO, 1998b). Performance measurement looks into the objectives that a particular programme seeks to accomplish and determines the extent that the objectives have been achieved. Results provide information on the manner of allocating efforts and resources to facilitate effectiveness. By providing information on the actualisation of objectives, managers or decision-makers focus on key programme goals. (OMB, 2004). Performance measurement in the context of e-Government would be highly beneficial as it would measure whether the overarching goals of the government in terms of social welfare have been met, whether the short and long term objectives of such programmes have been achieved, how good or bad is the quality of the processes and technology that allow those objectives and goals to be achieved and what is the level of customer satisfaction that has been attained. The results of such a measurement could then be fed back into the system thereby improving the overall performance of the e-Government initiative.

Performance measurement and evaluation complement each other but there is distinction between the two. Performance measurement results in providing a broad picture of the functioning of programmes while evaluation leads to an in-depth investigation of programme development and implementation. Performance measurement involves the application of measures to determine progress while evaluation looks into progress as well as context of the progress. Performance measurement as also conducted periodically such as quarterly or annually while evaluation can be made as needed.
A. Basic Measures of Performance

Traditionally, performance measures can be grouped according to their focus of assessment or evaluation. And these performance measures are crucial with regards to the development of e-Government. These include the following:

(a) measures of the resources used to produce services – these are input measures;
(b) the output measures, dealing with the actual services and products, where measures including the description of what came out of a process and how much was delivered;
(c) the activity or process measures which describe and may be used to evaluate the activities used to produce outputs;
(d) the efficiency and productivity measures dealing with the amount of work performed or output achieved in relation to the amount of resource used – there are typically expressed as ratios to present information about the unit cost (The Performance-Based Management Handbook, 2001:4);
(e) the service measures or the effectiveness of meeting customer expectations like reliability, accuracy, courtesy, competence, responsiveness and completeness associated with a product or service (Bureau of the Budget and State Planning Office, 2002:8);
(f) the quality measures which focus on assessing the errors, corrections or complaints;
(g) the explanatory measures which are used to provide a variety of information that help stakeholders understand the organisation performance; and
(h) the outcome measures which evaluates how well a service’s goals and objectives are accomplished.

(The Performance-Based Management Handbook, 2001:4) These are derived from Dubai government publications.

According to Stowers (2004b)
(a) input measures,
(b) output measures, and
(c) the outcome measures are usually developed in order to present a typical performance measurement system or analysis. Input measures examine the resources available in the initiative encompassing staffing, financial resources, and other material resources as measures. Output measures consider activities that the initiative exports such as service availability, transaction accessibility, and functionality of other material resources as determinants. Outcome measures focus on benefit or change in individuals or the entire population prior to and after the
implementation of the initiative, using measures, such as increased participation, derivation of new knowledge, enhanced skills, shift in attitudes, modification of behaviour, improvement in condition, or alteration of status. There are also other specific performance measures such as activity measures, efficiency and productivity measures, service measures, quality measures, and explanatory measures. However, these are subsets with the three general performance measures and overlaps between them.

Table 2.4 below summarises the basic measures of performance applicable to public service delivery. Since the various measures have different scopes and objectives, utilising more of these measures in assessing ICT-based public service delivery allows the public organisation to gain accurate information on its performance. Since it is better to use a combination of some or all of these measures, performance measurement systems, discussed in the next section, have been developed incorporating these basic measures.

Table 2.5 Components of Performance Measurement Systems

<table>
<thead>
<tr>
<th>Measures</th>
<th>Scope</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>input measure</td>
<td>Resource use</td>
<td>Service production</td>
</tr>
<tr>
<td>output measure</td>
<td>End result</td>
<td>Service production and delivery</td>
</tr>
<tr>
<td>activity measure</td>
<td>Production activities</td>
<td>Service production</td>
</tr>
<tr>
<td>efficiency &amp; productivity</td>
<td>Amount of work performed</td>
<td>Service production</td>
</tr>
<tr>
<td>measures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>service measures</td>
<td>Meeting customer expectations</td>
<td>Service Delivery</td>
</tr>
<tr>
<td>quality measures</td>
<td>Error assessment and correction</td>
<td>Service Delivery</td>
</tr>
<tr>
<td>explanatory measures</td>
<td>Information sharing</td>
<td>Service Production-Delivery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Linkage</td>
</tr>
<tr>
<td>outcome measures</td>
<td>Goal accomplishment</td>
<td>Service Delivery</td>
</tr>
</tbody>
</table>

Source: (The Author, based on the descriptions of the components by different authors)

B. Performance Measurement Systems

In practitioner literature, several frameworks have been used to develop and update performance measures. These are essentially frameworks derived from their use in management practice rather than from academic research. While researchers have studied these frameworks in the context of e-Government (studies referred to in later paragraphs), they were essentially an outcome of management best practice rather than an output of empirical research or theoretical foundations. Several frameworks have been used to develop and update performance measures.
Each of the following frameworks gives new ideas and approaches that seek to improve the utilisation of performance measurement systems. These measures commonly emerged among private organisations, but differed in terms of focus. The first five performance measurement systems, which are the balanced scorecard, performance improvement measurement methodology, performance dashboards, the programme logic model, and the family of measures frameworks, focus on the internal performance of organisations, or their performance as a firm relative to the market without considering competitors. Although data are derived from consumers, these are still analysed based on internal measures such as revenue generation and productivity. On the other hand, benchmarking centres on the external performance of organisations, specifically in relation to industry competitors. Since different performance measures target different performance areas, combining (elements of) these frameworks could provide more reliable information of the performance of the organisation. Moreover, the performance measurement systems are discussed according to the evidence of utility or functionality with the last system, benchmarking, comprising the most widely used system.

In the context of the present study, I aim to analyse which of these performance measures are being used by the selected government departments in Dubai to measure the effectiveness of their e-Government initiatives and which of these have provided the most useful data in this regard. A more detailed definition of each of these would be useful at this point.

**Balanced scorecard framework:** In 1992, Robert Kaplan and David Norton introduced the Balanced Scorecard concept as a way of motivating and measuring an organisation’s performance. This emerged as part of human resource management. This framework is intended for enabling top managers in an organisation to obtain a quick and comprehensive assessment of the organisation in a single report. Use of Balanced Scorecard requires limitation of the number of measures to a vital few. The scorecard defines the organisation's long-term strategy in terms of specific, measurable goals in different areas of management (financial, customer, internal business, measures of innovation and learning). Organisations can thus assess how they create value for customers, how they can enhance internal competencies, and how they must invest in people, systems and procedures to improve future performance (Kaplan & Norton, 1996:322). Although this involves the measurement of goals, this also carries the limitation of focusing only on measurable goals. Using only measurable goals in measuring performance could raise the issue of the validity of the results. Another serious problem is that you may not be comparing like with like when you benchmark.
The Balanced Scorecard method has been successfully utilised in the public sector in the USA as well as several other countries. In 1993, the US Congress passed the Government Performance and Results Act (Government Performance and Results Act, 1993) which required all federal agencies and ministries in the United States to adopt strategic planning processes and performance measurements by 1998. This was successfully executed with a majority of federal agencies and ministries adopting the Balanced Scorecard method as a performance measurement tool (Bryston and Alston, 1996). Public organisations in other countries have also successfully utilised this method specifically in the context of measuring the effectiveness of e-Government initiatives. (Dobrovic et al, 2008).

Performance dashboards framework: This is an executive information system, which captures financial and non-financial measures, as indicators of successful strategy deployment (The Performance-Based Management Handbook, 2001:p27). This was developed to assess the performance of the organisation as a whole. This utilises measures specifically intended to measure strategy deployment, such as leadership and decision or policy-making from top management, as opposed to the measurement of the overall performance or performance in other specific areas of the organisation. This carries the strength of considering financial and non-financial measures to support comprehensive performance measures. However, the measures only relate to strategy deployment, resulting in the need to implement other measures to assess the other areas of performance.

Performance improvement measurement methodology framework: This is a tool structured so as to measure progress against defined near-term and long-term goals, to use customer inputs in setting those goals, and to have an internal quality check. There are three facts of measurement used in this framework, which are objective achievement, cost performance, and technology risk reduction (U.S. Department of Energy, 1996:15). This emerged to assess goal achievement progress in the specific areas of cost and technology. This also focuses on performance as related to goals as measures of performance. Goals are limited to those relating to consumers such as customer feedback so that factors not mentioned by consumers are not included in the performance assessment.

Another approach described in this source is the Programme logic model framework. This framework involves the collaboration of programme staff, partners, and customers in creating a model describing the course of action a programme takes to achieve its vision and strategic goals (U.S. Department of Energy, 1996:15). This was developed to assess the
participation of key people in the particular processes. This model focuses more on the role of key people in coming up with performance measures than on the application of performance measurement. This involves derivation of information from a number of stakeholders to develop measures. However, the coverage of the collaboration is only the planning stage and not really on performance after implementation. This method has also been used successfully in the public sector specifically in the USA (Taylor–Powell, Jones and Henert, 2002; US Department of Health and Human Services, 2005)

**Family of measures framework:** In this framework, five measurement categories are measured, namely: (1) profitability, (2) productivity, (3) external quality (performance), (4) internal Quality (efficiency), and (5) other quality variables such as innovation and organisational safety (U.S. Department of Energy, 1996:15). This was developed to assess production performance in terms of quality. This framework also considers both financial and non-financial measures, but in relation only to the production stage and not intended to apply in measuring overall performance.

A widely used approach goes under the name of *Benchmarking*. This framework is a self-improvement tool for organisations. The critical point here is that it involved them in comparing themselves with others, to identify their comparative strengths and weaknesses, and to find and hopefully enable them to adopt the best practices available. The approach goes beyond the comparison of database scores and conventional performance indicators, as it looks at the processes by which results are achieved. Benchmarking is a way to identify performance gaps. Though many consultants and other use the term to describe any process of comparison, it is argued that Benchmarking should not be a one-off procedure. It is most effective when it is ongoing to become a part of the annual review of an organisation. (Bureau of the Budget and State Planning Office, 2002:24). This holds the strength of targeting self-improvement of the organisation or long-term improvement. However, this is not a monitoring tool and cannot be applied on the very frequent basis that would be required here.

In applying benchmarking, the idea is to determine standards as the point of reference in measuring quality and value. Benchmarking focuses on measurable results, so that the traditional use of benchmarking measured costs in relation to the benefits derived by the firm and other financial data. This was criticised as insufficient basis in determining the value of programmes, since this only covers the financial aspects, while programme development and implementation involve other factors such as process flows and task contributions. (Watson, 1992) To address
this criticism, attempts were made to extend the application of benchmarking to non-quantitative data, involving qualitative factors revolving around process factors in programme implementation. However, this has resulted in difficulties in determining standards able to capture both financial and non-financial performance. (Chang & Kelly, 1994)

Benchmarking has been widely used across the world to measure the impact and effectiveness of e-Government initiatives. (Capgemini, 2004, OeE, 2001). Heeks (2006) recommends benchmarking as a valuable tool to measure e-Government performance. The author highlights the following benefits derived from effective e-Government benchmarking:

- Retrospective achievement: letting policy makers know in comparative terms how their country or agency has performed in some e-government ranking
- Prospective direction/priorities: assisting policy makers with strategic decision making about e-government
- Accountability: enabling governments and agencies to be held to account for the resources they have invested in e-government.

Heeks (2006) also postulates that at different levels in the e-Government policy life cycle, benchmarking may provide differing value. For policy makers entering the awareness stage, benchmarking may help in understanding what e-government is; for policy makers at the agenda-setting stage, benchmarking may provide help to encourage adoption of e-government onto the policy agenda by focusing on the good news/benefits stories and comparing with poor performance; at the policy preparation stage, benchmarking can provide policy makers with an understanding of alternatives and priorities, and comparisons with other countries and best/worst practices; and finally at the evaluation stage, it may provide both comparative performance data and the reasons behind that comparative performance in order to move to learning.

While I have examined various performance measurement methods in the context of measuring the impact of e-Government initiatives, there are several challenges to performance measurement which must be met in order for any of the above enumerated methods to be successful. Gopal (2002) explains that performance measurement continues to face the challenge of establishing a broad range of measures able to provide data on financial aspects, but also to cover other important factors such as flexibility, quality and responsiveness. However, there is also need to control these measures in order to prevent overload of information complicating the performance measurement process. Another challenge for performance
measurement is the achievement of integration and compatibility. This is because the measures applied by organisations often deviate from business processes due to the inability to determine the appropriate measures for specific business processes. Still another problem that depends on the resolution of the previous two challenges is that performance measures should effectively support the definition and implementation of strategy.

As a start, any performance measurement system has to be embedded into the critical success factors that have to be met to achieve the goals of the organisation. Although critical success factors are organisation or industry specific, these factors could be grouped according to systematic categories to have a semblance of comparability. When these are achieved, the organisation would be more likely to accomplish sustainable success. In addition, it would also be helpful to focus on a number of well-defined performance dimensions that can support the development of specific measures needed in monitoring the progress of the organisation in the actualisation of these dimensions. (Gopal, 2002)

In the public sector, various approaches have been undertaken by numerous institutions in order to develop tools for measuring the performance of e-Government projects. For instance, the Performance Institute (2002) suggested (1) cost-efficiency performance measures, which include the assessment of improved mission results as well as evaluations of enhanced capabilities using revenue, profitability and returns on investment as specific measures, and (2) the improved programme performance measures, which include the critical appraisal of outcomes such as improved accessibility, increased transactions and cost efficiencies.

Meanwhile, the Office of Management and Budget (OMB, 2004) in the United States developed several tools, such as the (1) performance reference model as part of the federal enterprise architecture, the (2) performance assessment rating tool to measure the effectiveness of all government programmes, and the (3) public sector value model, designed by Accenture which looks at two forms of citizen value such as (a) outcomes and (b) cost-effectiveness. These measures comprise a wider scope of application when compared to the previous performance tools and encompass cost-efficiency performance measures and improved programme performance measures. The performance reference model measures the contributions of the departments to overall service delivery, the performance assessment rating model measures the effectiveness of specific government programmes, and public sector value model measures the value derived by consumers from public services. These areas of focus constitute the respective
strengths of these measures. However, these measures also carry the common weakness of being limited to financial aspects.

Lastly, and focusing specifically on e-Government projects, Stowers (2004b) suggested a different categorisation of performance measurements: (1) the web/technology based measures and (2) the service based measures. The web/technology based approach measures the technical aspect of the projects or services differentiating the e-Government services from other manual services, while the service-based approach focuses on the measurements of the service delivery, which resembles the input, output and outcome measures previously mentioned. Web/technology and service measures carry the strength of being able to specifically measure ICT-based public services and service delivery. This constitutes an approach that is more specific to e-Government initiatives. However, these measures also hold the weaknesses of being limited only to either the technological or service aspect of the initiative.

Table 2.5 below summarises the different performance measurement systems incorporating the different measures previously discussed. Again, it can be observed that these performance measurement systems can be applied to particular areas of ICT-based public service delivery. The general performance measures may apply to e-Government initiatives; but they will be used together in order to come up with a comprehensive performance measure. The weaknesses associated with most of the performance measurement systems involve their being limited to specific spheres. Although benchmarking constitutes a relatively comprehensive approach (but only because it is very general thus could involve any set of measurements) this takes a long time to implement. Usually this will take the best part of one financial year so that it is not suitable for short term or immediate performance measurement, such as would be necessary for the rapid adjustment of e-Government initiatives that are currently being implemented. The public sector performance measurement systems, although focused on public service delivery, need to be integrated with non-financial performance measures to provide adequate measures. Performance measurement systems specific to e-Government initiatives serve as important measures for public organisations engaged in IT-based public service delivery and should always be included in the combination of performance measures used to assess e-Government initiatives.
Table 2.6 Various Performance Measurement Systems

<table>
<thead>
<tr>
<th>Performance Measurement Systems</th>
<th>Authors</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Performance Measurement Systems (See Section VII, Section C of this chapter)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balanced scorecard framework</td>
<td>Kaplan &amp; Norton, 1996</td>
<td>Goal-based</td>
<td>Limited to measurable goals</td>
</tr>
<tr>
<td>Performance improvement measurement methodology framework</td>
<td>US Department of Energy, 1996</td>
<td>Goal-based</td>
<td>Limited to customer inputs</td>
</tr>
<tr>
<td>Program logic model framework</td>
<td>US Department of Energy, 1996</td>
<td>Collaboration-based</td>
<td>Limited to planning stage</td>
</tr>
<tr>
<td>Benchmarking</td>
<td>Bureau of the Budget and State Planning Office, 2002; Capgemini, 2004; OoE, 2004; Heeks, 2006</td>
<td>Targets Self-Improvement</td>
<td>Long term implementation, not suitable for immediate performance measurement</td>
</tr>
<tr>
<td><strong>Public Sector Performance Measurement Systems (see page 78)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance reference model</td>
<td>OMB 2004</td>
<td>Measures contribution of departments to government service delivery</td>
<td>Limited to financial aspects</td>
</tr>
<tr>
<td>Performance assessment rating tool</td>
<td>OMB 2004</td>
<td>Measures effectiveness of government programs</td>
<td>Limited to financial aspects</td>
</tr>
<tr>
<td>Public sector value model</td>
<td>Accenture, 2003</td>
<td>Measures the value derived by the public from publics services</td>
<td>Limited to financial aspects</td>
</tr>
<tr>
<td><strong>Specific ICT-Based Performance Measurement Systems(see page 78)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Web/technology based measures</td>
<td>Stowers, 2004, b</td>
<td>Specifically measures ICT-</td>
<td>Limited to technological</td>
</tr>
</tbody>
</table>
Since there are many performance measures applicable to e-Government initiatives, one might expect that public organisations will in principle have the tools necessary in assessing their performance. But this will only be true if measures are actually available in this wide range. Utilisation of performance measures can be observed in the experiences of actual public organisations undertaking e-Government, as we shall see.

In this context, the concept of Knowledge Management is important as a fall out of the performance measurement process. According to Charalabidis and Metaxiotis (2008), e-Government is the space where public administrations meet their customers – that is citizens and businesses during service provision. Knowledge management is the tool which can integrate the data obtained through performance measurement and feed it back into system through a knowledge chain that will ultimately support and improve the organisational effectiveness and therefore delivery of public service. Knowledge management can provide the following benefits to e-Government:

- Transformation of Governmental services and processes
- Composition of new services
- Training of Public Administration officials
- Setting up goals and metrics for measuring e-Government progress
- Achievement of Interoperability and onestop services composition
- Building or transforming information systems
- Assisting user access to electronic services
- Diffusion of new electronic services towards citizens and enterprises
- Setting up large initiatives (such as the Digital Strategy of a country, lighthouse projects involving Public Administration and IT companies
- New research approaches in e-Government

<table>
<thead>
<tr>
<th>Service Based Measures</th>
<th>Stowers, 2004, b</th>
<th>Specifically ICT-based public service delivery aspects</th>
</tr>
</thead>
</table>

Source: (The Author, based on the descriptions of the different systems by different authors)
Metaxiotis (2007) has proposed a framework for the value of knowledge management at various stages in the e-Government development as outlined below:

Table 2.7: The application of Knowledge Management in e-Government

<table>
<thead>
<tr>
<th>E-Government Phases</th>
<th>Application of Knowledge Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PUBLISH</td>
<td>Knowledge is required on how to present information clearly online, how to manage its publication and how customers are likely to use the information. Knowledge is also required and can be transferred concerning the design, completion and processing of forms and other documents.</td>
</tr>
<tr>
<td>These actions use ICT to expand access to government information, so that citizens and businesses do not have to travel to governmental offices and stand in long queue. This phase serves as the leading edge of e-government.</td>
<td></td>
</tr>
<tr>
<td>2. INTERACT</td>
<td>Knowledge is required on how to react “electronically” to requests from “customers”. This may include knowledge on how government officials or citizens search for information and like to receive it; or how to accept and maintain “customer” information. Issues of security are also important</td>
</tr>
<tr>
<td>The objective of these actions is to broaden civic participation in government (e.g. communication among government officials and citizens about various issues, creation of citizen/government forums, etc.).</td>
<td></td>
</tr>
<tr>
<td>3. TRANSACT</td>
<td>The knowledge required is concerned with the security and efficiency of the transactions (e.g. taxes, registration fees and licenses). Efficiency is achieved by smoothly interfacing the online system with back-office processing systems. Issues of trust are very important</td>
</tr>
<tr>
<td>The objective of these actions is to make government services available on line. By automating specific procedures and processes, such as tax and fine collection, governments can achieve to stem corruption and increase citizen’s trust in government. In addition, these actions can increase productivity in both the public and private sector.</td>
<td></td>
</tr>
</tbody>
</table>


In connection with the various performance measures and measurement systems discussed in the previous section, it is obvious that knowledge management should be an integral part of the performance management process in order to harness the data obtained through such methods.

VIII. Application of E-Government Performance Measurements

Empirical data on the application of performance measures in public service delivery or IT-based public service delivery is divided in the following discussion first by the application by international organisations and then by various countries. The discussions highlight learning and
what are believed to be best practices in relation to the research topic that is the use of performance measures in evaluating the effectiveness of e-Government in providing improved public service delivery. The studies presented in this literature review are important for an analysis of the transformation of Dubai Government to an e-Government framework.

A. E-Government Performance Measurement (International Organisations)

In recent years, there have been a number of major international performance measurement studies on e-Government, conducted by international organisations and private sector consulting firms. These organisations usually implement benchmarking surveys, often with the aim of helping initiatives particularly through comparing the progress of existing e-Government projects in different countries. The discussion that follows presents an overview of some of these previous studies on e-Government projects along with specific examples of performance measurement systems utilised by different countries.

The research project facilitated by the OECD, as part of its PUMA programme, described e-Government as an enabler in the context of the modernising public sector management, the promotion of good government, and the development of citizen-centred reforms. The study evaluated the impact of e-Government on national administration within the following framework of analysis:

- Vision, Context and Responsiveness (how e-Government can make governments more responsive);
- Reform of Public Administration (the changes that e-Government can make possible in terms of the reform process that was central to PUMA concerns);
- Strategic Implementation of e-Government (the requirements for effective introduction and deployment of e-Government implementation); and

These measures constitute criteria significant for the improvement of existing e-Government initiatives, apart from the fact that these measures work towards the direction of improving service delivery more generally to achieve a better balance between government management concerns and citizen or market interests.

Meanwhile, the research activity jointly conducted by the United Nations Division for Public Economics and Public Administration (UNDPEPA) and the American Society for Public Administration (ASPA) focused on the benchmarking of e-Government using a global
perspective. The findings of the study resulted in an e-Government profile for member states of the United Nations based on a benchmarking framework involving two stages. The first stage categorised the member countries in terms of their Stage of Online Development – such as:

(a) emerging,
(b) enhanced,
(c) interactive,
(d) transactional, and
(e) seamless or fully integrated as discussed earlier.

The second stage classified the selected countries on a Global e-Government Index using three elements, namely:

- **Web presence** – as above (emerging, enhanced, interactive, transactional, or seamless/fully integrated);
- **Telecommunications indicators** (PCS per 100 individuals, Internet hosts per 10,000 individuals, percentage of all population online, telephones, mobile telephones and television per 1000 individuals); and
- **Human capital** (level of education and healthcare, access to and distribution of information, and urban/rural population balance) (UNDPEPA, 2002).

This research resulted in the development of a benchmarking framework for e-Government service performance measurement, taking into account e-service and the human development of the state implementing the e-service. While the framework helps in the evaluation of the progress of e-Government, these measures only provide broad information on the world ranking of these states without really providing specific details on the factors explaining the ranking or classification.

An attempt has been made to evaluate the balance between the techno-economic and social components of contemporary information society strategies, by looking at indicators of information society status in the EU member projects. This particular research activity focused on the e-Europe initiative, which was launched in 1999 with action plans made in 2002 and 2005. The 2002 Action Plan was characterised with a wide scope, which sought to put the Internet at the top of the European political agenda. Its objectives include:

(1) the development of cheaper, faster, and secure Internet access;
(2) investments in training people to develop e-skills; and
(3) the stimulation of Internet use. Related indicators have been set to perform a benchmark for each of the stated objectives (European Commission, 2002a).

Indicators related to development of cheaper, faster and secure Internet access include:
(a) Internet penetration % of households;
(b) off-peak dial up cost among households;
(c) off-peak dial up cost among businesses;
(d) core speeds of national research networks; and
(e) secure servers per million inhabitants.

Meanwhile, the second objective to invest in people and skills was associated with indicators such as:
(a) fewer pupils per PC;
(b) Internet PC per 100 pupils;
(c) % workers with computer training; and
(d) % workers who use computers at work.

Lastly, in relation to stimulation of use of the Internet, among the related indicators were:
(a) % Internet users purchasing online;
(b) % companies selling online;
(c) % companies buying online; and
(d) basic government services online (European Commission, 2002a).

The research established a measurement framework that is largely unexplored in current government-centred studies. The scope is limited to market-factors such as user acceptance and market penetration of the e-service.

The 2005 Action Plan sought to extend the achievements of its predecessor by building a European-wide broadband infrastructure as a prerequisite for both the new competitive knowledge economy and an inclusive information society. It identified the following priorities:

(1) modernisation of public services to make them more productive, accessible and equitable;

(2) further promotion of a favourable environment for e-business; and
(3) a secure broadband infrastructure (European Commission, 2002b).

This suggested that performance measures should consider ICT infrastructures as important factors in measuring e-Government performance since the development of these infrastructures determine the success of e-Government initiatives.

These two studies, comprising initial investigations of performance measurement, exemplified different types of performance measurement systems, which made possible the monitoring, and analyses of the progress of e-Government projects as well as performance comparisons between countries. However, these researches cover specific or only on side of the process rendering them insufficient (or at best partial) as a performance measurement tools for new public management strategies. Some of the studies focused only on the management or market-factor side of the initiative, while other studies only focused on the classification of governments according managerial or market-related factors without focusing on both areas of performance measurement. Moreover, these two studies did not evaluate the availability of public services for citizens and businesses through other delivery channels highlighting the fact that existing e-Government initiatives, which use other channels aside from the Internet to reach their target clientele, and also no assessment of adequacy of service delivery by non-electronic means, were not included and assessed. This means that there was no consideration of other service channels, which might be used for augmentation – or as a point of comparison. In addition, these studies lack evaluation of organisational e-Government activities such as the redesigning of the back-office procedures, which is the perspective of OECD prior to PUMA.

Although these measurement tools provide government agencies with information on the current progress of their government service initiatives, the tools they used are focused only on e-readiness, making it more government-centred instead of integrating both managerial and market-based considerations into their public management systems or balancing their focus between government and citizen public service delivery interests. There is need to develop performance measurement tools covering performance criteria for both management and market-based factors.

Looking into research on performance measurement tools for e-Government initiatives, these do not cover the assessment of public sector websites or identify clear guidelines, benchmarks or measures to evaluate website performance. There is also no clear indication of the practical manner of applying the measurement techniques implemented in private sector websites.
to public sector websites, nor has the extent of applicability of private sector website measures to the assessment of public sector websites been examined. As a result of the lack of clear international criteria for the assessment of e-Government initiatives covering public website performance, governments have decided to start developing their own measures and criteria, which are tailored for the public sector (Hillwatch, 2004). Among the processes developed to evaluate the e-Government initiatives, are:

(1) cost-benefit analysis,
(2) net-present value,
(3) internal rate of return,
(4) return on investment,
(5) customer satisfaction,
(6) take-up rates, and
(7) benchmarking (Intergovernmental Advisory Board, 2003:4).

Meanwhile, benchmarks generally act as a reality check for managers and policy makers, by offering a way to measure, ideally on a regular basis, whether or not e-Government projects are advancing, sustainable and delivering what they promise. Specifically, benchmarking involves comparisons to other periods and places. Such benchmarks might be based on specific dates, cross comparisons with other countries/states, opinion polls, and independent surveys on customer satisfaction as well as cost effectiveness (The Working Group in E-Government in the Developing World, 2002:21).

Public organisations implementing e-Government initiatives have used a range of performance measures. It is likely that many of these performance measurement systems reflect the specific context and the needs and objectives of the particular organisations. There does not appear to be an off-the-shelf set of performance measurements that will be suitable for all initiatives. But let us examine some national activities in more detail.

B. E-Government Performance Measurement Systems (Countries)
For the purpose of this study, I have selected three countries to use as benchmarks of e-Government maturity. These three countries – namely Canada, UK and USA are the top three in the United Nation’s 2010 e-Government Development Index. (United Nations, 2010 p 60) (accessed from: E–Government Development Index: Top 20 Countries: http://www2.unpan.org/egovkb/global_reports/10report.htm). According to this survey, as shown
in table 2.6, these 3 countries that is USA, Canada and UK and Northern Ireland are among the top 4 as can be seen through the below rankings provided by the UN E-Government Development report:

<table>
<thead>
<tr>
<th>Country</th>
<th>E-Government Development Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Republic of Korea</td>
<td>0.8785</td>
</tr>
<tr>
<td>United States of America</td>
<td>0.8510</td>
</tr>
<tr>
<td>Canada</td>
<td>0.8448</td>
</tr>
<tr>
<td>UK and Northern Ireland</td>
<td>0.8147</td>
</tr>
</tbody>
</table>

I selected these 3 countries for benchmarking because of the ease of access of documents and research on their e-Government Initiatives. I have not analysed Korea due to geographical distance and language issues. It would be useful at this point to outline how these countries have utilised performance measures to measure the impact and effectiveness of e-Government initiatives.

I will also outline the e-Government initiative in Hong Kong as I wanted to select a country outside the western developed world in order to provide a variety in benchmarking data. I selected Hong Kong because it was adjudged as the first runner up in “Best Practices e-Government” in the World e-Government Mayors Forum 2008, hosted by the Seoul Metropolitan Government. The E-Governance Institute at Rutgers, the State University of New Jersey, Campus at Newark and the Global e-Policy e-Government Institute at Sungkyunkwan University conducted a worldwide survey (Digital Governance in Municipalities Worldwide Survey 2007 – Holzer and Kim, 2007) among the municipal websites of 86 cities and ranked Hong Kong in second place in digital governance, with Seoul being ranked first. (Digital 21 Strategy, 2008). It would be useful to study these nations in order to obtain valuable data on the best practices in performance measurements for e-Governments in these countries.

Canada. One of the leading countries leading in recognition of the potential contribution of e-Government service to public service delivery is Canada, whose stated aim is to increase citizen and client satisfaction with government services. In line with this objective, the Canadian government developed a performance measurement framework, which includes ten performance indicators:
(1) convenience;  (2) accessibility;  (3) critical mass of services;
(4) take-up;    (5) service transformation;  (6) client satisfaction;
(7) security;   (8) privacy;          (9) efficiency; and
(10) innovation (DPADM/UNDESA, 2004:1).

These are measured through Common Measurements Tool (CMT), which is discussed below. In addition, the Treasury Board Secretariat (TBS) through its Service Improvement and its Citizens First Initiative has identified Citizen Drivers of Satisfaction for internet sites, which include:
(1) ease of navigation,   (2) outcome,   (3) visual appeal, and (4) efficient page
loading (Hillwatch, 2004:4).

It was also indicated that TBS received reports of data being collected by other departments, including the departments’ plans for putting services online and the progress they have made through an electronic database. As a result, the information files are accessible to all departments who are participating in the e-Government initiative allowing them to share lessons and identify chances for partnership. This process applies primarily to the initial transactional stage of the e-Government without measuring the previous stages (emerging, enhanced and interactive stages). (Hillwatch, 2004:4) In this light, TBS worked with an information team made up of people from the different departments to create a tool to measure the depth of the information services and stages of e-Government. Moreover, the framework itself combines self-assessment data with feedback from clients who are using the online services. In line with the further development of the e-services, TBS has been working with provincial governments to finalise a second version of the Common Measurements Tool (CMT), discussed below, to measure the clients’ satisfaction in relation to the online communication channel (DPADM/UNDESA, 2004).

CMT was developed by the Canadian government, and provides public organisations with a set of standard questions and standard measurement scales to analyse the feedback of their clientele. The use of standard questions allows the organisation to benchmark the progress over time, and to compare results with other organisations within the same “business line” since the questions are standardised. CMT was conceptualised around five key elements:

(1) client expectations,
(2) perceptions of the service experience,
(3) satisfaction levels,
(4) level of importance, and
(5) priorities for service improvements (ICCS, 2004: [http://www.iccs-isac.org/eng/cmt-about.htm](http://www.iccs-isac.org/eng/cmt-about.htm)).

The Canadian e-Government illustrated the success factors in developing the government online (GOL) performance measurement framework through consultations with, and feedback from multiple groups, including measurement experts in the federal government, senior management across multiple departments and an independent third party. The aggregate feedback identified as success factors of the initiative the exchange of rich ideas and the refinement of the chosen approach. However, the main drawback in this case includes the use of two success indicators:

(a) client satisfaction and
(b) take-up.

Traditionally, the methods or tools to address these indicators involve the facilitation of focus group discussions and customer surveys. Both are considered costly to implement, so that retaining these tools may not be feasible for the majority of government websites, particularly when implemented on a regular basis. However, online customer surveys may comprise a tool more suited to e-Government services, although these could exclude people alienated about online services.

United Kingdom. The Office of Deputy Prime Minister (ODPM) has sponsored a study focusing on process evaluation of the Implementation of Electronic Local Government (IEG). It is important to note that the study considers a local government department giving rise to a different performance measurement context. The study used local government documents as sources to collect the information regarding the process outcomes or the effects of e-Government on the organisational structure, systems, practices and culture of local authorities as well as the impacts or the wider consequences (intended and unintended) of the e-Government initiative on the local community. Among the systematic sources include the Best Value Performance Indicator (BVPI) 157 (ODPM, 2003:9). BVPI 157 is the formal measure of e-enabled services or the project’s evaluation of local authority websites. This functions as an independent assessment system of outputs, adopted by the National Audit Office, and the self-reported impacts of the e-Government from the e-Government survey (ODPM, 2003:9). Table 2.7 below presents the

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1 This Website was accessed on October 2004
range of criteria used to measure process outcomes and impacts of UK’s E-Government performance.

### Table 2.9 Standard Range of Criteria in Evaluating the E-Government Performance of United Kingdom Local Governments

<table>
<thead>
<tr>
<th>Criteria Range</th>
<th>Process Outcomes</th>
<th>Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline data on costs of services</td>
<td>Baseline data on costs of services</td>
<td>Established process for gaining feedback from citizens and business about quality of e-enabled or e-delivered services and channels</td>
</tr>
<tr>
<td>Measure in terms of the time taken to process common transaction</td>
<td>Measure in terms of the time taken to process common transaction</td>
<td>Collect and analyse information on the take up of e-services by citizens and businesses</td>
</tr>
<tr>
<td>Cost per transaction for individual common transactions</td>
<td>Cost per transaction for individual common transactions</td>
<td>Commission external evaluations of the quality of electronic service provision and communication channels</td>
</tr>
<tr>
<td>Measures for the effectiveness of common transactions (i.e., Failure rates)</td>
<td>Measures for the effectiveness of common transactions (i.e., Failure rates)</td>
<td>Analyse lack of feedback</td>
</tr>
<tr>
<td>Quantity of information being collected</td>
<td>Quantity of information being collected</td>
<td></td>
</tr>
</tbody>
</table>

Source: *(ODPM, 2003:35)*

Moreover, the study distinguished between the internal criteria of services efficiency such as:

(a) cost;
(b) timeliness; and
(c) rate of failure,

as compared to the external criteria of service efficiency that evaluate the extent to which service clients (citizens or/and businesses):

(a) take up,
(b) use, and
(c) evaluate e-enabled services, and
(d) review services quality *(ODPM, 2003)*.
In the case of the United Kingdom e-Government initiative, cost-benefit analysis represents a major challenge for many local authorities because the authorities that adopt good practices in the field of performance measurement, and organise it at a corporate level through the systematic application, are more likely to make the investments in improving the e-services and also to reap the rewards in terms of the benefit of e-Government. ODPM found that there is an extensive collection of basic service information at the project level, establishing information on issues like the number of calls handled by call centres and the number of hits on websites. However, there was less evidence that such information is being strategically used or widely circulated. Monitoring the resource costs of e-Government has been a common priority; but balancing these costs against the benefits of e-Government appears to be neglected in the measurement systems.

United States of America. It appears that federal, state and local governments are actively engaged in using e-Government performance measures. Some of them (like the state of Mississippi) developed their own measures, while others have good practice in collecting performance measurement data (like the state of Texas). In addition, most of these agencies take advantage of the measurement of customer satisfaction for their websites such as the American Customer Satisfaction Index (ACSI). ACSI is a quantitative survey instrument developed in partnership with the University Of Michigan School of business and the American Society of Quality, to track annual trends in customer satisfaction with Government Services (ACSI, 2004: http://www.theacsi.org/index.php?option=com_content&view=article&id=48&Itemid=122).  

General methodologies of measuring the performance are used by most of the e-Government initiatives which include the data collected through:

(1) surveys like:

(a) the traditional random telephone surveys,

(b) the web-based pop-up surveys, or

(c) the page-based clickable ‘opt-in’ web surveys. Other examples of methodologies used are

(2) the web monitoring software,

(3) the administrative data from records,

(4) the cost-benefit analysis,

(5) the basic gathering of benchmarking data and

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2 This Website was accessed on May 2004
(6) the e-Government specific web tracking methodologies (Stowers, 2004b).

Stowers (2004b) identified the most frequent performance measures used among the federal e-Government initiative, the state e-Government initiative, and local e-Government initiative. The federal e-Government measures include:

1. the amount of time saved,
2. the number of transactions or uses,
3. the number of participants,
4. the cost savings,
5. the adoption rates of applications,
6. the number of users/visitors or site hits,
7. the reduction of errors or redundancy, and
8. customer satisfaction among others (Stowers, 2004b:15).

Meanwhile, the state e-Governments and the local e-Governments are more prone to use:

1. the number of applications offered,
2. the cost savings from the applications,
3. the adoption rates of application,
4. the customer satisfaction,
5. the number of visitors,
6. the page views or hits,
7. the number of agencies participating,
8. the number of transactions or uses,
9. the accessibility of sites,
10. the common look and feel of sites,
11. the national ranking or award,
12. the reliability, and
13. the number of search engine inquiries (Stowers, 2004b:16) to measure the performance of the initiatives.

According to Stowers (2004b:16), these differences among type of measures are due to the differing types of services found in state government divergence. The Mississippi e-
Government and the TexasOnline Portal are considered to be among the most successful performance measurement projects in the United States. In the study conducted by Stowers (2004b), the Mississippi e-Government was seen as displaying the best balance, in terms of use of both the web/technology and the service-based measures – which included indicators such as:

1. the license adoption rates,
2. the online license renewal rates,
3. the number of visitors per month,
4. the number of helpdesk inquiries,
5. the number of online transactions,
6. the number of agencies and sites supported,
7. the number of applications developed, and
8. the number of pilot tests and National Award (Stowers, 2004b:21).

TexasOnline Portal, furthermore, provided a consistent and outstanding use of a standard set of performance measures, accompanied by the state’s efforts to determine the effects of its e-Government initiative through the utilisation of cost-benefit analyses. The TexasOnline Authority project plan included:

1. five year projections for most outcome measures,
2. the detailed definitions for each measure,
3. the breakdowns of each goal, and
4. the strategy with the accompanying measures.

More specifically, the portal used measures such as:

1. the total number of visitors,
2. the total transactions,
3. the total dollars collected,
4. the services offered,
5. the participation of state agencies, local governments and institution of higher education, and
6. the user adoption rates (Stowers, 2004b:27).

In addition, the TexasOnline Authority conducts customer satisfaction surveys such as:
(a) portal surveys for the users visiting the portal and
(b) surveys of service users.

TexasOnline is an independently financed and fully self-supporting organisation created through public-private partnership. Its assessment of Return on Investment (ROI) is based on the number of Texans adopting e-Government services. The number of citizens applying for e-Government services is important because the Texas state government and the private company share the cost and revenue in such a way that a higher number of citizens obtaining e-Government services means a higher return on investment for the public-private venture. TexasOnline also conducts cost-benefit studies of the e-services offered in the portal in which agencies were asked to complete a pre-implementation and post-implementation templates identifying costs and benefits at a regular basis (Stowers, 2004b:31).

The USA meanwhile showed that few state and local e-Government initiatives are actively using performance measurement systems to assess the impact of their efforts, though there are some examples of good practice. However, with the influence of the US Office of Management and Budget (OMB), there is more consistency in the development of standardised performance measures at the federal level. There is need to take the standard performance measures and translate these into tools applicable to the contexts of the different states implementing e-Government services.

Hong Kong. The government of Hong Kong has been active in increasing the awareness and literacy of the locals regarding the use of information and communication systems. Along with its awareness programmes, the national government has also encouraged different sectors, including the social service industry, to integrate information technology systems into their operation to support the creation of a more advanced and digitalized society. This effort was stressed further through the development and implementation of the Digital 21 Strategy in 1998 by the national government. This strategy was updated in 2001 and 2003 and aimed to develop and utilize IT infrastructures and applications so as to connect the city via online means. With the Digital 21 Strategy, public services that can be acquired through internet technology have constantly increased. From 2001 to 2003, such services increased from 70% to 90% (Government of the HKSAR 2004).

In a survey done by Choi (2004), the researcher investigated on how ICT is applied in the social welfare industry of Hong Kong. The research mainly focused on identifying how the
country’s NGOs are applying IT in their operations as well as where these technologies are specifically used. The findings showed that computers were the main IT instruments used in the social welfare industry. The networking capability of this IT application was also utilized by the NGOs in order to allow data interchange and sharing. The level of networking within an NGO however was greatly dependent on its size. Specifically, NGOs with greater members demonstrated more advanced connections with their computer units as compared to smaller organizations. This finding actually stress to possible conclusions. One is that NGOs with a larger number of members have access to greater resources to support IT investments. It is also possible that NGOs with more members exhibit greater interest on applying IT systems in their operations (Choi 2004).

Aside from using computers, the utilization of internet technology has been one of the common tools used among NGOs in Hong Kong. NGOs in particular used broadband connection in order to establish faster communication with stakeholders. Electronic mailing or sending e-mails serve as the main communication tool used by NGOs that is based on information technology. The results of the investigations however also identified NGOS with low speed dial-up connection which hinders faster and more efficient exchange of information. Considering that the electronic mailing system has been an essential component of most public and private establishments, this finding suggests that improvements on IT infrastructure, especially in terms of the internet connection speed, are necessary (Choi 2004).

The research done by Choi (2004) also found out that majority of the NGOs in Hong Kong use multiple IT applications or systems for their operations. Among the NGOs investigated during the research process, the researcher noted that IT systems are commonly used by these organizations for human resource management, financial management and internal communication. The social service providers realize that IT can actually be used in other aspects of public service; nonetheless, the limited utilization of IT in the industry constrains this possibility. This limitation was further stressed by another finding of the researcher. In particular, it appeared that staff with sufficient ICT expertise or training is employed by these organizations, especially by smaller NGOs. Without the technical support of IT professionals, developing new and better information systems in these organizations becomes difficult.

The e-Government initiative in Hong Kong as well as in other countries has led to positive results within the social welfare industry. These advantages also serve as the main drivers that encouraged other governments and social service organizations to implement IT
within the industry. The use of e-Government systems for example is beneficial as these lead to operational efficiency. Breen (2000) noted that e-Government systems can be used in order to improve operational consistency or reduce errors in the outputs derived from automated tasks. The efficiency of operating procedures can also be improved by means streamlining, reducing operational layers or cost saving. Through e-Government, duplication of positions can be eliminated, lessening the time necessary to accomplish various transactions. In addition, distributing different tasks to government employees can help in developing their skills and facilitating career growth. In general, the employment of e-Government helps relevant agencies and organizations in making the services they provide better and more accessible.

As the operations and services of the governments are improved through the integration of information technology, their relations with different work sectors as well as the public also improves. Historical documents and publications are typical in governments and social service organizations. However, through e-Government people in need of these documents will no longer encounter much difficulty. By means of various ICT systems, governments can install a programme that would not only allow quick data dissemination but also enable effective data storage and preservation. Rather than keep all documents in paper and folder files that do not promote long-term maintenance, saving all historical government files in the computer or online storages can guarantee the life-long availability of these valuable data. Aside from public users, this feature of e-Government is also important for bureaucrats especially in keeping track or comparing various statistical findings.

Governments can employ e-Government initiatives to conduct online monitoring, perform data mining activities as well as track citizen and officer activities. In effect, enhancing administrative control can lead to several positive effects. One of which is the reduction of inefficiencies in the government as well as corruption (Kalathil & Boas 2003). By cracking down on corruptive and inefficient activities, economic development and stability are promoted. This effect is particularly helpful for nations that are still developing economically. This outcome is also synonymous to the process of increasing government transparency. With poor government transparency the public may be acquiring government or social services through high service costs. This can be resolved through e-Government.

There had been limited researches that investigate the status of IT application within Hong Kong social welfare industry. However, the research discussed in this chapter clearly suggests that IT is typically applied by social service providers to ensure smooth and efficient
managerial and clerical work activities. Certain factors such as inadequate resources, company size, overall IT usage as well as the access to technical support were identified as essential elements in the successful application and improvement of the organizations’ IT systems (Choi 2004). In general, IT had been of use to Hong Kong’s social service delivery. However, the absence of certain important factor for IT application appears to hinder further ICT growth within the industry.

With this, the local experiences of the UK hold relevance to the study of e-Government initiative in Dubai, because Dubai also implemented an e-Government initiative for its local government. UK experiences with performance measures might have parallels in Dubai. The state-level experiences in the USA on the application of performance measures to e-Government also hold relevance to the case of Dubai because the Dubai e-Government initiative is closely tied to the e-Government initiative of UAE, of which Dubai is part. Similarities could exist between the experiences of US states and Dubai. Measures used by UK local government and US states such as Mississippi and Texas may have been used in Dubai.

Table 2.8 below provides a comparison of the performance measurement systems for e-Government initiative of Canada, UK and USA. A consideration of the three systems shows that although these all utilise performance measures to assess the progress of their e-Government initiatives, there are variations in the performance measures used. One major commonality is the focus of the measures on service delivery. This explains why all the systems focus on customer satisfaction measures, including site visits that accumulate overtime when service is satisfactory, in assessing e-Government. However, major differences lie in the measures used to assess service delivery, with Canada using customer satisfaction and website navigability, the UK using process outcomes and impact, and the US using frequency of visits, savings, customer satisfaction, and site reliability.

Research presented in sections VII and VIII above is very important for the second focus area that I have used to gather data. This relates to: “The e-government performance measurement systems applied by the selected departments to evaluate the effectiveness and efficiency of the initiative”
IX. Problems in Studying Performance Measurement of e-Governments

In order to provide a more thorough understanding and evaluation of the generalisability of approaches to performance measurement of e-Government services, the limitations of performance measurement systems must also be acknowledged. The most evident limitations of studying the performance measurement systems of public organisations include the differing definitions of e-Government, the exclusive characteristics of each of the currently employed performance measurement systems, and the inherent caution needed in comparing countries that employ the e-Government initiatives.

Although definitions of the term e-Government initiative have already been discussed in this study, we noted that these definitions typically focus solely on the digital exchange of information via the Internet. They neglect services received from other popular interactive communication devices such as mobile phones (Al-Kibsi et al, 2001), which are digital and can convey text and web-type information. The proliferation and growing power of information and communication technologies means increasing variety of platforms for delivering public services “online”. As such, it is important to draw and clearly describe the scope of the study by presenting the specific topics and subtopics based on the e-Government definition utilised in the studies.

Moreover, the models used for performance measurement may be based on simple situations of the government and as such may not address some specific situations. These include the issues on adaptability of the measurement when circumstances and demands become more complex wherein the department may then be forced to find other ways to cope with such demands. This is based on the premise that the models must accommodate diversity and immediate change in order to quickly react and continue to assess service based on the demands of the public (Kravchuk and Schack, 1996). Furthermore, different models may have to be used for intergovernmental benchmarking in order to evaluate how each branch is able to distribute public services and to assess their function based on their cooperation with other departments (Poister and Streib, 1999).

Researchers who might be interested in pursuing the critical comparisons and appraisals of different e-Government systems must also be cautioned that performance measurement systems of existing e-services may not be comparable mainly because of cultural differences of the countries as well as the different preferences for the technological device to be used, the geographical distribution of the citizens, and other factors that may affect the implementation of
the initiatives. While case studies may be the most efficient way to show the similarities and disparity of existing e-Government systems, it must nevertheless be remembered that each country is unique and therefore has its own specificities that must be taken into account.

Authorities reviewed above suggest that a number of issues must be addressed to achieve successful e-Government performance measures (Poister and Streib, 1999):

- E-Government initiatives should use performance measures to initiate and manage changes that lead to continuous improvement.
- E-Government initiatives need to use a wide range of performance measures to ensure accountability. It should be a mixture of both web/technology and services-based measures.
- E-Government initiatives should ensure that a balance is achieved between developing a system with numerous performance measures and the costs, in terms of time and expense of doing so.
- Performance measures should be derived from mission statement, strategic issues, goals and objective of the initiatives.
- Performance measurement systems should also be flexible enough to take into account unexpected outcomes or can be adapted for a later point in time.
- Performance measures result must be used to support the benefits performance measurements and changes to the overall initiatives.

Ultimately, the importance of performance measures should not be underestimated. Performance measurement if successfully implemented ‘shows what is working, points out areas for improvement and ultimately leads to service improvement and cost saving’ (Accenture, 2003. P.31). But in the government field, such claims seem to be based more on principle (or anecdotal experience than on systematic empirical evidence. The contribution of performance measures to service improvement and cost savings is the subject of investigation in this research study.

There are a number of existing performance measures that can be applicable to e-Government initiatives. The selection of such measures, and their utilisation, depends upon the objective of measuring the different levels of performance from planning to implementation to target recipient uptake. The application of the measures should produce results that indicate how far the initiative is successful, what areas require improvements and –possibly the ways of achieving the improvement. Existing literature suggests that performance measures shift the e-
Government initiative from being government centric to citizen-centric, a major and important improvement to the initiative.

X. Comparison of Dubai e-Government and European States e-services

Madar (2003) compared the types and extent of Dubai e-services with that of the e-services offered by the European Commission. This study shows that the Dubai Government has made significant progression in bringing online its basic services to the public, and in some aspects the Dubai Government even performed relatively better than some European institutions. This was clear when comparing the Dubai Government’s achievements with those of its European counterparts.

Online availability or e-version of Dubai government services is higher (76.4 percent) than it is in Europe (the average score estimated for Europe by the end of October 2002 is 65 percent). Madar considered a set of criteria to measure and evaluate the e-Government initiative and the progress of the initiative. The most important was the online availability of the government’s basic public services, but also the levels of integration and customisation of basic e-services on a single government gateway is used. Basic services are described as being “the most frequently used services and/or services which are the most critical for the interest of the individual users and the smooth running of business activities” (Madar, 2003:26).

Table 2.9 provides more details on the basic e-services offered by the EC and Dubai based on the study conducted by Madar Research.

<table>
<thead>
<tr>
<th>Basic public services for individuals</th>
<th>EC Basic e-Services</th>
<th>Dubai Basic e-services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income Taxes</td>
<td></td>
<td>Visas</td>
</tr>
<tr>
<td>Job search services by labour offices</td>
<td></td>
<td>Job search</td>
</tr>
<tr>
<td>social security contributions (unemployment benefits, child allowances, medical costs, student grants)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>announcement of moving (change of address)</td>
<td></td>
<td>Payment of utility bills (electricity and water)</td>
</tr>
<tr>
<td>personal documents (passport and driving license)</td>
<td></td>
<td>personal documents (passport and driving license)</td>
</tr>
<tr>
<td>Basic public services for Business</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>car registration (new, used and imported cars)</td>
<td>car registration (new, renewal)</td>
<td></td>
</tr>
<tr>
<td>declaration to the police (e.g. in case of theft)</td>
<td>Declaration to the police (traffic offences, crimes)</td>
<td></td>
</tr>
<tr>
<td>application for building permission</td>
<td></td>
<td></td>
</tr>
<tr>
<td>certificates (birth and marriage) request and delivery</td>
<td>Certificates (birth and marriage)</td>
<td></td>
</tr>
<tr>
<td>public libraries (availability of catalogues, search tool)</td>
<td>public libraries (availability of catalogues, search tools)</td>
<td></td>
</tr>
<tr>
<td>enrolment in higher education</td>
<td>enrolment in higher education</td>
<td></td>
</tr>
<tr>
<td>health related services (interactive advice on the availability of services in different hospitals, appointments for hospitals)</td>
<td>health related services (interactive advice on the availability of services in different hospitals, appointments with doctors and health card renewal)</td>
<td></td>
</tr>
<tr>
<td>social contribution for employees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>corporation tax</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value added tax (VAT)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>registration of a new company</td>
<td>Registration of a new company</td>
<td></td>
</tr>
<tr>
<td>submission of data to statistical offices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>customs declarations</td>
<td>Customs declarations</td>
<td></td>
</tr>
<tr>
<td>environment - related permits</td>
<td>environment related permits (hazardous waste disposal, veterinary certification, Dubai central laboratory, no objection certificates for drainage and irrigation networks)</td>
<td></td>
</tr>
<tr>
<td>public procurement</td>
<td>public procurement</td>
<td></td>
</tr>
<tr>
<td>free zones establishments (Jabal Ali, Dubai Airport, Technology</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To accomplish the comparison, Madar considered only the basic e-services in the EC and Dubai since only these were directly comparable (there existed basic e-service measures and the e-governance in the areas seemed equally developed). In terms of number, the EC and Dubai offers the same number of services but with a difference in the type of services. Nevertheless, Dubai received a higher ranking than the EC due to reasons discussed in the following paragraphs. The differences between the two jurisdictions in Dubai and the EC were present in areas such as income and corporate taxation which comprise the e-services offered in the EC while not in Dubai, and in engineering and free zone e-services offered in Dubai, which, however, was not available in the EC. The EC applies income taxation, which has no counterpart in Dubai. Dubai relies on trade and construction for its gross domestic products, which means that it has to improve these areas via e-services in order to improve productivity in these industries and boost growth. Differences in the e-services offered are highly influenced by the socio-economic context and settings of the two regions.

As noted Madar utilised two performance measurement systems to benchmark the performance of Dubai with EC on the e-Government initiative. One is the availability of online services, and the other is the integrated and customised service. The most important was the online availability, which was measured through the number of online transactions completed. Also, the frequency and the ease in engaging with the e-services and the government’s basic public services plus at which level the services were available was measured. The other performance measure was the integration and customisation measured through the extent of inter-linkages between e-services offered by the various departments and the ability to meet the different e-service needs of citizens.

In terms of the availability of online services, it is surprising that Dubai was awarded a higher performance than the EC, considering that Dubai is a tax-free state so that these services are not provided in Dubai. The high rating attained despite the nonexistence of tax-related services might also reflect scoring that relies on the share of services that are online. It may also have something to do with the availability of the funds that in fact are available for public service delivery (despite lack of taxes) in Dubai, that the users use these other public service deliveries.
widely? Such funding is made possible since the UAE is relatively wealthy and able to invest in profitable modernisation projects.

In relation to integrated and customised service, it is understandable that Dubai obtained a better rate in performance. Dubai is a single state establishing linked e-Government initiatives, while the EC is comprised of different states, which are still not unified and standardised in areas such as, for example, processes of the e-Government.

Considering the results of Madar’s comparative study with the EC and the background information on the e-Government initiative in Dubai discussed in the beginning of the chapter, there are indications that the IT transformation of the Dubai government leads to important progressions in the e-Government initiatives. What seems especially important is that broadening the accessibility of e-services is as much an element of this transformation as it is to provide the online services.

XI. Synthesis & Implications for the Study

This chapter aimed to present literature revolving around several concepts important to the present study. The review of literature covering the topic of e-Government initiatives results in a number of implications important to the furtherance of this research. The implications relate to the conceptual foundations of e-Government initiatives and dynamics of performance measurement to improve them.

In terms of the concepts underpinning e-Government initiatives, change management should contribute to the understanding and assessment of e-Government initiatives through performance measures, by directing the focus of the evaluation and monitoring processes towards the linking of change (such as the introduction or improvement of new systems) with problem analysis and/or diagnostics spearheaded by leaders in the different levels of the organisation. Change management also brings a focus on the importance of the development of good working and interpersonal relations within the organisation experiencing system change, so as to facilitate acceptability and adaptability. Change management applies to both public and private organisations. Its focus on human relations is also a core concept of new public management, which is centred on public organisations (while deriving applicable concepts from the private sector).
New public management places stress on contact and interaction to facilitate the acceptance of the initiative. Interaction means that the public organisation should capitalise on communication to motivate the adoption of the initiative, instead of relying on traditional hierarchical authority relations to achieve acceptance. Moreover, new public management also directs performance measurement towards the balancing of managerial concerns on the part of the implementing agency with the citizen concerns of the e-service recipients. Thus change management and new public management focus on the organisational aspects of implementation and performance measurement. The concepts of privatisation and outsourcing constitute specific approaches to service delivery. Privatisation and outsourcing may be undertaken in conjunction with e-Government initiatives, depending on whether the government agency in question is seeking to address the problems in expertise, labour, time, finances and workflows. If the government agency is not experiencing these problems intensely, or only experiencing some of them, then privatisation and outsourcing may not be necessitated – though some commentators would view them as almost always worth consideration.

The core ideas of these concepts comprise key factors for investigating the selection and utilisation of performance measures by the public agency implementing e-Government initiative.

Investigating the selection and utilisation of performance measures for e-Government initiative of government agencies also necessitates the understanding of such initiatives. While much of the literature describes these initiatives in terms of different process stages, these stage approaches seem to be insufficient to encompass the entirety of the public service initiative. The implication is that we may be able to integrate and build on these approaches to achieve one that recognises the non-linearity and complexity of initiatives.

Improving e-Government initiatives through performance measures involves the selection and utilisation of such measures in terms of:

(a) the feasibility of the instrument in the context, as well as
(b) the relevance of factors being measured by the instrument to the objectives of the initiatives.

There are a number of existing performance measures that can be applicable to e-Government initiatives. The selection of such measures, and their utilisation, depends upon the objective of measuring the different levels of performance from planning to implementation to target recipient uptake. The application of the measures should produce results that indicate how far the initiative is successful, what areas require improvements and –possibly the ways of
achieving the improvement. Existing literature suggests that performance measures shift the e-Government initiative from being government centric to citizen-centric, a major and important improvement to the initiative.

However, performance measures will not improve performance by themselves, and should not be seen as an ‘instant cure’ (Bureau of Budget and State Planning Office, 1999:48). They provide information about the level of performance being achieved, which can help decision-makers understand whether and why a programme is or is not performing at required levels. In fact, good performance measures generally raise more questions than they answer. It is important to learn how effectively e-Government efforts are being implemented, as well as, the impacts. According to Barrett, (2001:33) e-Government initiatives should be designed around the need of the citizens, which will require the redesign of the current governance systems. A more holistic e-Government measurement model should be integrated while measuring the performance measurement of such projects. The model should cover and link service availability, channel selection, back office fulfilment capability, service usage and impact of e-Government economically, socially and democratically.

These literatures are important background for the research topic in shaping the debate about e-Government as well as in its influential role on the empirical design but the thesis aims to contribute knowledge about performance measurement in the specific domain of e-Government. The concepts are left as such and the focus of empirical research is on performance measurements in e-Government.
CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

This chapter provides information on the methods and procedures that were applied in order to collect and analyse data relevant for conducting the study. It also details the assumptions underlying the core focus of this study and how interpretations and conclusions have been made.

The chapter discusses specifically the following - the conceptual framework, the research design, the data requirements, the methods used for gathering the data, the participants and sampling technique utilised, the data analysis methods, and the validity and reliability of the collected data. Finally, I discuss the limitations of the adopted methodological approach.

I. Research Design: Case Study and Data Triangulation

This section provides an overview of the major data collection method – that is the case study and how data was triangulated during the research in order to ensure validity of results. I also provide a justification of why the case study method was utilised as the primary research method in this study.

As we have seen in Chapter 2 – Literature Review, it is not easy to define e-Government as a concept. Different researchers have adopted varying definitions in their efforts to study this multi-layered construct. Some researchers have defined it on the basis of its use, benefits and applicability (Abramson & Grady, 2001) while others have focused on the stages of its evolution and development (Moon, 2002).

Difficult as it is to define, the study of e-Government also does not lend itself very easily to a quantitative analysis. While research does indicate that multi-method analysis (a combination of qualitative and quantitative) can be useful for e-government research (Gil-Garcia & Pardo, 2006), the case study method is well suited towards exploratory research where the researcher has little preceding literature to serve as guidance. In the case of the present study, in view of the paucity of available research on the analysis of e-Government in the UAE, I decided to use the case study method in order to conduct an in-depth study of the e-Government initiative in Dubai from the standpoint of the various theoretical concepts important in the study of any e-Government initiative namely – New Public Management, Performance Measurement, Change Management and Privatisation & Outsourcing. The case study method allowed me to ask
questions such as “how”, “why” and “what” that is an open-ended study, guided by existing and relevant theory.

Qualitative research particularly the case study method is useful when the intention is to provide a new body of empirical knowledge from which theoretical observations might be derived (Yin, 2003:22, Robson, 2002:59 & 399). In this set up the case study approach proved appropriate for conducting in-depth investigations of the research topics addressed (Feagin, Orum & Sjoberg, 1991).

Creswell (cited in Leedy, 1997:104) defined qualitative study as ‘inquiry process of understanding a social or human problem, based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted in a natural setting’. Moreover, the qualitative research method is useful for deriving detailed oral and written descriptions or accounts of things, objects, cases and situations (Stringer, 1999; Alasuutari, 2004; Rubin & Rubin, 2006). As this approach supports the collection of wide-ranging research data also of a more “subjective” character such as, for example, the department’s employees’ individual experience, opinions, beliefs, as well as their attitudes and understanding of, for example, different performance measures’ relevance. Analysing such topics will often require a further interpretation to understand the underlying context. As such this type of research objective is intuitively less relevant to research from a quantitative approach.

Moreover, in order to check and ensure the validity of the results obtained from this study, I attempted to triangulate the data by obtaining information from a variety of sources, namely, interviews, documents analysis and personal analysis of the various government websites being studied. Data triangulation, used in all types of qualitative research, refers to the process of using multiple data collection methods and data sources to enable the researcher check the validity of the results obtained from a qualitative method. Data triangulation provides rigour to the research through collection of data through a variety of sources (Denzin, 1979). Qualitative research is inherently multi-method in focus and data triangulation attempts to enable an in-depth understanding of the phenomenon in question (Creswell, 1998).

II. Data Requirements

The research involved the collection of both secondary and primary data. Secondary data involves information contained in studies, journals, books and online resources that are relevant to the study. Secondary data, which are information that can be processed and used in the study,
provides a background for understanding the research topic and basis for determining areas of knowledge gap to be addressed by the research. Websites cited in the literature review were accessed on different dates mentioned on the bibliography while the e-Government department websites were accessed from December 2004 to February 2005. Primary data was derived from interviews conducted with the representatives of the eight Dubai government departments selected to participate in the study together with the case study conducted on the two selected departments. Also, the researcher’s work experience with Dubai Government institutions and thus her involvement and interaction with the research field studied can be seen as a form of participation. This has the advantage of gaining a deep understanding of the research field and of the underlying meaning of e.g. various decisions made in the departments. As such it can give an advantage when it comes to interpreting and analysing data collected.

III. Data Gathering Methods

The research activity comprised two data gathering methods in order to identify the common and different elements of the organisational environments within the selected departments. Their pursuit was to provide electronic services to the public and business sectors. These data gathering methods include:

(a) interviews among managers and informed individuals in the eight selected departments (DED, DNRD, DTCM, DMD, DP, DLD and TEO) including DEG and
(b) case study of the Dubai Municipality Department (DMD) and the Land Department (DLD).

The interviews made it possible to derive qualitative data and rank the different departments based on the results of the performance measures. The case studies contributed with both qualitative and quantitative data on the experiences of Dubai Municipality Department (DMD) and the Land Department (DLD) in utilising performance measurement system to evaluate e-Government initiatives.

Table 3.1 summarises the data requirements and data collection method.

<table>
<thead>
<tr>
<th>Data Type</th>
<th>When collected</th>
<th>Role in project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews – 16 in-depth interviews with 2 representatives from each of the 8 departments DED, DNRD, DTCM,</td>
<td>Sep 05 – Jan 06</td>
<td>To obtain detailed insight on experiences of the different departments and to control for consistency in answers especially regarding the utilisation of the performance measurement systems, their implementation and to make improvements to enhance IT-based public service delivery</td>
</tr>
<tr>
<td>Activity</td>
<td>Time Period</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Interviews – background</td>
<td>May 05 - Sep 05</td>
<td>To obtain background information, a general overview of industry relations, and access to interesting interview subjects.</td>
</tr>
<tr>
<td>Websites, journals, books, online resources</td>
<td>Jan 04 – Sep 09</td>
<td>To obtain background information and a general overview of industry relations and general insight to the field.</td>
</tr>
<tr>
<td>Benchmarking and comparison with case studies in Canada, USA and UK &amp;</td>
<td>Jan 04 – Sep 09</td>
<td>To obtain background information and a general overview of industry relations and general insight to the field.</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participation – in the form of work experience, and engagement in an</td>
<td>Dec 01 – Dec 03</td>
<td>To observe and to continue data collection, were working in the industry as well</td>
</tr>
<tr>
<td>industry.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEG and TEO reports</td>
<td>Dec 05 – Jan 06</td>
<td>Benchmarking to the standards they proposed to understand how different departments then have used performance measures differently, and to shed light on the overall assessment and evaluation of the progress and development of the entire e-Government initiative</td>
</tr>
<tr>
<td>Case studies – 2 with Dubai Municipality Department (DMD) and the</td>
<td>Oct 05 – Dec 05</td>
<td>To get detailed understanding of the actual e-Government initiative and of the functioning and background for selecting certain performance measures</td>
</tr>
<tr>
<td>Dubai Land Department (DLD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review of the departments websites</td>
<td>Dec 04 - Feb 05</td>
<td>To review with own eyes the functioning of the departments e-Government initiatives</td>
</tr>
</tbody>
</table>

Source: (The Author)

**IV. Participants of the Study & Sampling Method**

Applying the interview method as means of collecting primary data from the various departments of the Dubai government departments required identifying appropriate interviewees, and a procedure for selecting and contacting these informants. There are six Dubai government departments participating in the research. Below are the selected government departments:

*Category I:*

Dubai Land Department (DLD)

Department of Dubai Tourism and Commerce Marketing (DTCM)
Category II:
Department of Economic Development (DED)
Dubai Naturalisation and Residency Department (DNRD)

Category III:
Dubai Municipality (DMD)
Dubai Police (DP)

Additional Consultations on overall progress of e-Government Initiative in Dubai obtained from:
Dubai E-Government (DEG)
The Executive Office (TEO)

The six main departments selected, represent the departments that have achieved substantial results from their respective e-Government initiatives, as compared to the other departments, to allow the derivation of data for analyses. The study focused on the use of performance measures in the e-Government initiatives of the Dubai government departments and these six were the only departments that engaged in e-Government initiatives to an extent that also involved the application of performance measures.

In addition, the six main departments were selected based on their size for the purpose of varying a broad coverage--this is not a random sample, but is intended to be representative of the sorts of department featured in the Dubai system. Size was used as the criterion for selecting the six e-Government departments because the six largest departments hold the capability for change management covering the e-Government initiative. These six e-Government departments have implemented e-Government initiatives to a measurable extent.

The two additional departments were selected on the basis of the role they play in monitoring and evaluation of the e-Government Initiative in Dubai at an overall level. Dubai’s Executive Office (TEO) is in charge of formulating the strategy, vision and mission of the Dubai eGovernment initiative, while the responsibility of service provision belongs to the Dubai Government Departments. Moreover, the TEO is in charge of monitoring the quality of eServices introduced by Dubai departments, and gauging the level of customer's satisfaction. The Dubai E-Government department (DEG) is in charge of implementing the emirate’s eTransformation. The Department is also tasked with full management and supervision of the official portal of Dubai Government, www.dubai.ae. As such, these 2 departments would be expected to have comprehensive data on the e-Government Initiative in Dubai, the progress of its implementation and its performance in terms of impacting public sector reform, improving the
quality of life for citizens and decreasing bureaucracy and red-tapism in provision of services to citizens.

V. Selection of Respondents

The respondents were chosen based on their wider engagement in e-Government initiatives based on the year-end reports covering e-Government achievements. The year-end reports of the various departments were collected to have an idea of the extent that the different departments have engaged in e-Government initiatives.

Two representatives were chosen from each of the eight departments, giving sixteen representatives, from whom information was elicited. Purposive sampling was applied to select these representatives of the eight departments to locate key informants holding comprehensive and in-depth knowledge and experience of the department’s engagement in e-Government initiatives. Purposive sampling was applied by using the following criteria:

1) direct knowledge of the e-Government initiative of the department;
2) direct participation in the e-Government initiative; and
3) authority in providing information on e-Government initiative of the department based on the overall historical and business context of the department.

The research participants working for the six main departments were selected according to those who met the criteria. This means that all the respondents participating in the study have direct knowledge of the e-Government initiative of their respective departments, direct participation in the e-Government initiative of their respective departments, and authority to provide information on various aspects of the e-Government initiative of the respective departments.

Primary data collection using the interview method was accomplished through open-ended guide questions (these are reproduced in the Appendix) to allow the respondents room to expound on their answers. The guide questions covered four areas:

- Description of the e-Government services of the particular department;
- Description of the performance measures used in assessing the progress of the e-Government initiative of the department;
- Results of the evaluation of the e-Government services using performance measures; and
- Areas for improvement.
Since the selected departments have achieved varying levels of progress, the follow-up questions depended upon the answers given by the key informants, but were limited to these four areas of inquiry.

The interviews were accomplished within four-month period since the schedule depended upon the availability and convenience of the respondents. The interviews were conducted individually in order to ensure that the key informants were more able to provide objective information from the departments, and be free to express their own views. At the start of the interviews, guidelines were explained to the respondents.

One guideline is on the confidentiality of the identity of the respondents relative to their statements. The respondents were given the option to determine which statements to consider on record so that the statements can be credited to the respondents and those that can be used to understand the dynamics of the e-Government initiative but without crediting it to a particular source. After the interviews, a recap of the conversation was made and the acquiescence of the respondent on the information obtained.

Another guideline is the coordination of the interviews with the human resource office of the different departments together with the department heads in order to support the formality of the process and the derivation of official data from the representatives of the different departments. As is explained later this was done to prevent the derivation of personal accounts of the respondents on the status of the e-Government initiatives in their departments. As such, the respondents are motivated to participate in the study as representatives of the department instead of acting for themselves.

Another guideline related to the previous one is the scheduling of the interviews based on the convenience of the respondents. By conducting the interviews at the date and time specified by the respondents, the researcher was ensured that the respondents would make an effort to consider the questions carefully before providing answers. This also allowed the researcher to ask further questions to probe into the answers and gain in-depth data.

Still another guideline is the communication to the respondents of the commitment to provide them and/or the departments with a copy of the final paper. This serves the purpose of supporting the further enhancement of the e-Government initiatives of the different departments as well as constitutes a sign of the intention of the researcher to respect the confidentiality guideline since the respondent can validate whether the statements credited to them corresponded with their answers during the interview.
The data collected were organised in terms of the following foci:

- The utilisation of the e-Government system in improving public services,
- The e-government performance measurement systems applied by the selected departments to evaluate the effectiveness and efficiency of the initiative,
- The impacts of the e-Government initiative in terms of public service decision-making,
- The contributions of the e-government system in designing government policies,
- The problems and issues in the implementation of the e-Government initiative,
- The current concerns of the government in implementing and utilising the e-Government system, and
- The assessment and evaluation of the success of the e-Government initiative.

VI. Data Analysis Methods

The responses from the 12 key informants representing the 6 main Dubai government departments were transcribed and categorised according to the four areas of investigation. After this, the answers of the two representatives from each participating department were assessed to determine consensus by comparing similar and differing answers to the questions addressed. Where the answers to the questions were similar, it has been interpreted as if there was a consensus of the respondents’ opinions, and as a reflection of the general view of the respective department on the subject interviewed. In specific it is seen as a consensus of the respondents understanding of how highly engaged their respective department is on the e-Government initiative and on which type of performance measures they find are used in their particular department. The priority here is to get consensus in the answers provided by the respondents in the departments, rather than it is to ensure that the answers provided are accurate in terms of how for example a performance measure is really used. Yet to ensure also an assessment of how “correct” the answers provided are in terms of, for example, how the performance measures are used, a comparison of the answers provided with other sources such as reports of the DEG and TEO covering the e-Government initiative is made.

Where respondents provided divergent answers it was assessed how substantial the differences were, the extent to which the differences might be incidental, intentional, and of relevance and serious importance relative to influencing the outcome of the study. Serious disagreements were investigated to explore its reason and causation and in order to understand if
it were disagreements resulting only from misinterpretations or were issues of serious matter and influence for the findings. To the extent they were serious disagreements the implications for the e-Government initiative in the particular department were identified.

After this, the departments were also compared in terms of similarities and differences in the selected and applied performance measures. Specifically, it was compared where they had chosen to use and apply similar performance measures, and where they had chosen to use divergent ones or even adopt their own type of performance measurement system. The insight gained on differences and similarities in the use of performance measures was useful for understanding and evaluating the use of performance measures for effectively promoting the Dubai e-Government initiative. We also derived recommendations on whether it is more useful for the departments to use similar performance measures and measurement systems in order to enable evaluation of the e-Government initiative as a whole. The answers provided by the respondents were organised in tables presented and discussed in the succeeding chapters.

In order to address the research questions that is “What are the existing performance measures available for use in the implementation of e-Government initiatives? Which are being applied in the case of Dubai, and why have these been chosen?” and “What are the advantages and disadvantages of these performance measures in improving the implementation or delivery of the e-Government initiative (e.g. when selecting the appropriate measures to apply to this purpose)? How important are these performance measures in e-Government in improving e-Government services? How can performance measurement systems lead to improvements in public sector service delivery in and through e-Government?” and also the sub-questions that is “How did the Dubai government select the performance measures to apply in the e-Government initiative? What benefits were originally expected in utilising these performance measures in the e-Government initiative? How are performance measurements based on private sector experiences implemented in the Dubai e-Government initiative? How were these performance measures used to improve service delivery in the Dubai e-Government initiative (if they were)? How effective were these performance measures in improving e-Government service delivery? the various government websites were evaluated by the researcher on the basis of the following:

(1) the accessibility of the website
(2) the availability of online information and services
(3) the reliability of e-services transactions
(4) the clarity of website contents
(5) the efficiency of service delivery
(6) the interactivity with public users
(7) the interactivity with other government departments
(8) the sophistication or extent of available critical services
(9) the user-friendliness of the website
(10) the attractiveness of the website design and features
(12) the innovativeness and
(13) the flexibility towards systems change.

In addition, two case studies of the Dubai Municipality Department and the Land Department were analysed in more depth. This was done to gain insight into the organisational contexts in which the performance measures are used and to better understand the forces influencing the performance of the e-Government initiative. The case studies further illuminate the findings gained from the interviews with the selected departments.

VII. Validity, Reliability and Reflexivity Issues
In triangulating quantitative and qualitative methods, the issues of validity and reliability are linked. Validity involves the trustworthiness of data and the extent to which measures are able to handle constructs that they are intended to cover. (Maxwell, 1996; Winter, 2000) In quantitative research, the researcher operationalises constructs in terms of parameters - variables that can be measured using, for example, survey questions, financial or employment statistics, etc. The validity of quantitative research depends very much, on how closely these variables relate to the underlying constructs. Topics that have been extensively researched will typically feature a number of established survey instruments; emerging topics are liable to require new instrument development, and it is dangerous to rush into survey research – for example, the terminology being used may be unstable and poorly understood.

When dealing with a new phenomenon, established data may be at best only partially relevant, while questions imposed by researchers unfamiliar with how the phenomenon interacts with local circumstances may not be appropriate. Qualitative research is thus often better tuned to the features of emerging phenomena. The researcher can study a phenomenon while it occurs
naturally, seeking to establish the perspectives of those involved in the experience, and allowing them to express themselves in their own terminology. As long as the procedures for eliciting these perspectives are adequate, there should be a reasonable level of trustworthiness in the qualitative data collected. However, the data provided by the interviewees that purports to be about objective circumstances might be based on their personal opinions. People who believe that e-government is the way forward, for example, may be inclined to report that programmes are proving successful – because this is what they wish and believe to be the case, rather than because they have good external evidence indicating that it is.

The extent to which answers provided by the respondents can be trusted, in the present study, lies in the fact that the respondents selected has been extensively engaged in the e-Government initiative of their respective departments. This means that the respondents are more likely than other people distant from the programme to know about it. The respondents are participants in the government initiative. However, an effort is made to ensure objectivity through guiding the respondents to provide answers that relate to the performance and functioning of their departments as a whole rather than what relates directly to their own more narrow work area. Also, their answers were compared with the data collected with the human resource office and the department heads. Finally, their answers were probed by citing results of external performance measures based on insights provided by feedback from consultants and consumers.

The questions were formulated so as to derive the information required in the study, in a uniform way for all departments to ensure comparability. In those cases where there were disparities in answers, the contexts of the statements were examined by looking at the reports on external feedbacks and reports of the DEG and TEO to understand the underlying factors causing the differences in perspective and determine a means of reconciling these statements. Examples of statements that involved differences are the performance measures employed by the departments, problems in e-Government initiative, and ways of improving the e-Government initiative.

Reliability pertains to the consistency or accuracy of data collected, for example so that replication of the enquiry (perhaps by different researchers, with slightly different instruments, or at slightly different times when there is no reason to anticipate change) produces similar results. Higher levels of reliability exist when data derived are consistent when derived repeatedly due to the objectivity of the data collection process. In quantitative research, the measures or
instruments that comprise the primary mode of data collection should result in objective data (i.e. less influence from researcher expectations and selective observations) and greater replicability. The questions were based on the determinants of the application of performance measures in the literature review as used in previous studies. (However, the instruments themselves can be a source of bias – in terms of how they are formulated, what topics are and are not addressed, etc.). In qualitative research, apart from research mainly using archival sources, the researcher constitutes the primary mode of data collection and acts as repository of data so that there can be a greater level of bias occurring in the data gathering (it can be influenced by the researcher’s own stance) and a lower degree of replicability is likely because the particular circumstances of the interviews that have been conducted are unlikely to be repeated exactly. Nevertheless, as is clear in the following discussion, attempts are made to yet compare data from even from interviews as the interpretation and clear definitions as to what is questioned about are carefully explained to the respondents. Also, as will be explained the researcher has adopted a critical realist research approach in discussing critically the use of method and theory adopted.

This implies that there are benefits derived from combining these two methods. Since both validity and reliability constitute important factors in this study, triangulating both approaches enables the research to offset the possible weaknesses that could arise from using one approach only as the sole method. Moreover, triangulation helps address the possible methodological limitations that could arise in the application of these methodologies by the researcher.

Apart from the triangulation of methods to address reliability, data sources were also consulted to derive sound conclusions. Since primary data were sourced from interviews, these data can be validated in part supported from an assessment of the relevant websites. The comparative analysis of the results also allows derivation of richer data. Reflexivity pertains to the recognition of the role that the researcher plays in deriving meaning from the data gathered in the research process. Nightingale and Cromby (1999) explain that the issue of reflexivity encourages the researcher to “explore the ways in which a researcher’s involvement with a particular study influences, acts upon and informs such research” (p. 228). This leads to divergent implications. On one hand, the involvement of the researchers could support accuracy in data collection and analyses – by providing, for instance, an insider or in-depth understanding of issues associated with the research topic. On the other hand, involvement could also unduly influence the results of the study, with the researcher becoming committed to
particular projects or people, for instance. The negative potentials of reflexivity were addressed by ensuring that interpretation and derivation of meaning are always conducted systematically, on the basis of empirical data, and in light of theoretical understanding.

Overall, the data derived from the respondents can carry much weight because these came from informants with direct experience of e-Government initiatives. However, in instances when statements do not accurately match between respondents from the same department, this was addressed by looking at the context within which the statements were made, together with other sources, especially the reports of the DEG and TEO and data from the reports of the departments based on external feedback. This were made to determine ways of possibly reconciling these statements or explaining the implications of the differences such as the limited understanding of some areas of e-Government initiative of one or both respondents or different perspectives because of the difference in the scope and roles played in the e-Government initiative. In the case of differences in the answers of the representative from the different departments, these are also investigated based on the variances in the e-Government experiences of the different departments to derive explanations and implications of the differences. Any divergence from theoretical and empirical data is investigated and checked to determine explanations, reasons and implications. Ways of reconciling divergence are determined in line with the research problems and objectives.

VIII. Discussion of the adopted methodological approach

Making choices always implies that alternative options have been disregarded. This is no different with the methodological approach adopted in this thesis. Already, some critical reflection on the approach adopted has been touched upon, however, this section more systematically discusses limitations of the adopted methodological choices made and what effect it might have on the study.

Conducting this research a critical realist (Bhaskar (1975, 1986), and Lawson (1997)) approach is adopted. The Critical realist framework is useful for exploring social phenomena. The belief of critical realism is that social phenomena exist independent of our knowledge of them (Lawson 1997). This is despite the recognition of critical realism that social phenomena are constructed and understood by scientists through their pre-existing knowledge and the theoretical approach they choose to adopt.
Here the use of the critical realist approach is visible in the attempt made to use theory critically by reflecting on its relevance and underlying assumptions while also using these assumptions to say something about things we can see. Things we can see are, for example, agents in the departments studied, while things we cannot see are, for example, performance measures, which must be analysed to understand the effectiveness of the e-Government initiative. It is acknowledged that such concepts are social constructions, but generalisations are nonetheless made about them. The implication of the critical realist view here among others has been to recognise the influence the choice of theory and method has on the understanding and interpretation of results in this thesis. In line with the critical realist view, however, the critical reflection on the method adopted should make it possible to carry out prescriptive research.

To conduct the interviews open-ended questions were designed. There are various benefits associated with this e.g. their potential ability to develop trust with the respondent, that they appear less threatening (than sometimes closed ended questions can appear), and that they allow for an unrestrained and free response. The risk with open-ended questions are, however, that they can be rather time-consuming to use in the sense that the interviewer have to listen with an open-mind also to answers which might not be directly “on track” with the intended question. As such it might sometimes result also in unnecessary information. On top of this the open questions can leave for some different interpretations by both the interviewer and the respondent. For this reason it can be complicated to make direct comparisons of social phenomena such as the use of performance measures. Nevertheless, in the current research some steps have been taken to try and meet these limitations. As such it has been the same interviewer who has conducted all interviews giving the opportunity of ensuring a similar interpretation of the matter being interviewed on. As such clear definitions were provided during the interview process on words such as innovativeness, performance measures etc. to ensure that all respondents had a clear and unified understanding what was to be analysed.

For that reason a somehow similar understanding of the interview questions also contribute to ensure a more standardised approach to e.g. the use of performance measures. This has made a comparison of the use of performance measures possible.

Most data collection has happened a few years back. Nevertheless, the data collected were relevant for the current study, which is focused exactly on the time where the e-Government initiative was to be launched in Dubai. As such the data is still relevant and reliable for the current purpose.
Due to difficulties encountered with gatekeepers in the DHMS, the researcher decided to ask instead for the participation of the Dubai Naturalisation and Residency Department (DNRD) to complete the department selection Category II. Although these are departments different from those the researcher initially preferred, it is unlikely to have much effect on the research outcome. The DNRD department did an excellent interview with answers there is little reason to believe will be different from those the DHMS would provide.

When conducting the interviews a few guidelines were necessary to follow. The fact that the respondents were given the opportunity of deciding which statements to record is a limitation of the study as only some data is then available for further analysis. Nevertheless, this was a necessary step for gaining the confidence of the respondents to provide true accounts of the departments’ experiences with e-Government initiatives including the successes and failures, strengths and weaknesses, as well as future plans. In other words, this was necessary for ensuring validity and objectivity in the answers provided. In addition, the respondents were also not apprised of the identity of the other respondents in order to prevent any influences that this may have on their answers. Again this was a move to ensure a greater openness on the answers provided.

Another guideline is the coordination of the interviews with the human resource office of the different departments together with the department heads. Although, this can be seen as maybe a biased selection process which could hinder employees in contributing who otherwise might be able to provide interesting information on the research field, this was done in order to support the formality of the process and more importantly to ensure that people with actual relevant insight was identified. When selecting the interview persons the researcher gave directions as to identify the potential respondents that could speak openly about both advantages and disadvantages on the e-Government initiative. Also, indirectly it contributed to ensuring that the official data from the representatives of the different departments was derived rather than the respondents would account for their personal experience with their own narrow work field. As such the intention was to ensure a greater degree of objectivity with the interview data.

IX. Concluding remarks

This chapter discussed the research methodology for the study and how the researcher attempted to ensure reliability and validity of data collection methods. The chapter has indicated that the
design of the present study was qualitative in nature. The next chapter discusses how the data collected were analysed and interpreted.
CHAPTER 4: PRESENTATION, INTERPRETATION AND ANALYSIS OF DATA

I. Introduction

A vast amount of data has been generated on the performance management system and impacts of the e-Government initiative of the Dubai Government. The following chapter outlines and analyses this material.

Section one presents the role the Department of E-Government (DEG) as a driver and primary government arm of the e-Government initiative in managing the e-services transformation across the various Dubai Government institutions. It also provides critical background information on the e-Government initiative in Dubai, and outlines important research conducted on the comparison of the e-Government of Dubai with e-services initiated by the European Community.

Section two presents the main body of the data which was gathered through the survey and interviews of the six main selected departments which were part of this study. It discusses how the various departments have utilised their respective e-Government initiatives towards improving public services. It also provides a detailed outline of the performance measures adopted by each department and how these have been applied.

The final section presents the assessment of The Executive Office (TEO) or the EO). More specifically, it discusses the overall performance and goal of the entire Dubai Government in terms of its ability to provide online federal transactions and services to people in the public and private sectors.

II. Overview of Dubai E-Government Initiative

This section provides an overview of the e-Government initiative in Dubai through an examination of the department of Dubai E-Government (DEG), its history, its roles and responsibilities and its key objectives as a driver of the e-transformation of Dubai Government departments. I also examine the e-Government initiative of Dubai in general and evaluate how far it has progressed and what is its status in comparison to the e-Government initiative of other countries in Europe. Apart from this, this section provides an outline of the various departments of Dubai Government which provide e-services to the public and classify them according to a
unique classification system which I derived specifically for the purpose of this study. I undertake to outline the e-Government initiative of each of these departments and conclude by saying that it is clear from the initial study that the e-Government initiative of Dubai is neither standardised nor consistent in terms of the e-services provided by these departments.

A. The Dubai E-Government Department (DEG)

The Dubai E-Government Department (DEG) was selected to drive the electronic transformation of the services offered by the various departments of the Dubai Government. Its key responsibilities include implementing, designing plans and objectives and controlling the progress and development of the e-Government programme. The DEG’s main objective is to secure the successful implementation of the E-Government initiative which arose as a result of the perceived need for providing full electronic transactions of government services to the public and private sectors in order to increase citizens’ satisfaction, improve efficiency in the delivery of government services and provide a unified user interface across all Government departments. Its roles include the applications of technological projects, and creating public awareness on the advantages of utilising the e-Government system.

With the dynamic nature of technological advancement, and the ever-changing concerns and priorities among the respective government departments, the plans and strategies of DEG need to keep evolving in order to keep up with the trends. At present, DEG is working hand in hand with every Dubai government department as well as with the TEO to make the e-Government system a success by addressing the needs of the participating departments.

The following section discusses the history, objectives, responsibilities and changing roles that confront DEG along with an internal evaluation of the achievements and plans of the department.

A.1 History and Objectives of the DEG

In 1999 the higher management in Dubai conceptualised a strategic plan for its IT sector, which took six months to complete (Salem Al Shair, the DEG e-Services Director). It was envisaged that the plan would contain all up-coming feasible IT projects laid out for Dubai along with a general vision, and be based on inputs of expert individuals from both the public and private sectors organisations. Relevant parties for the IT transformation project were involved in the initiative, through the use of e-enable
or e-business projects frameworks. The result was a platform called the Tejari.com (that functioned as the electronic market and the premier online B2B marketplace and the number one e-commerce hub for businesses in the region) and the e-Education initiative, which set out goals for a new educated community. These initiatives were made possible only through the active participation of the local government, a critical output of which was the conceptualisation of the e-Government initiative. This was built upon the belief that the success of the projects were dependent on the support of the government and their ability to involve firstly the public and also the private sector.

Rehab Lootah, DEG Service Provisioning Manager, supports the vision that the Dubai e-Government is the relevant primary government unit whose responsibility is to focus on offering full government services to the public through online transactions. According to Lootah, DEG aims are (a) to ensure that 90% of the services offered by the government is made available online; (b) to ensure a more efficient public transaction through the integration of services offered across different government departments, but which are of a similar nature; (c) to complete the e-Jawas as a ‘Single Sign on Project’; and (d) to measure and evaluate customer satisfaction among users of e-Government services. Aside from these core objectives, the DEG launches activities to market e-Services by providing consultancy services to government departments and other local and international agencies who seek knowledge, technical support and recommendations from the DEG department to improve the success rate of projects that aim to transform public services to online transactions.

A.2 Roles and Responsibilities of the DEG

The Program Management Office and the Management Dash Board are among the latest projects initiated by the DEG, which records the tasks, goals, and means of achieving the objectives set by the department (Rehab Lootah, DEG Service Provisioning Manager). Dubai.ae is an ongoing customer-focused project that will offer all government services online to the public along with some semi-government and private transactions. Once implemented a full online solution services will be available to every user. Along with these projects, the DEG aims to educate the public on the use of e-Services, computer technology and the Internet and to create technological awareness through the e4@ll Initiative Program (this programme includes the e-Citizen and e-
Learning programmes, and the e4all magazine). The initiative also includes the provision of training sessions for government employees and public users. The success of the e-Services initiative was made possible by maintaining a transparent relationship with the public and uploading all necessary reports, power point presentations, pdf magazines, DEG strategies, quarterly reports, goals, research papers and studies to ensure easy information access for involved researchers.

Customer satisfaction and public awareness surveys are conducted twice a year by visiting commercial centres and randomly selecting 1000 to 1200 respondents to measure public satisfaction and awareness of the available e-Government Services (Rehab Lootah, DEG Service Provisioning Manager). Survey results and analyses enable the department to set out plans that will increase public participation and involvement in online government transactions, as well as to design strategies that will encourage the use of the e-Services especially within the targeted public sectors. Meanwhile, the call centres produce periodic statistical reports of the received calls, complaints, and suggestions from the public, which measure the user’s rate of satisfaction.

To ensure the effectiveness and efficiency of the online services provided by DEG the satisfaction levels of customers such as other government departments and semi-government associations on the department’s more synergic services are measured through periodic field visits.

Rehab Lootah informed that the DEG collaborates with other government departments to define and identify a set of standard criteria that enable the evaluation of all the available government services online. Government departments are trained by the DEG to equip them with the knowledge and skills to evaluate their own online service performances. Results of the annual assessment procedures are sent to the relevant departments to ensure a continuously effective and efficient planning of the e-Services activities.

Based on the interviews and findings it was possible to draw a clear picture of the leadership and policy-direction roles that DEG plays in developing and accomplishing the e-Government transformation of Dubai, as well as of which areas that maybe required some consideration. One respondent pointed out the problem of achieving a uniform e-Government goal due to differences in the objectives and directions of the various departments’ IT transformation plans. This problem could explain and/or influence the
differences in the extent of achievement of e-Government initiatives of the different departments.

B. The E-Government Initiative of Dubai

Dubai has engaged in e-Government initiatives in the past decade to strengthen its federal government system. The Dubai government departments were encouraged to embark on a major transformation of their services from the announcement of the e-Government initiative in 2000. Dubai e-Government launched its official portal [www.dubai.ae](http://www.dubai.ae) in October 2001, which coincided with the target of an 18-month deadline for delivering essential services. After 18 months, the portal - [www.dubai.ae](http://www.dubai.ae) – was launched now featuring 14 e-services (Geray and Al Bastakei, 2005).

The number of e-services exceeded 3000 by the end of 2007, with more added on an almost daily basis. Government Departments report to have worked intensely in recent years to provide these public services to individual citizens and business organisations.

The Dubai e-Government initiative launched in 2000 appears to have succeeded in accelerating the adoption of a number of government bodies’ e-services, to the extent that it appears that the initiative has significantly contributed to ranking the United Arab Emirates on a 32nd position in global rankings, well ahead of other Arab countries according to the e-government readiness report of the United Nations for 2008.

By late 2004, a preliminary study conducted by the Dubai e-Government indicated that there were over 1,900 services coming from more than 20 Government Departments in Dubai, which were offered as part of the e-Government initiative. Approximately 1,300 of these 1,900 services were transactional services by nature, while the rest were merely informational or interactive. Fifty-six percent of 1,900 services were G2C services (i.e. government services targeting individuals/citizens), whereas 44% are G2B services (i.e. government services targeting businesses) (Geray and Al Bastakei, 2005).

Table 4.1 below lists and summarises the various Dubai government departments and their e-services as they appeared late 2004 in that study (see Geray and Al Bastakei, 2005).

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3 All e-Government websites of the various Dubai departments were accessed between December 2004 to February 2005
4 This can be accessed through [http://www.dgw.gov.ae/](http://www.dgw.gov.ae/)
### Table 4.1 Government Departments of the Dubai Municipality Utilising e-Government Information Systems

<table>
<thead>
<tr>
<th>No.</th>
<th>Department name</th>
<th>Website address</th>
<th>Available languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Al Awqaf and Islamic Affairs Department</td>
<td><a href="http://www.awqafdubai.gov.ae">www.awqafdubai.gov.ae</a></td>
<td>Ar/En/Urdu</td>
</tr>
<tr>
<td>2</td>
<td>Department of Economic Development</td>
<td><a href="http://www.dubaided.gov.ae">www.dubaided.gov.ae</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>3</td>
<td>Department of Health and Medical Services</td>
<td><a href="http://www.dohms.gov.ae">www.dohms.gov.ae</a></td>
<td>English</td>
</tr>
<tr>
<td>4</td>
<td>Department of Information</td>
<td><a href="http://www.dubaitv.gov.ae">www.dubaitv.gov.ae</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>5</td>
<td>Department of Tourism and Commerce Marketing</td>
<td><a href="http://www.dubaitourism.ae">www.dubaitourism.ae</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>6</td>
<td>Dubai Ports Authority</td>
<td><a href="http://www.dpa.co.ae">www.dpa.co.ae</a></td>
<td>English</td>
</tr>
<tr>
<td>7</td>
<td>Dubai Customs</td>
<td><a href="http://www.dxbcustoms.gov.ae/">www.dxbcustoms.gov.ae/</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>8</td>
<td>Jabal Ali Free Zone</td>
<td><a href="http://www.jafsa.ae">www.jafsa.ae</a></td>
<td>English</td>
</tr>
<tr>
<td>9</td>
<td>Dubai Ship Docking Yard (JADAF)</td>
<td><a href="http://www.jadafdubai.com">www.jadafdubai.com</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>10</td>
<td>Dubai Dry docks</td>
<td><a href="http://www.drydocks.gov.ae">www.drydocks.gov.ae</a></td>
<td>English</td>
</tr>
<tr>
<td>11</td>
<td>Dubai Airport</td>
<td><a href="http://www.dubaiairport.com">www.dubaiairport.com</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>12</td>
<td>Dubai Duty Free</td>
<td><a href="http://www.dubaidutyfree.com">www.dubaidutyfree.com</a></td>
<td>English</td>
</tr>
<tr>
<td>13</td>
<td>Dubai Cargo Village</td>
<td><a href="http://www.dubaicargovillage.com">www.dubaicargovillage.com</a></td>
<td>English</td>
</tr>
<tr>
<td>14</td>
<td>Dubai Airport Free Zone Authority</td>
<td><a href="http://www.dafsa.ae">www.dafsa.ae</a></td>
<td>English</td>
</tr>
<tr>
<td>15</td>
<td>Dubai Civil Aviation Department</td>
<td><a href="http://www.dca.dubai.ae">www.dca.dubai.ae</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>16</td>
<td>Dubai Chamber of Commerce And Industry</td>
<td><a href="http://www.dcci.ae">www.dcci.ae</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>17</td>
<td>Dubai Civil Defense</td>
<td><a href="http://www.dcd.gov.ae">www.dcd.gov.ae</a></td>
<td>Arabic</td>
</tr>
<tr>
<td>18</td>
<td>Department of Justice – Dubai</td>
<td><a href="http://www.djd.gov.ae">www.djd.gov.ae</a></td>
<td>Arabic</td>
</tr>
<tr>
<td>19</td>
<td>Dubai Development Board</td>
<td><a href="http://www.ddb.dubai.ae">www.ddb.dubai.ae</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>20</td>
<td>Dubai Electricity and Water Authority (DEWA)</td>
<td><a href="http://www.dewa.gov.ae">www.dewa.gov.ae</a></td>
<td>English</td>
</tr>
<tr>
<td>21</td>
<td>Dubai Government Workshop</td>
<td><a href="http://www.dgw.gov.ae">www.dgw.gov.ae</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>22</td>
<td>Dubai Land Department</td>
<td><a href="http://www.dubailand.gov.ae">www.dubailand.gov.ae</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>23</td>
<td>Dubai Municipality</td>
<td><a href="http://www.DMD.gov.ae">www.DMD.gov.ae</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>24</td>
<td>Dubai Police</td>
<td><a href="http://www.dubaipolice.gov.ae">www.dubaipolice.gov.ae</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>25</td>
<td>Dubai Police Traffic Department</td>
<td><a href="http://www.dxbtraffic.gov.ae">www.dxbtraffic.gov.ae</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>26</td>
<td>Dubai Transport Department</td>
<td><a href="http://www.dubaitransport.gov.ae/">www.dubaitransport.gov.ae/</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>27</td>
<td>Naturalisation and Residency Department</td>
<td><a href="http://www.dnrd.gov.ae">www.dnrd.gov.ae</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>28</td>
<td>Real Estate Department</td>
<td><a href="http://www.realestate-dubai.gov.ae">www.realestate-dubai.gov.ae</a></td>
<td>Ar/En</td>
</tr>
<tr>
<td>29</td>
<td>Dubai Internet City</td>
<td><a href="http://www.dubaainternetcity.com/">www.dubaainternetcity.com/</a></td>
<td>English</td>
</tr>
<tr>
<td>30</td>
<td>Dubai Media City</td>
<td><a href="http://www.dubaimediaicity.com">www.dubaimediaicity.com</a></td>
<td>English</td>
</tr>
<tr>
<td>31</td>
<td>Dubai e-Government</td>
<td><a href="http://www.dubai.ae">www.dubai.ae</a></td>
<td>Ar/En</td>
</tr>
</tbody>
</table>

Source: (Geray and Al Bastakei, 2005)
Table 4.2 below summarises details of the Dubai government departments’ and sub-departments’ services statistics, in December 2003 presenting the number of services and the service types they provide (covering both G2C and G2B).

### Table 4.2 Dubai Government Department Services Statistics - December 2003

<table>
<thead>
<tr>
<th>No</th>
<th>Department name</th>
<th>No. Services</th>
<th>Service type</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
<td></td>
<td>Transactional</td>
</tr>
<tr>
<td>1</td>
<td>Al Awqaf and Islamic Affairs Department</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Department of Economic Development</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Department of Health and Medical Services</td>
<td>27</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>Department of Information</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>Department of Tourism and Commerce Marketing</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Dubai Port Customs and Free Zone Corporation</td>
<td>44</td>
<td>34</td>
</tr>
<tr>
<td>7</td>
<td>Dubai Civil Aviation Department</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>Dubai Airport Free Zone Authority</td>
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<td>118</td>
</tr>
<tr>
<td>9</td>
<td>Dubai Chamber of Commerce And Industry</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>Dubai Civil Defence</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>Department of Justice – Dubai</td>
<td>33</td>
<td>27</td>
</tr>
<tr>
<td>12</td>
<td>Dubai Development Board</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>13</td>
<td>Dubai Electricity and Water Authority (DEWA)</td>
<td>19</td>
<td>7</td>
</tr>
<tr>
<td>14</td>
<td>Dubai Land Department</td>
<td>24</td>
<td>6</td>
</tr>
<tr>
<td>15</td>
<td>Dubai Municipality</td>
<td>304</td>
<td>54</td>
</tr>
<tr>
<td>16</td>
<td>Dubai Police</td>
<td>152</td>
<td>45</td>
</tr>
<tr>
<td>17</td>
<td>Dubai Transport Department</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
<td>Naturalisation and Residency Department</td>
<td>30</td>
<td>4</td>
</tr>
<tr>
<td>19</td>
<td>Real Estate Department</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>20</td>
<td>Dubai e-Government</td>
<td>30</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>894</td>
<td>369</td>
</tr>
</tbody>
</table>

Source: (e4all magazine, issue 5)

In a later Issue of this magazine (e4all, issue 17), a statistical chart for August 2004 shows an increase in the number of transactional services over informative. This is shown in the completion data [See Figure 4.1 below]. This development is seen as a positive and advanced progression of the implementation plan of the Dubai e-Government project to the extent that transactional services generally are considered to be more technically demanding than informational ones.
These and other data indicate improvements and advancements in the e-Government achievement of Dubai – both in terms of the number of departments that have engaged in IT transformation, and in terms of the increase in the number of transactional services rather than only informative services. The following discussion compares the Dubai e-Government initiative and progress relative to parallel e-services in various member states of the European Union. This comparison gives a good idea of the status of the e-Government initiative in terms of the number of services provided by the E-Government initiative to the public, their effectiveness in terms of satisfying user needs and future challenges.

C. The progress of the development of Dubai e-Government e-services in comparison to European States e-services

Madar (2003) compared the types and extent of Dubai e-services with that of the e-services offered by the European Commission. This study shows that the Dubai Government has made significant progression in bringing online its basic services to the public, and in some aspects the Dubai Government even performed relatively better than some European institutions. This was clear when comparing the Dubai Government’s achievements with those of its European counterparts.
Online availability or e-version of Dubai government services is higher (76.4 percent) than it is in Europe (the average score estimated for Europe by the end of October 2002 is 65 percent). Madar considered a set of criteria to measure and evaluate the e-Government initiative and the progress of the initiative. The most important was the online availability of the government’s basic public services, but also the levels of integration and customisation of basic e-services on a single government gateway is used. Basic services are described as being “the most frequently used services and/or services which are the most critical for the interest of the individual users and the smooth running of business activities” (Madar, 2003:26).

Table 4.3 provides more details on the basic e-services offered by the EC and Dubai based on the study conducted by Madar Research.

Table 4.3 Benchmark Dubai e-services with European Commission e-services

<table>
<thead>
<tr>
<th>EC Basic e-Services</th>
<th>Dubai Basic e-services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income Taxes</td>
<td>Visas</td>
</tr>
<tr>
<td>Job search services by labour offices</td>
<td>Job search</td>
</tr>
<tr>
<td>social security contributions (unemployment benefits, child allowances, medical costs, student grants)</td>
<td></td>
</tr>
<tr>
<td>announcement of moving (change of address)</td>
<td>Payment of utility bills (electricity and water)</td>
</tr>
<tr>
<td>personal documents (passport and driving license)</td>
<td>personal documents (passport and driving license)</td>
</tr>
<tr>
<td>car registration (new, used and imported cars)</td>
<td>car registration (new, renewal)</td>
</tr>
<tr>
<td>declaration to the police (e.g. in case of theft)</td>
<td>Declaration to the police (traffic offences, crimes)</td>
</tr>
<tr>
<td>application for building permission</td>
<td></td>
</tr>
<tr>
<td>certificates (birth and marriage) request and delivery</td>
<td>Certificates (birth and marriage)</td>
</tr>
<tr>
<td>public libraries (availability of catalogues, search tool)</td>
<td>public libraries (availability of catalogues, search tools)</td>
</tr>
<tr>
<td>enrolment in higher education</td>
<td>enrolment in higher education</td>
</tr>
<tr>
<td>health related services (interactive advice on the availability of services in different hospitals, appointments for hospitals)</td>
<td>health related services (interactive advice on the availability of services in different hospitals, appointments with doctors and health card renewal)</td>
</tr>
<tr>
<td>Basic public services for Business</td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>social contribution for employees</td>
<td>Visas</td>
</tr>
<tr>
<td>corporation tax</td>
<td>local fees collection</td>
</tr>
<tr>
<td>Value added tax (VAT)</td>
<td>engineering services (application for building permission, building services, inspection of engineering material)</td>
</tr>
<tr>
<td>registration of a new company</td>
<td>Registration of a new company</td>
</tr>
<tr>
<td>submission of data to statistical offices</td>
<td>legal services (attorneys, expert and companies services)</td>
</tr>
<tr>
<td>customs declarations</td>
<td>Customs declarations</td>
</tr>
<tr>
<td>environment - related permits</td>
<td>environment related permits (hazardous waste disposal, veterinary certification, Dubai central laboratory, no objection certificates for drainage and irrigation networks)</td>
</tr>
<tr>
<td>public procurement</td>
<td>public procurement</td>
</tr>
<tr>
<td></td>
<td>free zones establishments (Jabal Ali, Dubai Airport, Technology eCommerce and Media)</td>
</tr>
</tbody>
</table>

Source: (Madar, 2003:26)

To accomplish the comparison, Madar considered only the basic e-services in the EC and Dubai since only these were directly comparable (there existed basic e-service measures and the e-governance in the areas seemed equally developed). In terms of number, the EC and Dubai offers the same number of services but with a difference in the type of services. Nevertheless, Dubai received a higher ranking than the EC due to reasons discussed in the following paragraphs. The differences between the two jurisdictions in Dubai and the EC were present in areas such as income and corporate taxation which comprise the e-services offered in the EC while not in Dubai, and in engineering and free zone e-services offered in Dubai, which, however, was not available in the EC. The EC applies income taxation, which has no counterpart in Dubai. Dubai relies on trade and construction for its gross domestic products, which means that it has to improve these areas via e-services in order to improve productivity in these industries and boost growth. Differences in the e-services offered are highly influenced by the socio-economic context and settings of the two regions.

As noted Madar utilised two performance measurement systems to benchmark the performance of Dubai with EC on the e-Government initiative. One is the availability of online
services, and the other is the integrated and customised service. The most important was the online availability, which was measured through the number of online transactions completed. Also, the frequency and the ease in engaging with the e-services and the government’s basic public services plus at which level the services were available were measured. The other performance measure was the integration and customisation measured through the extent of inter-linkages between e-services offered by the various departments and the ability to meet the different e-service needs of citizens.

In terms of the availability of online services, it is surprising that Dubai was awarded a higher performance than the EC, considering that Dubai is a tax-free state so that these services are not provided in Dubai. But perhaps it has to do with the availability of the funds that in fact are available for public service delivery (despite lack of taxes) in Dubai, that the users use these other public service deliveries widely? Such funding is made possible since the UAE is relatively wealthy and able to invest in profitable modernisation projects.

In relation to integrated and customised service, it is understandable that Dubai obtained a better rate in performance. Dubai is a single state establishing linked e-Government initiatives, while the EC is comprised of different states, which are still not unified and standardised in areas such as, for example, processes of the e-Government.

Considering the results of Madar’s comparative study with the EC and the background information on the e-Government initiative in Dubai discussed in the beginning of the chapter, there are indications that the IT transformation of the Dubai government leads to important progressions in the e-Government initiatives. What seems especially important is that broadening the accessibility of e-services is as much an element of this transformation as it is to provide the online services.

D. Classification of Dubai Government Departments and basic background of e-services provided by these departments

In this thesis I study the use of performance measures among government departments and how they are applied to improve the effectiveness of e-services provided to the public and other users. In order to do this, I attempted to first classify the primary departments so as to determine their key similarities and differences, which could have an influence on the results of the study, and to select the right department for study from among all those herein classified. The resulting categorisation is one that was found to be most useful for this study and at the same
time is a categorisation not seen in existing work addressing the performance of government institutions. It is a unique contribution of this researcher for the purpose of the current study.

The different departments whose E-Government initiatives were initially investigated before final selection were examined in terms of the number of services, number of online services, and number of employees they engaged. The classification schema used represent three different categories of:

- **Category I**: Department with total number of services from 1 to 50 and employees less than 500.
- **Category II**: Department with total number of services ranging from 51 to 100 services and with 500 to 10,000 employees.
- **Category III**: Department with total number of services more than 100 and with employees more than 10,000.

Table 4.4 displays the classification made by using these categorisation criteria, in the course of studying the Dubai Government Departments offering e-Government services. This was the classification used for the purpose of this study. It was found that all of the departments which were examined as an initial step fell into one or other of these categories. This implies that there is a fairly close relationship between the number of employees and the number of services offered by a Department. However, only a limited number of Dubai Government Departments could be classified using the data available to us, for example, our information was not clear on the number of employees engaged in the initiative (our source was the H.H. Ruler’s Court reports, which is the government department that signed the contract with Microsoft to offer technological solutions to Dubai’s e-Government drive.) The reason for the lack of information on the number of employees in the other departments has to be found in their limited or disorganised use of IT tools –despite their commitment to the e-Government initiative and the use of the Internet and Web services that are helpful in coordinating access and information sharing. It should be noted also, that the departments, which are classified are those that have obtained significant IT transformation already relative to the number of e-services they offer.
Table 4.4 Classification of Government Departments according to Size

<table>
<thead>
<tr>
<th>Department Name</th>
<th>Total No. of services</th>
<th>No. of employees</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dubai Government Workshop</td>
<td>5</td>
<td>411</td>
<td>I</td>
</tr>
<tr>
<td>Dubai Land Department</td>
<td>28</td>
<td>170</td>
<td>I</td>
</tr>
<tr>
<td>Department of Tourism and Commerce Marketing</td>
<td>41</td>
<td>391</td>
<td>I</td>
</tr>
<tr>
<td>Department of Health and Medical Services</td>
<td>27</td>
<td>8044</td>
<td>II</td>
</tr>
<tr>
<td>Department of Economic Development</td>
<td>56</td>
<td>217</td>
<td>II</td>
</tr>
<tr>
<td>Department of Naturalisation and Residency, Dubai</td>
<td>64</td>
<td>984</td>
<td>II</td>
</tr>
<tr>
<td>Dubai Civil Aviation Department</td>
<td>70</td>
<td>2430</td>
<td>II</td>
</tr>
<tr>
<td>Dubai Police</td>
<td>178</td>
<td>16291</td>
<td>III</td>
</tr>
<tr>
<td>Dubai Municipality</td>
<td>479</td>
<td>12088</td>
<td>III</td>
</tr>
</tbody>
</table>

Source: (The Author)

It can be noted that this classification of government departments into Category I, II and III based on the number of services, number of employees and number of e-services expresses the different degrees of engagement in e-government initiatives by these Dubai government departments. During the investigation of these departments, (a detailed description of which is below), we could already see that there is some indication of the lack of uniformity in the engagement in e-Government initiative by the different government departments in Dubai. Whereas some government departments only engaged in informational e-services by maintaining websites and not offering transactional service, other government departments not only offer informational but also transactional services from filing to the processing of applications.

The classification scheme can be explored further, to look at features of the scenarios that were not covered and that (presumably) go beyond short-term trends. The three categories are defined as:

**Category I Departments:** The Dubai Government Workshop’s website offers informative services on the list of registered vehicles, expired registrations, car searches, and vehicles in service and service history and transactional services on vehicle dues settlement. This department has more informational than transactional services, and its services are limited when compared to the other departments.
The Dubai Land Department can be accessed by visiting [www.dubailand.gov.ae](http://www.dubailand.gov.ae) as the official place to register real estate and consultations pertaining to land and estate legalities and business transactions. The general services include transactions such as sales registration, mortgages registration, donations registration, evaluation, possession of donation, transfer by inheritance, registration of wills, possession proof, issue of replacement deeds title, division among the partners, allocation of common property, separation and addition, registration of charitable endowment and inter-successor endowment, compensation by land, amendment of ownership details, transfer of ownership from a company to an individual and vice versa, change and exchange of a donated land, issuance of maps, and response to the inquiries and issuance of the certificates to whom it may concern. The department’s e-services include a portal site, information on the status of e-service transactions, land transactions on daily, monthly and annual bases, new maps, updates on land ownership information, real estate registry, land owner number request, application for Malik privilege card to access online e-services, and E-Land Newsletter. The department offers a limited number of e-services but the services are more transactional than informational.

The Department of Tourism and Commerce Marketing created the website [http://www.dubaitourism.ae/](http://www.dubaitourism.ae/) to provide a number of services. Its informational services include various publicity, inquiry and media relation activities on tourist and heritage sites in Dubai. Its transactional services encompass the processing of license applications of tour operators, transport companies, travel agents, hotels and hotel apartments. Although this department has the greatest number of e-services, they are more informational than transactional.

**Category II Departments:** The Department of Health and Medical Services (DHMS) acts as the responsible health authority in Dubai; its online services can be accessed by visiting [www.dohms.gov.ae](http://www.dohms.gov.ae). It aims to provide preventive, curative, and primary health services to the community and individual through the best technologies and manpower; the goal is to provide services at international standards of quality and effectiveness by developing comprehensive health policies contributing to the overall development of Dubai. The department offers 22 public e-services which include corporate services like corporate health certificates, medical fitness certificates, tender and supplier and medical permits; individual services like health cards,
birth certificates, blood donation applications, embalming applications, international vaccination certificates, child health report, medical report, death certificates and medical fitness certificates; and medical services like accident and emergency reporting services, health fees list and medical specialties list.

The Department of Economic Development (DED), whose website can be accessed by visiting www.dubaied.gov.ae\(^8\), has the main responsibility of promoting the economic growth of the municipality. Their mission includes the provision of benefits to the society at large by creating sustained economic development programs, meaningful jobs and staff opportunities to innovate, contribute and maximise their potentials. Their e-services require no user account. They offer two main services to the public; (a) the company look-up service which enables the client to search the business data base of DED, and (b) the cost simulation service, where the client can determine the probable costs of attaining trade licenses with DED based on business activities, legal type, number of partners and other variables. The main services of the department are: registration with DED, reservations for a trade name, issuance of new license, renewing of license, cancellation of license, modification of license, and fines and complaints services.

The e-services of the Department of Naturalisation and Residency, Dubai (DNRD) can be accessed through the website http://www.dnrd.gov.ae\(^9\). DNRD takes charge of the visa, residency and naturalisation services. The department has six sections: naturalisation and passport; entry permit; residency; investigation and control; administration and finance; and IT. The information e-services of DNRD cover the requirements, processes and costs for visa, residency and naturalisation acquisition. Its transactional services cover applications and processing of visas and residency and naturalisation status.

**Category III Departments:** Dubai Civil Aviation Department provides information and e-services through the website http://www.dca.gov.ae\(^10\). This department handles all matters pertaining to the administration of airport operations such as flight training, cargo, traffic rights, and duty free shops. It offers four major e-service classifications including: Al Majlis, which is a facility offering personalised services for check in, baggage clearance, and immigration clearance to facilitate ease in navigating the airport regulatory system; Airport Pass Management

\(^8\) All e-Government websites of the various Dubai departments were accessed between December 2004 to February 2005
\(^9\) Ibid
\(^10\) Ibid
System (APMS) which automates airport entry pass through online registrations or requests and provision of access rights; Executive Flight Services (EFS) that covers the specialised needs of niche passengers (such as flight notification and tracking, information system, weather information services, parking guides, and other related services); and Dubai International Hotel (DIH) that involves reservation and accommodation services at a variety of hotels. This department primarily offers a wide array of e-services encompassing informational and transactional services, which leads to its classification under the third category.

The Dubai Municipality (DMD) website can be visited through www.dmd.gov.ae. This department is considered as one of the largest establishments in Dubai in terms of number of employees, as well as in terms of the volume of services it provides to the public, and the projects it carries out. It is the major driving force behind the development process of Dubai city as a whole, and is organised into seven sectors: (1) Departments and Offices Reporting to the Director General, (2) planning and Building Sector, (3) Roads and General Projects Sector, (4) Environment and Public Health Sector, (5) Finance Sector, (6) Administration and general Services Sector, and (7) Technical Services Sector.

The Performance Management Section, under the Administrative Development and Quality Department, contains the Performance Improvement Unit and the Performance Measurement Unit. The Performance Management Section is responsible for addressing the following issues: (1) performance assessment of DMD and its organisational units, teams and committee, (2) managing the performance measurements at the corporate and business levels, (3) managing the business excellence model in DMD according to Dubai Government, and (4) managing the privatisation and outsourcing activities in DMD.

The DMD website was intended by the government to offer a wide range of user-friendly online services providing comprehensive and well-organised information about all services at the Municipality. The e-services section of DMD is classified into “log-in required” services and “no log-in required” services. The “log-in required” services cover city planning and development, health and environment, and financial details. The “no log-in required” services include payment of parking fines, statistical information, and research studies or reports.

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All e-Government websites of the various Dubai departments were accessed between December 2004 to February 2005
The Dubai Police Department is responsible for peace and order maintenance in Dubai. This department can be accessed in English by visiting the [http://www.dubaipolice.gov.ae/dp/english/main.jsp](http://www.dubaipolice.gov.ae/dp/english/main.jsp) website, which is a translation of the Arabic website. It aims to promote awareness of the concepts and criteria of quality in police work among personnel members. The department offers a number of services whose aim is to develop administrative work. They do this by applying the concepts of quality adhered to by the General Headquarters of the Dubai Police on the domestic level—covering services to the local communities. 88 services are offered by the Dubai Police online services, 33 of which are e-services. These e-services are classified into: traffic services including issuance of plates and licenses; security services such as reporting complaints; and miscellaneous services, such as processing of job applications.

E. Conclusion:
Overall, the e-Government initiative in Dubai can be described as an ICT enhancing project since its introduction in 2000 as the ‘Dubai e-Government project’. The primary objectives of the initiative are:

1) The simplification and streamlining of government services through ICT channels;
2) The achievement of customer-centric public services to be provided through efficiency in service delivery
3) Innovation and integration of government services through technological tools; and
4) The modernisation and standardisation of internal government processes involving human resources, finance and accounting, and procurement.

The challenges faced by the initiative in its five years of implementation fall under the four classifications of customer expectations, process efficiency, people involvement, and technology accessibility and utilisation (Geray and Al Bastakei, 2005). Customer expectations challenged the initiative to provide the aggregate of these service values including convenience, quality service, multi-channel accessibility, security and trustworthiness of service, and comprehensiveness of service. Process efficiency challenged the e-Government initiative to get over the system problems of red tape and bureaucracy and shift to innovative enablers. People involvement raised the issues of multi-level leadership, skill and process redesign, competency planning, and skills sourcing. Technology accessibility and utilisation posed the challenge for the

---

12 All e-Government websites of the various Dubai departments were accessed between December 2004 to February 2005
initiative to adapt and facilitate rapid changes in technology and enhance information system connectivity or networking. (Geray and Al Bastakei, 2005)

This assessment expresses the challenges that catalysed the engagement and enhancement of the e-government initiative in Dubai. However, these challenges continue to remain for the Dubai government to address due to the different degrees of engagement in the e-government initiative by the departments involved. While some departments are at the stage of improving and enhancing their e-services, other departments are still at the stage of launching their e-services. Although, the e-government initiative in Dubai has come a long way by attempting to address identified problems such as red tape and efficiency in service delivery, there is room for further improvement of the e-government initiative in Dubai, especially when it comes to standardising e-government initiatives.

III. Dubai E-Government Departments

A. Current Progress and Development among the Selected Dubai Government Departments’ E-Government Initiative

The Government Departments that were selected for the analysis of this study, as explained in the methodology discussion, were the Dubai Land Department (DLD) and the Department of Tourism and Commerce Marketing (DTCM) for Category I; the Department of Economic Development (DED) and the Department of Naturalisation and Residency, Dubai for Category II; and the Dubai Municipality Department (DMD) and the Dubai Police Department (DP) for Category III. Table 4.5 sets out the criteria or description of the three categories of e-government initiatives.

<table>
<thead>
<tr>
<th>Category I</th>
<th>Description of e-Government Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>DLD</td>
<td>Online Informational Public Service (Archived Reports &amp; Other Data)</td>
</tr>
<tr>
<td>DTCM</td>
<td>Online Informational Public Service (Archived Reports &amp; Other Data)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category II</th>
</tr>
</thead>
<tbody>
<tr>
<td>DED</td>
</tr>
<tr>
<td>Naturalisation and Residency</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category III</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMD</td>
</tr>
<tr>
<td>DP</td>
</tr>
</tbody>
</table>

Table 4.5 Selected e-Government Initiatives in Dubai

Source: (The Author)
Informants from these departments were asked regarding (1) their utilisation of the e-Government system in improving public services, (2) what e-government performance measurement systems they apply to evaluate the effectiveness and efficiency of the initiative, (3) the impacts of the e-Government initiative in terms of public service decision-making to each department, (4) the contributions of the e-Government system to designing government policies within the departments, (5) the problems and issues encountered by the departments in the implementation of the e-Government initiative, (6) the current concerns of each department in implementing and utilising the e-Government system, and (7) their assessment and evaluation of the overall success of the e-Government initiative at present. The interview protocol is contained in the Appendix.

The departments were further categorised according to their size, in order to help the researcher summarise the main findings of the study in a more logical and systematic manner. In presenting these results, I use the seven foci mentioned in Chapter 3, Section V.

A.1 Utilisation of the e-Government System in Improving Public Services

As Al-Kibsi et al (2001) pointed out; e-government should be advantageous for the citizens and the department: It will lower the costs that both parties will pay in the exchange of information and the services that they may require, and reduce the time taken to provide services, giving the department more opportunity to serve other people. Also, welfare is likely to increase as the users will be more liable to use the services and make better use of the most appropriate services available. The following discussions present the different approaches used by the selected government departments in Dubai to better serve the public through the e-Government initiatives. It outlines the steps undertaken for introducing online systems to delivering services.

A.1.1 Category I Departments

Land Department (DLD). The procedures and transactions under the department were manual from the early 60’s until 1995. In 1997, when the analysis of the entire workflow and transactions was completed, as a result of the engagement in e-Government initiative, the department decided to reengineer its
operations and to automate the organisation’s systems\textsuperscript{13}. From the benchmarking with comparable Land Departments (or similar organisations) - London in UK, Munich in Germany, Singapore, and Osaka in Japan - the department found out that DLD’s automated operations were actually more advanced than those in the other countries (particularly as compared to Osaka, which still runs its systems manually).

Between the year 1999 and 2000, it was reported that e-service transactions was more than 90\% particularly in transactions that include sales, endowments, and grants. However, during this time, DLD has long been operating a computer archiving system for the land maps of Dubai, which gave the department experience in automated services. The archiving system has been operational since 1996 when it was installed. The department employed consultants to study the archiving systems available in the region, taking into account issues that resulted in other systems’ failure, such as unprofessional management, lack of awareness and inadequate plans. Addressing these issues enabled the department to successfully utilise the archiving system for the land maps of the city. This resulted in speedier transactions when requests of maps were asked from the department - DLD was able to deliver this specific public service within seconds through the archiving system, while previously the service took hours or often days to accomplish.\textsuperscript{14}

Furthermore, provided that along with the department’s commitment to provide the most appropriate environment for property investments and consultancy, DLD enabled its staff to process and authenticate land transaction operations in Dubai using the latest IT systems. The department recognised the vital role of the real estate sector; it initiated procedures to introduce e-services for development and better public service, which made DLD one of the promising departments in customer service in terms of the number of transactional services. The e-services of the department can be accessed through its website, which was designed to allow citizens to navigate the site along with the corporate and registered users. Through the website, customers can view the daily, monthly, and

\textsuperscript{13} Interview with Khalifa Al Suwaidi, DLD IT Manager
\textsuperscript{14} Ibid
annual reports prepared by the department. These include data on the completed land transactions, along with detailed information on the particular location and area, a land description, and the price per square foot, total value of each plot, and total sales value of all transactions in Dirhams.  

Department of Tourism and Commerce Marketing (DTCM). DTCM offers online public services to the people through its website, which features (1) the Overseas Promotion Online Registration System (OPORS), (2) the One-Step Information Centre (e-OSIC), (3) the e-Complaints, (4) the Online Hotel Reservation System, and (5) a Webcam system for Dubai city. The OPORS was created for fairs, exhibitions, road shows and workshops, allowing members to confirm their participation, view details of the event, and establish the Overseas Promotions group to offer services not only to domestic but also to international customers. The e-OSIC provides listings and statistics relevant to Dubai’s tourism and commerce. It includes information on Dubai’s hotels and apartments, responses to various surveys, and research projects. e-Complaints is a free service offered to Dubai tourists and residents which allows people to register complaints against DTCM and other Dubai-based establishments, with the goal of achieving direct response and rapid resolution of problems. The Online Hotel Reservation System provides users with Dubai’s hotel information, such as availability of accommodation and of rates, restaurants, and it offers facilities for online booking, reservation status tracking, and online payments. The DTCM website also enable web users a live view of Dubai city through interactive controllable web cameras. The combination of informational and transactional e-services also makes DTCM one of the promising departments in terms of engagement in e-government initiative of Dubai.

A.1.2 Category II Departments

Department of Economic Development (DED). DED is the arm of the Dubai government concerned with creating a “strong economic edge” of the municipality through the installation of advanced technologies for more efficient

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15 Interview with Khalifa Al Suwaidi, DLD IT Manager
16 Interview with Suhail Buhelaiba, DTCM IT Manager
and streamlined online transaction procedures in public services. The department is highly responsible for meeting the needs of investors and other business people who are contributing to the economic competitiveness of the municipality. Along with other government departments, DED initiated changes by actively participating in the IT transformation of the local government. In the case of the DED, the first two years of the e-Government initiative started very slowly; pace was gained during the year 2003 and necessary improvements in the department’s e-services became evident. New e-services were added to upgrade the website, along with use of other electronic communication channels such as the Short Messaging System (SMS) and the Personal Digital Assistant (PDA) applications, intended to reach the public more efficiently.¹⁷

Department of Naturalisation and Residency, Dubai (DNRD). DNRD was established in 1971 to facilitate 12 core responsibilities for the local government. These responsibilities are handled by 12 sub-departments which includes the Sections responsible for (1) Naturalisation and Passports, (2) Entry Permits, (3) Residency, (4) Investigation and Control, (5) Administration and Finance, (6) IT, (7) Dubai Airport Passports Office, (8) Rashid Port Passports Office, (9) Shindegah Port Passports Office, (10) Jebel Ali Port Passports Office, and (12) Hatta Passports Office. Each of these sections has specific duties which includes (a) issuing of Family books, Passports and other relevant documents for Nationals; (b) issuing visas of various types such as residence, visit, employment and housemaids; (c) public transactions like status change, determining people who have stayed longer than authorised, and closing of records; (d) human and financial resources management, particularly financial transactions concerned with Establishment Cards for private companies and representatives of other organisations; and (e) development of the computer applications that are required for the Department's activities to meet the latest developments in the IT field.¹⁸

The department’s online services started in early 2000. It exclusively launched a facility allowing the application for visas online. This served as the testing phase of the department’s e-services initiative to collect end user feedback.

¹⁷ Interview with Sultan Ali Lootah, DED IT Division Supervisor
¹⁸ Interview with Hana Al Mari, DNRD Quality and e-services Manager
By the end of 2004, almost all transport companies sending people overseas were required to apply for visas online using the OLD Online System. At present, the department aims to accomplish the complete phase out of this system. It intends to upgrade DNRD’s e-services though the newly implemented EDNRD Online System. The EDNRD Online System utilises an advanced payment method - companies are required to deposit money with Immigration before using the service thereby improving the functionality of such DNRD e-services as online visa applications and payment by credit cards, e-wallet, and direct debit. This improves functionality for DNRD, companies, and customers to the extent that the advanced payment enables a fast processing of their applications.

A.1.3 Category III Departments

Dubai Municipality (DMD). DMD portal provides around 105 e-services. Of these, 89 are transactional services and 16 information services. The advanced e-services are provided through a network of 7,800 computers connected to 80 servers, which are interlinked through a network that links over 90 sites across the emirate of Dubai. Health certificates related to food inspection—import and export—certificates and health cards related to medical clinics; certificates for disposal of dangerous wastes, No Objection Certificates (NOC) or police clearance certificates; certificates for construction permits; certificates for drainage and irrigation; registration of companies’ employees; registration of customers; hotel fees, theatre fees, fees of private shops, residential and retail fees; e-payment services; and advertisement services transactions – all of these services are done electronically. DMD’s package of e-services includes making reservations for beach cabins, obtaining fishing licenses, and renting swimming pools. The Building Management Package is likewise provided electronically by DMD’s website, which includes more than 60 e-services, many of which are purely electronic, along with a new e-Pay service for contract fees, which will be offered in collaboration with Dubai Electricity and Water Authority. During the first two months of the current year, DMD recorded 95.67 per cent online transactions - out of a total 99,174 transactions, 94,224 were completed.

19 Interview with Hana Al Mari, DNRD Quality and e-services Manager
This makes DMD one of the more successful departments in terms of actual online transactions.

Dubai Police (DP). The DP General Department of e-services was established in October 2001, in line with the initiative towards the evolution of the United Arab Emirates in general, and Dubai in particular, as a public service entity that can deliver electronic services. The e-services division of the department is primarily responsible for the acquisition and replacement of electronic devices (such as the payment of speed and parking tickets and tourist complaint services) along with the maintenance of the e-service programmes and networks, and information systems technology of the Force. The division also manages the information networks of Dubai Police, and its subsidiaries under the Dubai Police Information Network. The division designs and develops plans and technical consultation to (1) select the best technology for information systems, (2) select and train qualified human cadres to handle and work within technology networks, and (3) monitor the administrative, financial and technical needs of the e-Government initiative of the entire department. Since PD holds responsibility for several electronic services an electronic gate guide was distributed in 2003 among its officers who worked on the Weblisher system accessing it from different public administrations and police stations. This was introduced to achieve a comprehensive and active public services system that simplified and facilitated specific tasks of the members of the department and enabled them to perform its duties and responsibilities better. Moreover, the use of e-mail via a secure information network has enabled Dubai police officers from all over the world to access correspondence from the department in a secure environment.\(^{21}\)

\(^{20}\) *Interview with Husain Nasser Lootah, DMD Deputy Director-General*

\(^{21}\) *Interviews with Awatif Al Swaidi, PD Systems and Programs Section Head and Noura Al Sayegh, PD e-services Development Section Head*
A.2 Application of Performance Measurement Systems to Evaluate the Effectiveness and Efficiency of the E-Government Initiative

With the popularity of the New Public Management (NPM) framework as a basis for revolutionising public services, various managerial reforms have been prioritised to achieve efficiency, decentralisation, devolution, monitoring and enhancing customer satisfaction, and quality improvement. In the case of the Dubai Government, the introduction of the e-Government system supported, to a certain extent, the achievement of public administration goals and objectives that are parallel to the key principles of NPM. However, continued efficiency and effectiveness of the e-Government initiative is likely to be realised by continuing to follow the NPM principles and by creating and applying appropriate and accurate performance measurement systems. Such systems need to be designed to evaluate extensively the different functionalities of the e-Government project, in order to provide the best online transaction to the public. In this light, the role of the Department of E-Government (DEG) becomes important since it constitutes the primary government arm in managing the e-service transformation process across the entire Dubai government institutions. DEG engages in customer and public awareness surveys to measure the performance of the different Dubai government departments. Nevertheless, efforts are continuously made to developing a uniform performance measure for all the departments. The following discussions present the performance measurement systems implemented by the selected government departments.

A.2.1 Category I Departments

Land Department (DLD). The department does not use DEG’s standards in evaluating the organisation’s performance and opted to design the website in line with the available resources of the department and with a proper consideration of the customers’ requirements. The department sees the performance measures as insufficient to meet its performance evaluation needs. This is due to the engagement of DLD in e-services earlier than most of the departments. The department conducts studies to determine the most visited and viewed pages of the site on a regular basis. The results of the studies are utilised
for the continuous improvement of the website, including those involving changes in the portal particularly in terms of content and layout.\footnote{Interview with Mahmoud Ahmed Al Jmail, DLD Senior Web Architect}

The Crystal Reporting System was applied to produce more efficient reports and statistics that could help identify the customer demands on speed and convenience of access. The department’s performance measure does not produce overall performance statistics - but is more concerned with obtaining the specifications of the customers they serve through accessing their comments, suggestions, and complaints. Employees are likewise consulted to identify the services that can be applied online and to validate the requirements coming from customers for further development of the portal.

In line with the e-Government initiative, DLD started to reconsider the available services in the website. It introduced reengineering of the entire workflow of the system - not only to fully transform the services of the department electronically and to renovate the portal, but also to make the necessary changes in the department’s goals to reflect the principles of Dubai Government as a whole.\footnote{Ibid} Examples of changes include the layout of the website, its navigability together with the addition of more information such as updates on rates as well as of the follow-up and tracking of applications or transactions.

The expectations to the e-Government initiative were incorporated into the e-services of the department and into the performance measurement systems to obtain a more uniform evaluation of all Dubai departments under the e-Government initiative project. Of performance measurement systems the ITL and the Balance Scorecard systems were adopted. These performance measurement systems provided by the government motivated the members of the department to keep up an eye on the goals of the entire Dubai public administration.

The department is also planning to install performance measurement systems for its IT projects as soon as the reengineering of the whole system is completed. In addition to this it plans to install the IT Laboratory (ITL) standards, which could contribute to making the performance indicators of the department comparable to International Standards Organisation (ISO), as well as it plans to
implement the Balanced Scorecard performance measurement system, which is the standard normally considered relevant when establishing performance measures in their department. Internal awareness campaigns of the performance measurement systems are another likely initiative to take to ensure a qualified and professional work team behind the department’s electronic services.

The Balanced Scorecard is one of the performance measurement systems adapted by the department to help form comprehensive and feasible strategic plans for DLD, and to ensure a high-quality and timely analysis of the number of electronic transactions, income, and interconnectedness between department sections and divisions. Also, the enterprise architecture software was employed to retrieve and access data from any database such as SAP and Oracle to improve the workflow flexibility. The processes of retrieval and access covers all data and information of the department, which will serve as the main reference for DLD’s structure plan and the technical systems that run within the organisation to improve data gathering and processing via a searchable database. The enterprise architecture software and the internal supervision of the application of the software, which are both outsourced, are used to track problems or conflicts between systems. The Dubai Excellence Award (DEA) standards are followed as a reference model in designing the software.

Similar to this, other strategies initiated by the higher management group were incorporated in the e-services of the department and in particular into the performance measurement systems to ensure the uniform evaluation of all Dubai departments under the e-Government initiative project. For example, the ITL and the Balance Scorecard systems as were the performance measurement systems provided by the government.

Department of Tourism and Commerce Marketing (DTCM). The e-services performance measurement systems are provided in several ways: through the e-Complaint services, the One Stop Information Centre (e-OSIC), and in terms of Key Performance Indicators (KPI), and Critical Success Factors (CSF). The e-Complaint service collects survey responses from the department’s

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24 Interview with Khalifa Al Suwaidi, DLD IT Centre Head
customers particularly complaints against hotel, tour companies, as well as other government and private organisations. The e-OSIC is an e-service, which provides a wide-range of informational services for customers, as well as it draws on customer feedback performance statistics. It provides data from customer feedbacks and surveys where the survey results also serve as the DTCM’s marketing and promotions medium, as well as it is relevant for information gathering as well as it can be useful for determining the local tourism trends. The e-OSIC system likewise submits data to the Dubai Statistic Centre and is considered as the richest database, since it was established 14 years before the government’s data centralisation initiative. In addition, the high quality of data provided by e-OSIC makes it useful for supporting also other Dubai sectors in their project planning activities by presenting valid and reliable data on the needs and demands of the tourism industry.

Since the DTCM regulation was issued in 1997, the department’s duties have been defined, with the core responsibilities identified as being regulation of the city’s tourism industry. The enumerated responsibilities served as the basis for Key Performance Indicators (KPIs) of the department, which applied the KPI approach, which were later, utilised by other government departments after the Executive Office’s approval. Upon implementation of the KPIs, the department submitted changes in the standards to distinguish them from the Critical Success Factors (CSFs) useful for comparing their results. This way they operated by using two measures covering the same data. The electronic service indicators used in the application of the KPI and the CSF resulted in (1) the ratio of services and (2) the ratio of service use. But the decision of who will measure the actual performance of the department DTCM is still unclear, since there is an option for the departments to choose both an internal assessment as well as the external assessment which would be done by the DEG’s general evaluation of all the government departments’ performances. They can even choose to use both to obtain a more thorough input for the purpose of determining implications for the future e-service policies of the department.

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25 Interview with Suhail Buhelaiba, DTCM IT Manager
26 Interview with Khalid Bin Sulaim, DTCM Managing Director
27 Interview with Rita Haddad, DTCM Quality Assurance Coordinator
In addition, the DTCM lacked its own internal performance measurement program before the government requirement for TEO to provide all departments with a username and password so that they could upload performance measurement results to TEO’s software for individual assessment. The data collected and analysed using TEO’s software is used to produce reports that are submitted to the higher management as part of the general evaluation procedures of all government departments. Moreover, DTCM uses the International Organisation for Standardisation (ISO) system and the Balanced Scorecard approach along with the e-Complaint services, the e-OSIC, the KPIs, and the CSFs. The ISO system considers and manages the continuous improvement of the entire department to create customer satisfaction through the Balanced Scorecard system.²⁸

Furthermore, the interviewee explains that the implementation of international quality standards like the ISO and the European F Quality Model (EFQM) in the local setting do not differ so much from their applications in other countries. These international quality standards cover the strategies, leadership, operations, customer satisfaction human resources and the general performance of the government departments. As such, both systems proved to be effective as quality standards and criteria for the Dubai Excellence Award of the Government Performance programme.²⁹ However, the interviewer failed to specify the parallel specific areas between the implementation of ISO and EFQM in Dubai.

A.2.2 Category II Departments

Department of Economic Development (DED). Aside from the customer satisfaction surveys provided by the DEG to each government departments, which used to be conducted manually, DED also employs short surveys in the form of “Polls” in the department’s website, to elicit data from the customers’ viewpoints. The Project Management Model measures the department’s performance through a complete monitoring of workflows, follow-ups, as well as of delays on particular segments of the projects. Since the DED website offers different

²⁸ Interview with Rita Haddad, DTCM Quality Assurance Coordinator
²⁹ Ibid
services for different customers, the different sections of the department each handle different types of customers as well as contributes to ensuring the validity and reliability of the website’s contents. The people responsible for each section meet monthly to assess the progress of the entire website. The data collected are analysed periodically and the final analyses are submitted to the higher management.30

In addition, through the Project Management Model, the department’s electronic service applications can be comprehensively examined for evaluation purposes. The model enables the department to efficiently attend to every project under its supervision by tracking delays, which the software is able to update. The reports in each stage of the implemented projects are also used for future reference assisting the department in its documentation tasks. Moreover, the department employs local people for the IT solutions as led by skilled project managers who act as consultants to the IT employees. This resulted in positive IT outcomes and professional training of the IT employees of the department.31

Department of Naturalisation and Residency, Dubai (DNRD). DNRD measures the department’s information system performance through customer satisfaction evaluation. This involves (1) surveys by the customer service department and the quality department, (2) user comments on the DNRD web site and their feedback, (3) monitoring of problems received by the customer service agents, and (4) the DNRD e-services support team that monitors the clients' comments and issues. DATEL, a national IT company, has started providing first-level customer service to DNRD customers through a contact centre established in DNRD's office. The contact centre offers technical support in several common languages, such as Arabic and English, with the help of its multinational staff; operating times are from 7am to 5pm daily (except on Thursdays when operations are only for 4 hours). The contact centre services include remote technical support and one-hour house-call training sessions to allow customers to manage the site's homepage professionally (the cost of this is Dhs. 250). The centre also handles, free of charge, calls from attendees who have filled in their forms incorrectly.
These services added value to the DNDRD’s public services, which proved to be efficient and cost-effective, and at the same time serve as a performance measurement system to evaluate the e-services of the department.32

A.2.3 Category III Departments

Dubai Municipality (DMD). The transformation cycle starts with the Business Developing stage, which involves the participation of the external and the internal consultants to determine the service need from a business perspective. A transformation committee corroborates the reports, which are separately submitted by both the internal and external consultants for the internal users’ review. A meeting between the consultants and the internal users is conducted, which generates a comprehensive e-Government initiative plan for the department’s public services. The transformation committee checks all the information needed to fulfil the requested electronic services and inquiries into the value and justification of such needs for information. At the business reengineering stage, the analysis team revises the electronic workflow of the service so as to accommodate the new e-services. Irrelevant electronic steps to make accessible the e-services are amended to shorten the process and speed up the transaction. The training and the trial stages along with the implementation stage follows for the benefit of the external customers through training sessions for both department personnel and external customers. Feedback from both the internal and external training sessions is collected to evaluate the performance of the e-services. This is used to identify changes, which can increase the service value provided by DMD.33

Dubai Police (DP). The performance measurement system used by the department includes the customer satisfaction survey, as provided by DEG’s e-Survey initiative, along with the use of consultants who are designated to evaluate DP’s performance and the new internal assessment appraisal procedure. The Document Management System was designed to help in the department’s decision-making management, while the e-Communication programme was

32 Interview with Hana Al Mari, DNDRD Quality and e-services Manager
33 Interview with Husain Nasser Lootah, DMD Deputy Director-General
designed to retrieve reports that provide the statistics on the frequency of internal transactions delivered and the rate of completed transaction within every division. The transaction workflows monitoring section delivers reports on the speed of completed transactions, as well as identifying cases of workflow or load blockages, and investigating the reasons behind such electronic service provision delays. Recommendations for the enhancement of the system are submitted to the higher management. The periodic performance measurement reports are compared across the different departments to evaluate the progress and development of the e-Government initiative within DP34. Decisions are subsequent administrative decisions are drawn from resolutions provided. The department reviews its achievements on a quarterly basis to find out if the targets are being met, and to provide sound explanations to the higher management whenever there are organisational failures.

Table 4.6 below summarises the performance measurement systems used by the six government departments in Dubai. Except for the Dubai Land Department and the Department of Naturalisation and Residency – these apply only an external performance measurement system - all the departments combine internal and external performance measures to assess their e-services. Using both internal and external performance measures allows a more accurate evaluation since this is based on the perspectives of employees and supervisors together with consumers.

34 Interview with Awatif Al Swaidi, PD Systems and Programs Section Head and Noura Al Sayegh, PD e-services Development Section Head
Table 4.6 Application of Performance Measurement Systems in Dubai

<table>
<thead>
<tr>
<th>Category I</th>
<th>Applied Performance Measurement System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dubai Land Department (DLD)</td>
<td>Crystal Reporting System (Customer-Based Feedback)</td>
</tr>
<tr>
<td>Department of Tourism and Commerce Marketing (DTCM)</td>
<td>e-Complain services, One Stop Information Centre (e-OSIC), Key Performance Indicators (KPI), and Critical Success Factors (CSF) (Customer-Based Feedback through Complaints and Survey Answers)</td>
</tr>
<tr>
<td>Category II</td>
<td></td>
</tr>
<tr>
<td>Department of Economic Development (DED)</td>
<td>Customer Satisfaction Surveys and Application of the Project Management Model</td>
</tr>
<tr>
<td>Department of Naturalisation and Residency</td>
<td>Customer Satisfaction Evaluation</td>
</tr>
<tr>
<td>Category III</td>
<td></td>
</tr>
<tr>
<td>Dubai Municipality Department (DMD)</td>
<td>Feedback from Internal and External Sources (In-House Assessment Team &amp; External Consultants)</td>
</tr>
<tr>
<td>Dubai Police Department (DP)</td>
<td>Customer Satisfaction Surveys &amp; Performance and the New Internal Assessment Appraisal Procedure</td>
</tr>
</tbody>
</table>

Source: (The Author)

In addition, the departments use different performance measurement systems. This means that we lack a common measure of performance to permit comparative analysis of the different e-Government departments’ performance - except perhaps for customer surveys that utilised scales and draw comments or suggestions. This means that we have to consider differences in performance measurement systems in order to understand what the various evaluation results might tell us about relative patterns of success across different departments.

A.3 Impacts of the e-Government Performance Measures & Attitudes towards Decision-Making on e-Government

Performance measures can best be understood according to their focus of assessment or evaluation. However, the practical contributions of a particular technology can be determined by its impact on the decision-making processes that usher the success of the organisation. This can be made possible by estimating the share of operations that are done electronically. The following discussions consider the impacts of the e-Government system on the overall function of the selected government departments in Dubai, exploring both the positive aspects of the project and those shortcomings that became evident in the preliminary stages of the system. This also considers attitudes towards technology and the role of DEG.
A.3.1 Category I Departments

Land Department (DLD). Contrary to other departments’ evaluation, DLD highlighted the negative implications of the e-Government initiative. This was because the DLD appeared to experience relatively more problems than other departments during its continuing stage of transferring towards more transactional services, which require inter-linkages with the other departments. Particularly important was the inability of DEG’s centralisation software to deliver the service needed by the departments, due to an insufficiently qualified technical team and to the less developed system profiles of other links. This was evident in the case of the e-Pay service: The DLD administration was highly disappointed by this, since online payments are critical to the department’s electronic functions. The software and electronic system developed by DLD was unable to support electronic payment with many glitches or unsuccessful transactions. DLD’s administration recognised that the DEG needs to further organise its centralisation system and to consider the risks associated with the implementation of an inadequate system to the various department units since most transactions include inter-departmental linkages for the complete verification of data and for the processing of various service requests.  

In addition, the DEG cannot rely only on its technical staff and capabilities or on the technical capabilities of the government departments alone. It should therefore take into account the technical support from external parties since there are existing differences in terms of the technical capabilities of the different departments, which means that the DEG needs to improve their efforts of standardising systems, which will benefit also the technical capabilities of the departments lagging behind in e-government initiative. The interviewee recommended that the DEG consulted with technical systems experts to find the best possible solutions to solve the capability shortage in the e-Government initiative. Apparently, at the time of writing teams with insufficient qualifications are managing large areas of DEG’s responsibility to foster uniformity and networking among the different departments.  

35 Interview with Mahmoud Ahmed Al Jmaïl, DLD Senior Web Architect  
36 Ibid
The performance measures or rather the variance in the performance measures implemented by the different departments created or worsened the problems related to the difficulty of linking e-services provided by the different departments or of the application of a uniform performance measure to derive comparable results. These difficulties influenced the departments’ decision-making processes when it came to questions related to the e-services’ change and improvements. Furthermore, the e-Government project directly affected the decision-making processes within DLD, as new projects were implemented in the department’s own portal to keep up with the expectations of the e-government initiative project. The e-Government project increased the internal and external awareness on the use of technologies in improving service deliveries in the public sector.37

Department of Tourism and Commerce Marketing (DTCM). The statistics collected from the OSIC (One Stop Information Centre) system are utilised for the DTCM marketing purposes. The OSIC database provides information such as the inquirer’s country of origin, reasons for the request (business, investment or research), types of information requested (reports, figures, charts, images), and other valuable information related to the city’s tourism industry.38 Data enables DTCM to determine which people are highly engaged in the use of its services, as well as to determine which service needs are most frequently demanded and used for supporting the improvement of services. DTCM identifies this by targeting directly the customer groups and their particular problems. As an example, most customers want information on legitimate business firms and individuals and access to these firms, which DTCM was able to provide by relying on customer feedback.

In addition, performance measurement systems helped in making visible to the department based on the feedback from users that in the past, the employees at the DTCM classification section had resisted to implement any new technologies that could renew their systems. However, these same people now embraced the system as they realised that their work could be performed more

37 *Interview with Mahmoud Ahmed Al Jmail, DLD Senior Web Architect*
38 *Interview with Suhail Buhelaiba, DTCM IT Manager*
efficiently, as well as their output level could be increased, by simply upgrading their technologies. At present, DTCM is driven by the electronic transformation initiative.\textsuperscript{39}

\section*{A.3.2 Category II Departments}

Department of Economic Development (DED). The most critical changes are a shorter and faster work flow in the department’s business processes after they replaced the old internal applications with the advanced e-Government system applications. This again resulted in a more efficient and effective customer service, which improved the public services of the DED. Through the technological assistance of the DEG, the department was able to attain its vision, as well as to add value to its customer services. The integration system of the DEG reduced the number of duplicated links that are utilised by different government departments, thereby increasing information security as well as speed and the accuracy of data transfer between and among departments. The e-services integration made public service deliveries more efficient since the department’s services are highly associated with that of the federal ministries. Satisfaction levels among the employees and public users of the department’s e-services increased by more than 25%. These results encouraged the higher management to continue to support the department’s IT initiatives.\textsuperscript{40}

Department of Naturalisation and Residency, Dubai (DNRD). During the early years of the e-Government initiative, DNRD implemented the OLD Online System. The Application data was written to a separate database and a batch job was used to validate and write the data in the Immigration System. Meanwhile, the new EDNRD was implemented using Oracle Portal, Oracle Application Server 10g and Oracle 9i RDBMS. With these IT infrastructures, the Immigration Department was able to provide information for other different government departments such as Ministry of Health (MOH), Dubai Economic Dept (DED), Dubai Municipality (DMD), and the Ministry of Labour (MOL). In the case of

\textsuperscript{39} Interview with Khalid Bin Sulaim, DTCM Managing Director
\textsuperscript{40} Interview with Sultan Ali Lootah, DED IT Division Supervisor
applications for employment visas at the Ministry of Labour, these applications are directly transferred to the Immigration Department for approval and issuance. Results of health and medical tests are likewise directly transferred to the Immigration Department. These online transactions between and among government departments contributed to the continuous improvement of the e-Government Information System design to create better public services to the customers of each department.\(^\text{41}\) This constituted an effort to standardise e-services and foster networking among the different departments. As an initial effort, the engagement in collaborative e-service systems in the future involving more departments and e-services would imply to make a continuous improvement in the implementation of the e-government initiative.

**A.3.3 Category III Departments**

Dubai Municipality (DMD). The department’s e-services are primarily geared towards efficiency objectives. They should provide increased value for money, time and productivity within the department and other government units, as well as their role is to ensure that the benefits provided to the public and private organisations are of the same standard and quality. When the department transferred the request and issuance of Non Objection Certificate (NOC) to the fully integrated electronic system, requests were submitted directly to the central database, by accessing the DMD website where the relevant divisions handle the processing. NOCs are requested from several divisions such as road, planning and sewage sections for new project infrastructure approvals. This used to take a considerable time when transacted manually by employees. The redesigned system and workflow therefore considerably reduced the time, money, and effort spent in delivering this particular service – thereby fulfilling the goals of the department to create efficiency in its service deliveries.\(^\text{42}\)

The e-government initiative of the department’s services also resulted in increased satisfaction of both internal and external customers. Employees who had previously opposed the electronic transformations during the early implementation of the e-Government services found that the work output was

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\(^{41}\) Interview with Hana Al Mari, DNRD IT Department Quality and e-services Manager

\(^{42}\) Interview with Husain Nasser Lootah, DMD Deputy Director-General DMD
increased significantly which was visible from their number of completed service applications and the number of people involved in servicing them. The general public and private organisations that utilised the DMD’s e-services became more satisfied with the quality of service rendered by the department through online transactions. This was clear from the customer feedback presented through online surveys.\textsuperscript{43}

Dubai Police (DP). The strategies unified the platforms of DP public service deliveries. The e-services provided by the department are differentiated in terms of the type and use of the available electronic services. The categories include distinction between the query, informative, and transactional services. The nature of the services also differentiate into broad classes of Security, Criminal, and Traffic. These classes were extracted from the general strategic categories of the police department. With the introduction of the e-Government initiative, the DEG proposed the service definition standards, which entail a more detailed systematic classification of the electronic services available. The department adopted the DEG standards to be in line with the general public service provision strategy set by the Dubai government for its administrative units. As such, the department started to utilise the Balanced Scorecard and the RADAR system though the Archive. This enabled the DP to define its goals in terms of performance measures based on internal criteria such as the adaptability of personnel and of technology needed to support e-services, as well as in terms of the external criteria such as the extent of customer satisfaction.\textsuperscript{44}

This resulted in daily adherence to, and implementation of, the general government strategy by achieving the goals designated to the department to meet the standards provided by the DEG. The subsequent project planning and applications were conducted under the principles of service initiation, service improvement, service evaluation, and service maintenance towards achieving an electronic society. All these contributed to the distinctiveness of the weaknesses and strengths of the e-services division of the department.\textsuperscript{45}

\textsuperscript{43} Interview with Husain Nasser Lootah, DMD Deputy Director-General DMD
\textsuperscript{44} Interview with Nader Fikry, DP e-services Deputy Manager
\textsuperscript{45} Interview with Awatif Al Swaidi, PD Systems and Programs Section Head and Noura Al Sayegh, PD e-services Development Section Head
Table 4.7 below provides a summary of the impact of the performance measurement systems on the various departments’ decision-making processes related to how they should implement the e-Government initiative. Except for the Dubai Land Department - which reported a negative impact of its e-Government to its decision-making - all departments reported benefits to their e-Government initiatives’ decision-making processes. The DLD result could be due to the technical difficulties the department faced when implementing the IT transformation relative to the other departments because of its - at that time - limited technical capabilities. Also, their negative experience can be caused by a heavy reliance, and thus vulnerability, on an effective delivery and handling of its e-services on inter-departmental linkages and systems. Nevertheless, it is worth noting that regardless of the positive or negative impact, the results of the performance measures were used to determine and address areas of weaknesses for e-service improvement.

**Table 4.7 Dubai e-Government Impact on Decision-Making Process**

<table>
<thead>
<tr>
<th>Category I</th>
<th>e-Government Impact on Decision-Making Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dubai Land Department (DLD)</td>
<td>Negative impact resulted in the need to consult with technical systems experts on the best possible solutions to amend the e-Government initiative shortages since unqualified teams manage the system.</td>
</tr>
<tr>
<td>Department of Tourism and Commerce (DTCM)</td>
<td>Positive impact on workload efficiency led to the need to upgrade the technologies to increasing the work outputs.</td>
</tr>
</tbody>
</table>

**Category II**

| Department of Economic Development (DED) | Positive impact on change resulted in the need to replace the old internal applications with the advance e-Government system applications. |
| Department of Naturalisation and Residency | Positive impact on service delivery resulted in the enhancement of the online application portal and networking with other government agencies. |

**Category III**

| Dubai Municipality Department (DMD) | Positive impact on work efficiency resulted in the networked processing for speedy approval and release of requested documents. |
| Dubai Police Department (DP)       | Positive impact on the determination of the strengths and weaknesses of public service delivery structures resulted in improvements in public service delivery. |

Source: (The Author)

**A.4 Contributions of the E-Government System in Designing Government Policies**

The public response to e-Government initiatives was difficult to determine because of a relative bureaucratic linkage between the government and citizens. However, with the e-Government initiative the government, through the different departments, can tap in and directly learn from users, their concerns etc. via the online feedback systems and surveys. Furthermore,
the use of performance measures on e-services made visible the extent to which the e-government initiative serves its goals of providing effective and efficient services through an easy access to and fast delivery of the services. The e-Government initiative impacts policymaking by influencing the departments’ ability to quickly react and continue to give relevant service to the public by influencing how systems should accommodate diversity and changes if circumstances require this. The models used for performance measurement are based on general situations of the government and as such may not be relevant for addressing atypical situations. If certain circumstances arise which require, for example, a more nuanced measurement system then the measurement systems may be necessary to adapt.

Through the e-Government system, the selected government departments were able to identify the advantages of the modern information systems in delivering public services. The following discussion focuses on the contributions provided by the e-Government initiative to policy design and decision-making.

A.4.1 Category I Departments

Land Department (DLD). In the case of DEG, the interviewee indicated that the department did not help the Government in improving public services by influencing policies. According to this person, the department was unable to deliver the latest technological knowledge needed to overcome the problems of coordinating service provision among the departments. Internal communication among departments, an insufficient number of employees and unqualified members of the DEG team were factors contributing to an inadequate and unsatisfactory result of the first stages of the e-Government initiative. There are indications of a need of the DEG to employ professional people to ensure a more advanced and relevant level of knowledge and skills to ensure the successful transformation and the fulfilment of the goals and objectives set by the government. Furthermore, an electronic government initiative should at least anticipate and try to pre-empt the difficulties that each department may confront upon implementation. Specific requirements in completing different public transactions electronically should be considered in order to deliver better services to the customers. Collaboration between government units and a full collection of information among the units in a single database could be employed to allow for a
convenient and efficient access, change, and addition of relevant information needs among departments. The interviewee suggests improvements in the fulfilment of the role of DEG, as well as in their efforts put forward in standardising the services.

Department of Tourism and Commerce Marketing (DTCM). DTCM’s engagement in the e-government initiative was able to support policymaking on the continuation of the department’s electronic transformation objectives. The DTCM’s experiences with the e-government initiative supports policymaking on the continuity and improvements of the e-services. The DTCM’s experiences involved the automation of several systems like the OSIC, the overseas promotion system, the permit system, and the on-going e-Government initiative of the classification system. The department decided to host an online booking service since 1999, which is run by an outsourced company to avoid losing potential tourists who favour the services of a government sponsored online booking company, as well as to create a competitive edge over other international tourism sectors. Since the e-Government initiative was considered as a new wave in the tourism industry during that time, the DTCM wished to ensure that the city did not lag behind when it came to electronic advancements. As such the DTCM wanted to reach more customers by offering online public services similar to personal service transactions. All these were initiated in line with the goal of DTCM to promote local tourism, which through time led to the improvement of the online services in terms of increased customer security.

Furthermore, the 100% occupancy rate all year round among hotels and other accommodation services in the city made evident the need for bringing solutions to the challenges of the local tourism industry. The electronic system gave access to tourism service to ensure that domestic and international customers were offered choices. The tourism services were made available online and linked customers with the tourism industry in a secured context.

46 Interview with Mahmoud Ahmed Al Jmail, DLD Senior Web Architect
47 Interview with Suhail Buhelaiba, DTCM IT Manager
48 Interview with Khalid Bin Sulaim, DTCM Managing Director
A.4.2 Category II Departments

Department of Economic Development (DED). As the first government department to operate a mobile programme, which supported mobile telephone users employing the GPRS system, the DEG was able to provide an ideal channel for those who wish to complete government transactions through the INFOTouch system without visiting the department in person. The system links the DEG services directly to the internal customer care system to complete procedures and track the status of transactions by entering the reference number. The services provided by INFOTouch are free of charge, the system was not meant as a revenue generating service and the system was designed for convenient transactions of business entities with the government.\(^{49}\)

INFOTouch enables access to a set of economic services and data through the use mobile communication phones. These economic services include:

- Searching for trade names,
- Checking transaction status,
- Checking license fines (using a password to ensure customers’ privacy), and
- Monitoring portfolio of licences (using a password to ensure customers’ privacy).

Moreover, the DED provided basic training orientations and practical lessons among the members of the public users. Demonstrations were also provided for the customers to learn the basic computer operations of availing the department’s e-services. Printed materials in the form of brochures were distributed as part of the information campaign to provide the public guidelines on how to use the DED portal. The DED portal likewise provides learning guidelines to assist the customers visiting the DED website on how to apply for the online DED service. The Helpdesk Application functions as an educational database, which allows the public users to resolve problems on online transaction procedures through electronic inquiries. With the assistance of the DEG’s Customer Call Centre, the DED customers were also able to inquire about related services of the department.\(^{50}\)

\(^{49}\) Interview with Sultan Ali Lootah, DED IT Division Supervisor

\(^{50}\) Ibid
government services encouraged policymaking not only in the department but also for the other similarly placed departments.

Department of Naturalisation and Residency, Dubai (DNRD). DNRD has undergone a major change towards achieving a complete transformation of its services. It designs eForms to improve service quality as well as to reduce the time and costs of tedious internal administrative routines. The visa boxes, through which the companies’ representatives receive their documents, have become a historical memory, with the introduction of e-transactions. The online service through the website of the DNRD (www.dnrd.ae) ensures a direct communication between the client and the administration in, for example, ensuring a more efficient transaction with the department personnel. This has become possible through the facility of online applications, e-payment of fees and online delivery of the services.\textsuperscript{51}

The DNRD e-services include all DNRD transaction forms, such as visit visa and residence visa renewal along with free registration-based services, which allow users to fill in the forms electronically. The eForm service is easily accessed by both individuals and corporations via https://eform.ae or via the DNRD portal that intend to transact with the department. The eForm attachments operate immediately in Arabic and English and are classified into simple categories allowing customers an easy access to the desired form. The website employs a code-based electronic contact channel to guarantee customers’ privacy and confidentiality and prevent any attempts to manipulate their data.\textsuperscript{52}

To use the service, the company's representatives should go to the "Establishment Card Section" at the DNRD to fill out the special subscription form and to obtain the password that gives access to the online services of the department and to deposit fees in the company’s account at the bank. Transaction fees would then be directly deducted from this account. This electronic transformation within DNRD contributed greatly to a paperless archive within the department and to information sharing with other government departments. Field

\textsuperscript{51} Interview with Hana Al Mari, DNRD Quality and e-services Manager
\textsuperscript{52} Ibid
studies on customer feedback on its e-services are continuously conducted of the DNDR eForms service in an effort to enhance its efficiency levels.\textsuperscript{53}

**A.4.3 Category III Departments**

Dubai Municipality (DMD). Around 146 systems - including revising, tracking and updating public transactions online - have been fully automated and integrated with the electronic systems of other government departments. The systems are periodically evaluated, as well as it is being supervised both by internal and external consultants, to maintain the efficient work flow of the system and provide satisfying customer services. Public awareness campaigns and training sessions for both the internal and external customers are likewise provided by DMD to ensure high usage of the electronic services offered by the department. Public awareness in utilising e-services will support policymaking on improving e-service delivery based on the greater participation of customers and personnel in pointing out problem and success areas.\textsuperscript{54}

Dubai Police (DP). In line with the e-Government initiative, the department decided first to list the services that customers most frequently demand. This involved in identifying the services that customers inquire about most often and those, which have the highest rate of completed transactions. The IT section then started the department’s e-Government initiative project. The DP administration thus became capable of distinguishing more services that can be transferred to electronic form, and they were then provided with opportunities to rearrange and redesign the available online services of the department to be competitive in terms of technological initiatives. By reengineering the services, DP was able to enhance the department’s workflow systems to cut down the time spent on transactions and to save time, money and effort within the organisation for the benefit of both the employees and public users of the electronic services. This development supported the initiative of the entire government to transform the majority of public services online.\textsuperscript{55}

\textsuperscript{53} \textit{Interview with Mahmoud Ahmed Al Jmail, DLD Senior Web Architect}
\textsuperscript{54} \textit{Interview with Husain Nasser Lootah, DMD Deputy Director-General}
\textsuperscript{55} \textit{Interview with Awtat Al Swaidi, PD Systems and Programs Section Head and Noura Al Sayegh, PD e-services Development Section Head}
Furthermore, the Comprehensive Officer project handles and completes customers’ requests more efficiently, which saved every potential customer from the hassle and inconvenient personal processing of requests. A committee was commissioned for the transformation project, which works with external consultants and avail the best partnership arrangement. In every electronically transformed service, the department upgrades the entire application to the general database of the government, as well as into the departments' own system. (It became one of the goals of the department to upload every electronic service to the government’s network and not just to the website maintained by the department.) The project made it possible for employees to approach their daily duties and responsibilities more efficiently and more conveniently, as a result of their training and familiarity with the software, and the e-services, and life cycle procedures.\textsuperscript{56}

Table 4.8 below summarises the impact of the e-Government initiatives of the different departments on the development of their policies. Again, Dubai Land Department reported a more negative impact of its e-Government initiatives to the development of policies, in particular because of the need for employee IT training to utilise e-systems for collecting and analysing information to support policy development. The other departments reported more positive impact of their respected e-Government initiative on policy developments. These departments did, however, recognise the problems relating to the process linkages among the different departments. It appears that the reason for the negative report of DLD relates to problems in their personnel IT competence, a problem that the other departments have not experienced or have experienced only to a small extent.

\textbf{Table 4.8 Impact of Dubai E-Government to the System & Design of Government Policies}

<table>
<thead>
<tr>
<th>Category</th>
<th>Impact on System &amp; Design of Government Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dubai Land Department (DLD)</td>
<td>Negative impact on public service delivery led to the realisation of the need for trained employees, IT systems responsive to customer needs, and collaborative relations with other government departments.</td>
</tr>
<tr>
<td>Department of Tourism and Commerce Marketing (DTCM)</td>
<td>Positive impact on automation resulted in the policy of e-Government initiative to service tourists.</td>
</tr>
</tbody>
</table>

\textsuperscript{56}Interview with Awatif Al Swaidi, PD Systems and Programs Section Head and Noura Al Sayegh, PD e-services Development Section Head
E-government initiatives induce transformation in the departments by enabling the different departments to determine problem areas, which are also areas for improvement and policymaking. The experiences of the different departments on the e-service delivery suggest specific problem areas that require solutions via policies on change and improvement.

**A.5 Problems and Issues in the Implementation of the E-Government System**

The preliminary study conducted by Dubai e-Government during late 2004 (the most recent one during the period of our research), indicated that there are over 1900 services provided by more than 20 Government Departments in Dubai. Approximately 1,300 of these 1,900+ services are transactional services by nature while the rest are merely informational or interactive. On the other hand, 56% of 1,900+ services are G2C services (i.e. government services targeting individuals/citizens), whereas 44% are G2B services (i.e. government services targeting businesses) (Geray and Al Bastakei, 2005). However, with the large scope and breadth of reach of the implementation of the e-Government system in Dubai, the selected government departments were quick to point out the problems and issues they encountered in upgrading the traditional public services of the departments. The following discussion, drawing on our own research, summarises the constraints and challenges reported by the management of the selected government departments in complying with the specifications of the contemporary and technical information system.

**A.5.1 Category I Departments**

Land Department (DLD). When the DEG Portal was launched, DLD joined the DEG server and continued to use the department’s Web Content Manager (WCM) software since purchasing a new license for the electronic transformation project is expensive. However, before this initiative, the department had long been using its own website, during the year 1997 to 1999
hosted by a private server. However, DLD was confronted with numerous obstacles in the implementation of the electronic project across Dubai departments. These include the difficulty of dynamic updates of the department’s website which was hosted by the DEG, and which was highly depended on smooth customer transactions due to the nature of its electronic services. It appears that DLD was better off without a DEG sponsored website. At that time, the provider XML was not yet popular and in demand across the region and security issues revolved on the nature of information that DLD handles.\(^{57}\)

The DEG conducted technical training to its staff and members of the DLD - particularly on the use of the MCS. But the MCS proved to be difficult to use due to instability of the system, bugs, and non-user-friendly menus. As such, connecting the DLD website to the DEG Portal did not happen, when the DLD administration decided to withdraw their participation on the offered hosting strategy of DEG. There were also occasions (times of technical upgrading) when DEG needed to stop the department from accessing the files in the DEG database. It so happened, that in one of these occasions, the DLD was participating in the Gulf IT Exhibitions (GITEX) and needed to update the department’s performance report, so as not to showcase old data to visitors and prospective business partners. These problems were caused by (according to DLD informants) DEG’s lack of communication to and with the government departments that were hosted by their portal, as well as by the lack of technical skills (in the DEG and other departments that are centrally linked to the e-Government project). The DLD officially withdrew their electronic partnership with DEG in 2003, preferring to host the department’s own server - qualified members of the department are capable of providing better technical assistance and service to DLD’s website and proceed on internal hosting activities in the IT division.\(^{58}\)

Department of Tourism and Commerce Marketing (DTCM). During the period from 2000 to 2005, waste of human resources, money and time occurred in meeting the target of 90% electronic transformation of public services in the year 2007. The initial approval for the one-stop project ("the single sign on")

\(^{57}\) Interview with Mahmoud Ahmed Al Jmail, DLD Senior Web Architect

\(^{58}\) Ibid
contributed to these inefficiencies, as DEG decided to put the project on hold until all concerned government departments reach the stage of full electronic transformation of the public services. The department also used to have an internal e-Government committee that was responsible for the electronic transformation in DTCM: but this committee was dissolved for the DEG institution. The result was that DTCM was confronted with lack of futuristic vision in its IT division during the early e-Government implantation, contrary to the goals of the higher management.\(^{59}\)

Furthermore, the expenses of using advanced technologies contributed to a lack of support for technological projects, a lack of communication, mismanagement, unclear visions for the project and set target that were unrealistic. However, the completion of technological projects has become more urgent since customer awareness on the importance of using online communication to access public services has increased.\(^{60}\)

### A.5.2 Category II Departments

Department of Economic Development (DED). The DED was confronted with several implementation barriers that slowed the improvement stages of the e-Government initiative during its early years. These barriers include the shortage of qualified IT expert employees and the lack of updated technologies. These were the result of a communication gap or of insufficient communication and awareness among the government departments about the importance and intentions of the e-Government project. The early years of the e-Government was marked by the absence of clear goals and objectives, along with uncertainties among departments regarding the use and importance of electronic public services. The government departments were under the assumption that the e-Government project only really involved creating an online presence for each department, simply by giving each a web page. Moreover, the year 1999 was characterised by an only shallow know-how of the Internet despite the fact that the World Wide Web was now accessible and widely-known in Dubai at that time (as well as it was in many other places of the world). However, when the

\(^{59}\) Interview with Suhail Buhelaiba, DTCM IT Manager

\(^{60}\) Interview with Khalid Bin Sulaim, DTCM Managing Director
departments were given a clear orientation on the importance of the e-Government and the rationale behind the project, each entity started seeking ways to improve their services through electronic means. External factors likewise confronted the department, particularly regarding low awareness among customers on such initiative.61

Department of Naturalisation and Residency, Dubai (DNRD). The implementation of the e-Government System faced budget constraints in the case of DNRD. At the early phase of the project, DNRD management was not very keen to invest as much to facilitate the use of technology in all the department’s operations since the standards set by Sheikh Mohammed bin Rashid entails costly technological expenditures. Along with these financial concerns, customers of the DNRD addressed difficulties and apprehensions regarding the e-services provided by the department. Customers claimed that to fill in their applications they had to go to a specialised computer shop since these were the only places able to log in the site. These typing shops charge between Dhs. 15 to Dhs. 30 for filling an application. While applicants with rejected applications are entitled for refunds of their transaction fees, to get such a refund, the applicants have to visit DATEL contact centre, fill in a refund form and wait for about three to four months to get the refund - with a deduction of Dhs. 20. This contradicts the objectives of the DNRD e-services to provide efficient and cost-effective transactions to its customers and increase satisfaction levels. However, DNRD was able to establish eForms that allowed direct access to e-service applications as long as the customer has an internet connection albeit customers need to apply for an access code or password as a security measure.62

A.5.3 Category III Departments

Dubai Municipality (DMD). Many services are still not fully accessible to Internet users, because the department shares the processing of these services with other external departments that have still not developed their electronic portals.

61 Interview with Sultan Ali Lootah, DED IT Division Supervisor
62 Interview with Hana Al Mari, DNRD Quality and e-services Manager
The problem centres on government departments that lack a fully developed electronic infrastructure, which makes them incapable of integrating their services with the more developed departments. The DEG has not assumed sufficient responsibility for coordinating between departments through proper monitoring, follow-ups, and technical support to those government departments that lack those technical systems essential for creating a fully integrated system that can offer purely electronic services to the public. There is cooperation between government departments for the success of the e-Government initiative - but old infrastructure and management styles stand as barriers for a full electronic integration.63

Furthermore, DMD was confronted with difficulties regarding public participation through the usage of the department’s e-services. However, at present, customers are demanding more facilities that will be helpful in their electronic transactions with the DMD’s portal, particularly the users of e-Pay and other DMD e-services with high frequency of use. This feedback is supported by the department through policies that encourage the maintenance of effective communication with customers and users of DMD website.64

Dubai Police (DP). The implementation of the e-Government initiative resulted in a number of challenges that DP had to overcome to attend to the department’s duties and meet the expectations of the customers. Security measures became a major issue, since the department is required to protect sensitive data and the interest of the public in general. DP had been very conscious of the possibilities of data hijacking which will endanger the entire government. There were data and information that were electronically transferred to the Home Affair Ministry giving rise to security issues.65

In addition, the communication and coordination with the DEG also proved to be a challenge, as expected project deliverables are not timely provided as expected. The SMS service, in particular, which the DEG introduced, received many complaints from the customers due to slow messaging channels. SMS

63 Interview with Husain Nasser Lootah, DMD Deputy Director-General
64 Ibid
65 Interview with Awatif Al Swaidi, PD Systems and Programs Section Head and Noura Al Sayegh, PD e-services Development Section Head
services are important to the department, but are expected to respond immediately to any emergency needs of the public. DEG confronted difficulties due to high volume of transactions, which has resulted in delayed public announcements to the public.\(^{66}\)

Moreover, in 1995, the department was the first organisation in the public sector to offer the IVR system used to deliver public services informing the public through telephone channels while in 1999 the web ticketing inquiry project was established followed by the ComTrust link as the first payment gateway in the UAE which was provided by ETISALAT, a private server. All these illustrates that the department has a rich experience when it comes to automated services. However, the implementation of the e-Government initiative called for a public awareness among customers to fully succeed. The WAP portal failed to attract users after its launch because customers were not equipped with the right equipment for such electronic service transformation and the new systems were at that time expensive and unpopular.\(^{67}\)

Furthermore, in the case of the e-SMS and the e-Pay services provided by the DEG, the administrative units were not able to forecast the shortage of the IT infrastructure and technologies to meet the customer demands. This was evident in the volume of complaints the department faced due to delayed and inefficient services. This was also the result of the lack of definite standards and objectives, which were supposedly delivered by the DEG to every government department from which to build the organisations e-Government initiative projects. Moreover, there are still departments, which are characterised with a relatively lower electronic knowledge and skills that hinder the entire network’s efficiency and full implementation. Again, DEG is seen as needing to support such technical and skill deficiency among departments that lags in the e-Government initiative.\(^{68}\)

Table 4.9 below summarises the issues and problems experienced by the different departments. The problems reported have commonalities such as the cost issues faced by DDLD, DTCM and DNRD; IT practical knowledge and expertise by DTCM, DED and DMD; and public

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\(^{66}\) Interview with Awatif Al Swaidi, PD Systems and Programs Section Head and Noura Al Sayegh, PD e-services Development Section Head

\(^{67}\) Ibid

\(^{68}\) Interview with Nader Fikry, DP E-services Deputy Manager
access by DNRD and DMD. There are also distinct variations. Dubai Land Department experienced the issue of limited linkages with the other departments; the Department of Tourism and Commerce Marketing experienced problems in reorganisation; and Dubai Police Department reported security issues as a difficulty.

Table 4.9 Issues & Problems of Dubai e-Government Departments

<table>
<thead>
<tr>
<th>Category</th>
<th>Issues &amp; Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category I</td>
<td></td>
</tr>
<tr>
<td>Dubai Land Department (DLD)</td>
<td>Cost, lack of technical training of employees, limited linkage to government departments</td>
</tr>
<tr>
<td>Department of Tourism and Commerce Marketing (DTCM)</td>
<td>Cost, reorganisation</td>
</tr>
<tr>
<td>Category II</td>
<td></td>
</tr>
<tr>
<td>Department of Economic Development (DED)</td>
<td>Shortage of experts and knowledge gap</td>
</tr>
<tr>
<td>Department of Naturalisation and Residency, Dubai (DNRD)</td>
<td>Cost, limited public access</td>
</tr>
<tr>
<td>Category III</td>
<td></td>
</tr>
<tr>
<td>Dubai Municipality Department (DMD)</td>
<td>Limited public access and knowledge</td>
</tr>
<tr>
<td>Dubai Police Department (DP)</td>
<td>Security issues</td>
</tr>
</tbody>
</table>

Source: (The Author)

A closer examination of the problems experienced by the departments is beyond the scope of the present research, requiring resources and access to information, which the researcher does not possess. (Such resources and access can probably only be achieved by a central government initiative). Such examination could provide important evidence concerning the effectiveness and advancement of their e-Government initiatives, and how to improve these. Some points, however, are apparent from our review above. The issue of knowledge gap is crucial to the employee acceptance and cooperation in the implementation of government initiatives. As a basic requirement for IT transformation, having this problem indicates a lower level of advancement. Security issues arise after the implementation of basic e-services so that this indicates higher level of e-Government advancement.

IV. The Evaluation of e-Government Initiatives of the Different Departments, the DEG and the role of the Executive Office

The recommendations derived from the annual performance measurements are sent to The Executive Office (TEO), as part of the general performance appraisal of the departments. Each department considers these performance appraisal reports seriously, because of the overall
effect on the types of e-services offered and the manner of offering these e-services 69. Moreover, the electronic customer satisfaction survey measures the public satisfaction of all the available online services. These data are also sent to TEO, along with the results of the central services performance measurements conducted through the Management Dash Board Program. (These represent the usage percentage of each department – with a greater percentage representing greater use and implementation of performance measures and a lower percentages indicates a limited or poor use of performance measures). The System Performance Software of TEO will then be utilised to measure the internal performance of the DEG. The software conducts a statistical analysis of the data derived such as the usage percentage. These regular and interrelated performance measurement procedures across the government departments create data sets with which to inform subsequent decisions regarding Dubai’s e-Government services.

The e-Government initiative resulted in improvements with respect to the productivity issues of the Dubai government since the project proved to be efficient, cost effective, and helped to increase the quality of work when it comes to public service processes. These processes include70:

- e-Payment.
- Customer service centre and call centre.
- Phone and mobile SMS services.
- Information and procedures e-Integration in departments.
- e-Hosting of Governments’ websites.
- Standardisation of services.

Although each government department is equipped with its own websites and electronic services, the e-Government initiative was confronted with a lack of IT experts among the employees of the departments71. This resulted in a waste of a great portion of the budget allocated for the project, since the lack of experience meant that funds were spent on experiments and testing projects. The fact that there were various different providers of electronic services that each department consulted also made the first stages of the project more difficult, particularly the collaboration for the synergistic services.

Another problem was that IT experts suffered from too much focus on the technical end of the project. There is a need to distinguish between the strategic and managerial issues and the

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69 Interview with Rehab Lootah, DEG Service Provisioning Manager
70 Interview with Salem Al Shair, DEG e-services Director
71 Ibid
more technological ones, and prioritise accordingly. The administrative and managerial aspects of the project, which embody the core objective of the project’s aim to provide faster and better public services, were not given sufficient emphasis. It was necessary to understand that the e-government initiative not only involves the placement and utilisation of resources but also the management of transformation processes and monitoring of performance.

The DEG still aims to gain the confidence of the public and to apply a continuous effort to increase public awareness, knowledge and skills for using the technological advancement of the Internet. This will enable department to overcome the communication gap and barriers and instead make a full use of the e-Government Services. Due to unclear rules and responsibilities the department is also confronted with information ownership and security problems with respect to the private company partnerships of each government department. Private partners expect more in terms of benefits for themselves, for example, of securing a superior market access. This leads to conflicts of respecting each other’s limits and scope of roles in the partnership. Moreover, information duplication slows and delays the completion of on-going technological projects of the DEG, particularly where the synergistic services are concerned, due to a lack of communication among the concerned parties. A full electronic transaction between the departments remain impossible, since there are still services in the departments concerned that are not yet in their electronic versions.

Yet another problem emerged also related to prioritisation of activities. The e-Government plan should be implemented with respect first and foremost to the technical perspective and not to the business perspective. Also, there is still a need to determine what services are available, relevant and qualified in each department to be included in the e-services program. Furthermore, the whole administration should work, as a team, fortress and individualistic tendencies on the part of each department should be avoided by considering the entire government body. To put it in practical terms, the suggestion was that a harmonious relationship between the departments can be (and have been) maintained through:

- Introduction of joint standards;
- Circulation of best practices;
- Cost control; and
- Marketing acceleration and centralised services promotion.

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72 Interview with Salem Al Shair, DEG e-services Director
73 Interview with Rehab Lootah, DEG Service Provisioning Manager
74 Interview with Salem Al Shair, DEG e-services Director
V. Conclusion

The data presented above shows that Dubai has reached a very developed stage in the e-Government sector of the public administration initiatives in terms of its stage of development. The various departments provide a number of e-services to the public, use varying kinds of performance measurement systems to evaluate the performance of the e-Government initiative and loop back the results of these performance measures to improve the functioning of their e-services and the e-Government initiative as a whole. The role of the DEG is to consolidate the efforts of the various departments and drive the advance of the e-Government Initiative as whole.

While the different department conduct their own performance evaluation of the their individual e-Government initiatives, the DEG conducts an independent evaluation of all the departments using standard indicators. This evaluation is sent to the TEO as well as to the departments in order to assist them in improving their services. The DEG also provides support to the departments in terms of technological knowledge and training to help them continuously improve their e-services. This has resulted in the departments being able to improve their public service delivery and their internal decision making in the service of public sector reform. This could also be due to experiential learning and support that the project gained throughout time.\(^7\)

The issues of introducing performance measurement systems, of improving the quality of work, of establishing a single strategic plan for public administration, as well as of hiring employees which are resistant to the e-service transformation have been addressed through the implementation of the e-Government based on the experiences gained by the different departments.

At the same time, there are arguments that the e-Government initiative (and indeed the entire Government) will be in a better position if it is given further authority to support their objectives with the project, as well as make them able to employ and involve qualified high-quality people to their professional teams in each department. Is this authority provided then it should involve not that of a traditional hierarchy, but be more of an unspoken authority based on respect and appreciation of achievements and effort, and on willingness to assert oneself, to

\(^7\) Interview with Sultan Ali Lootah, DED IT Division Supervisor
submit to accountability and engage in competitions to achieve the successful implementation of the e-Government services.\footnote{Interview with Salem Al Shair, DEG e-services Director}

There is also a wide disparity among the departments and the extent to which they have adopted the e-Government initiatives. This reflects the differences in the size of the departments and the number and type of e-services they can readily offer. There are departments offering a greater number of e-services, while there are also departments offering more transactional rather than informational e-services regardless of the number of e-services offered. This means that there are departments such as DLD that provide information in its website, while there are other departments such as DMD that offer services for application and processing of the services online. This may not only be due to the differences in the size of the departments in terms of their human resources. Also, it has to do with their scope and scale of their services offered. In addition to this, it could reflect differences in the pace of the IT transformation or e-Government transition of the departments.

The data also indicates that if the DEG wants all departments to achieve e-Government initiatives within the target period, then it needs to focus on the reasons for the variations in the transition to determine which support is needed by the departments.

To conclude, while the various departments studied in this research all utilised some form of performance measurement to evaluate the effectiveness of the e-services they offer, there does not appear to be a consistent method or measure despite the consolidating influence of the DEG. The lack of a systematic and synthesized approach to performance measurement and evaluation of the e-services provided by the various department of the UAE Government may impact the success of the entire project in terms of its ability to achieve its objectives. We will discuss these results more in detail in line with available research in subsequent chapters. Meanwhile, the next chapter presents an in depth case study of two departments.
CHAPTER 5: SURVEY & CASE STUDY ON DUBAI E-GOVERNMENT INITIATIVE

I. Introduction:
This chapter investigates the use of performance measures on the e-Government initiatives of the Dubai government departments by looking at the details of the IT transformation of two departments. These are the Dubai Land Department (DLD) and the Dubai Municipality Department (DMD). The case studies of the Dubai Municipality Department (DMD) and the Land Department (DLD) were conducted in order to provide specific organisational appraisals, focusing on the dynamics of the e-Government initiative and drawing on interesting findings from the interviews made across the different government departments. As independent government departments functioning within the principles of a sound public service, the DMD and the DLD are considered to be among the most active participants in Dubai Government’s aim to upgrade and improve public administration within the locality.

The case studies of DMD and DLD were intended to provide insights into the initial efforts of Dubai’s efforts to implement its e-Government initiative. These cases involve the initial departments transformed into e-Government departments, which were used as role models for the succeeding attempts to integrate e-Governance into the other departments. This chapter provides in-depth analysis of the procedures and steps undertaken by the two departments in complying with the technological transformation of the government.

Before I go into the case study, I have provided some background information on Dubai to provide the right context for the case study of these 2 departments and situate the learning obtained from the case studies.

Also, a synthesis of the entire chapter follows, which discusses the role and application of performance measures in the e-Government initiatives of the Dubai Municipality Department and Dubai Land Department.

II. Background of Dubai
A. History
Dubai emerged as a distinct geographic unit during the early part of the 18th century, mainly populated by the clan of Al Abu Falasa. Politically, it became a dependent territory of
Abu Dhabi, until the signing of the General Maritime Peace Treaty of 1820 by a number of Sheiks, including the Sheik of Dubai, to become territories of the British government. In 1892, an exclusive agreement made Dubai a former protectorate of the British government. The agreement included the allocation of British resources and troops to defend Dubai from future attacks of the Ottoman Empire (Foley, 1999). Military protection allowed Dubai to develop from a fishing village into a trading centre.

Moreover, the transfer of British government regional headquarters to Dubai contributed greatly to the development of Dubai through the introduction of a number of important infrastructures such as telecommunication links and transportation points such as the airport built during the 1950s (Bagaeen, 2007).

The strategic geographic location of Dubai attracted merchants from different regions. To capitalise on its suitable location for trade, the ruler of Dubai lowered the tax brackets, resulting in lesser tax payments, depending upon the extent of trade transactions that merchants engaged in. Due to these incentives, merchants were drawn to Dubai and out of the earlier established trading regions of Bandar Lengeh and Sharjah. Moreover, Dubai is located in close proximity to India, so that trading relations developed between Dubai and India for the exchange of goods and culture. (Marchal, 2005).

With the development of its economy, together with these vital infrastructures, Dubai emerged as an independent country towards the end of the 1960s and established its own currency the Dubai Riyal. During this time, the discovery of oil in its territory resulted in the entry of foreign oil companies and the granting of oil concessions, and the oil industry emerged as the primary economic backbone of Dubai. The need for workers resulted in the influx of people from India and Pakistan resulting in the multiplication of its existing population (Foley, 1999). Through the discovery of oil, Dubai gained the means to support its emergence as an independent country.

Dubai continued to develop its economic sectors through diversification. Apart from oil concessions, Dubai also developed its trading activities through the establishment of ports and airports to support its exports, as well as attracting foreign capital and international trade. It also engaged into other economic areas such as retail (of imported goods and domestic products) as well as tourism (through establishing hotels and tourist spots).

Dubai’s telecommunication infrastructures developed relatively early due to the establishment of telephone lines by the British protectorate and the subsequent development of
telecommunications to support the rapidly growing trade and oil venture activities. This may help to explain the early engagement of Dubai in e-Government. An advanced telecommunications sector is a necessary underpinning for e-governance activity – both on the part of the government and the public it seeks to serve. Government investments in telecommunications have further given Dubai the technical resources to develop its e-Government. Dubai is now an urban area widely saturated by information and communications technology, which can enable the effectiveness of e-Governance.

B. Economy

Dubai’s economic growth depended on its development as a trading centre in the region. This was primarily due to its strategic location as a strategic point of entry and egress for trade because of its 400-mile coast. Moreover, Dubai has also pursued open and balanced policies for its economy that favoured not only the internationalisation of domestic business firms but also the entry of foreign capital into its various sectors, especially the construction and services sectors. In addition, although Dubai already has the key infrastructures of transportation and telecommunication, it further developed these infrastructures to meet the growing movements of people and goods, as well as the onset of the digital age. Transportation and telecommunication infrastructures improved trade among the different towns and cities of Dubai, as well as between Dubai and other countries by easing the flow of products for exports and from imports (Chamber of Commerce & Industry, 2004). Through these developments, Dubai not only created an atmosphere conducive to sustained economic growth, but also it enhanced the welfare and living standards of the people.

Dubai’s development of an economy reliant on trade but founded on oil spurred its economic growth. In 2006, the gross domestic product of Dubai reached $46 billion. Only 3 per cent of this value was attributed to the oil industry; the largest part of the remainder counted international trade, local retail and tourism. Dubai developed with oil production at its core economic sector, before expanding into trade and services that contribute more to economic growth. (Malecki and Ewers, 2007). The reason for diversification of its economic activities is the expectation that its oil reserves would become depleted in 20 years. This means that Dubai needed to start developing other industries now. At present Dubai is concentrating on three major economic areas. First of all they aim to build a trading sector. Dubai has maintained its position as a key-trading city by investing in the development of its ports and logistics services to become
a competitive trading centre in the region. Jebel Ali, Dubai’s largest port built in the 1970s remained an important trading destination in the area (Gilmore, 2007). Secondly, they build up their tourism sector. Dubai has developed a number of tourism activities from natural tourism through its sand dunes and other historical sites to its urban tourism through a robust shopping district. Dubai has also supported the development of restaurant and hospitality businesses as part of its tourism sector (Gilmore, 2007). The third focal sector is services. Dubai has established a number of free zones for various industries such as telecommunications and IT. Dubai has also established the Dubai International Financial Centre (DIFC) and the Dubai Financial Market (DFM) to facilitate the development of Dubai as the centre for stock trading and foreign currency transactions in the region (Marchal, 2005). The vitality of these sectors should continue to boost economic growth in Dubai in the long term.

Dubai’s rate of economic growth provides the financial resources necessary for it to engage in e-Government initiatives. Although Dubai stands to lose the oil industry in the next decades, it has developed key industries to ensure its economic vibrancy, perhaps even without its oil production activities.

C. Government

The United Arab Emirates constitutes a Federal Sovereign state (Chamber of Commerce & Industry, 2004), with the participation of the various emirates. The president, prime minister, council of ministers, national assembly, and consultative body comprise the federal government. The current president is from the Abu Dhabi emirate and the prime minister is from Dubai. Based on a constitutional mandate, the president serves a five-year term. However, clan succession has become a de facto practice with the presidency passed to the younger members of the Al-Nahyan clan in Abu Dhabi, and the prime minister position inherited by succeeding generations of the Al-Maktoom clan from Dubai. This mode of succession was based on the traditional leadership legacy of the emirates. The council of ministers is made up of the appointed heads of the various emirates’ departments headed by the prime minister. To boost its political infrastructure, UAE established the federal government structure. This is still led by the president and prime ministers, with a federal supreme council made up of the rulers of the seven emirates that appoint council of ministers and federal national council (Foley, 1999; Gilmore, 2007). Dubai has its own head representing the city in the supreme federal council.
The purpose of the emirates is to provide a uniform and concerted direction for the emirates. Part of the UAE policy direction is towards the development of e-Government. However, the emirates can exercise significant levels of autonomy in governance. Dubai still holds discretion in determining the pace at which it moves toward achieving these general policies, and in determining its specific goals (Foley, 1999; Gilmore, 2007). Dubai’s e-Government is in line with the policy directive promoting the development of e-Government, but Dubai has set the pace in achieving this goal.

Dubai’s more or less stable local government, and its positive relations with the federal government, ushered in the e-Government initiative by providing Dubai with federal policy support for the strengthening of its ICT and financial service sectors, which are necessary in e-Governance. Dubai’s political system also facilitated initiatives on e-governance.

**D. Demographic Characteristics**

Based on the 2006 census, Dubai has reached a population of 1,241,000 people; the majority are men comprising 1,073,000 of the population while the remaining 349,000 are women. The majority of the population is young with a median age of 27, together with a high birth rate of 13.6 per cent and a low death rate of 1 per cent per annum (UAE Interact, 2007). Most of the Dubai population came from other regions, which settled in the area with the development of trade and opening of employment opportunities. Only 17 per cent of the population of Dubai are UAE nationals while 83 per cent are expatriates from South Asia and South-East Asia migrating to the region to take advantage of employment opportunities. With the multi-cultural characteristics of the large Dubai working population, 3 per cent of the population is now considered ‘Western’, while a somewhat lower percentage of the population does not align themselves with any ethnic group (Explorer Group, 2007). Dubai citizens have a reasonable level of education relative to other countries in the region because of a subsidised educational system from elementary school to college or university education. 60 per cent of the population (aged 2 to 27) are enrolled in public schools, while 40 per cent of the school age population visit private educational institutions. As such, Dubai has achieved a relatively high level of educational attainment for its both male and female population (Encyclopaedia Britannica Online, 2007).

These factors lead to a number of implications for the e-Government initiative. First of all, ethnic barriers do not constitute a major problem in the implementation of e-Government
because of the higher degree of multiculturalism and ethnic tolerance that the population has developed because of its centuries of exposure to different belief systems and practices relative to other governments in the gulf. Secondly, the large expatriate population of Dubai indicates a need to focus on labour-related e-services to support the needs of the working population of Dubai, to ensure the stability and viability of businesses and the economy in general. This is important since Dubai has become heavily reliant on production and service more than oil exportation. Finally, the high educational attainment of the Dubai population could mean an exposure of a large part of the population to IT technology and access to ICT tools in order to support obtaining public services through online channels.

**III. Case Analyses of the Dubai Municipality Department and the Land Department**

The global e-Government initiative in Dubai originated from, and was modelled on, the case of the Dubai Police Department (DP) in which public safety was highlighted as a form of public service to the community. The case study presented the technological innovation displayed by DP in trying to attend to the law and order objectives of the department using the internet, mobile phones, and GPRS-activated BMW patrol cars, which accelerated the police officers’ response to criminal activities and other problems. Such technological transformation enabled the department to attend to its duties and responsibilities in more efficient and effective ways, thereby improving the delivery of public service and subsequently increasing the satisfaction of the community. The evident success of the DP led to the government’s search for the necessary resources to make the actualisation of the e-Government initiative possible among all government departments.

The necessary resources included the technological infrastructure, and a pool of knowledgeable individuals able to provide the electronic requirements to each of the departments. Achievement of the latter was seen as relatively realistic at the time when Arab university students were able to display their e-Learning expertise through the conceptualisation, execution and successful completion of their independently designed electronic portal. This was seen to demonstrate the capacity of the local individuals to initiate an electronic transformation project able to cater to the efficient and effective delivery of the public services offered by the Dubai Government to its citizens as well as to the business sector. In year 2000 a great effort was made with Dubai’s e-Government initiative to transform and simplify the administration of
governance in order to reach the objective of improving performance through efficient and effective delivery of its public services. This was the first initiative in the Arab world.

A. **The Dubai Municipality Department in Focus**

A.1 **E-Government Goals and Objectives of DMD**

In line with the entire e-Government project, the key objectives of the electronic transformation of the Dubai Municipality Department (DMD) can be summarised into nine fundamental principles. These serve as the guiding framework for the department to successfully implement the modernisation initiative. The nine key considerations relate to considerations that need to be made to customers and community, the e-services completion and utilisation, the adoption of the e-Government initiative to the functions and responsibilities of the department, the necessary processes and procedures for completing the project, the technological expertise and infrastructure needed for the project, the role of the employees and staff as productive members of the organisation, the optimisation and maximisation of the allotted budget to the department to carry out the project, the maintenance of good working relations with the contractors and other partners in the business aspect of the organisation, and to the continuous innovation and long-term sustainability of the projects and policies enacted to ensure the electronic modernisation of the department’s key public services (Dubai Municipality Department, 2004).

Specifically, the e-Government section of the DMD should be able to achieve the following goals for the successful utilisation of the system:

- To increase the overall internal and external public, business, and user customer satisfaction;
- To improve the communication with customers and community through enhanced civic participation, access, and distinguished performance of the e-services;
- To develop a strategic plan for the complete implementation of the system by enumerating the priorities, needed assistance, delivery of services, and more efficient channels;
- To increase the breadth of the e-services in attaining the 90% e-Government initiative target as well as the availability, access, use and delivery through the online portal;
To increase the depth of the e-services through premium and timely high quality service delivery;
To operate in line with the guidelines of the Dubai Government Excellence Framework and in accordance with the set objectives of the DEG;
To design, document, and manage the department’s operations that creates and delivers value to the organisations’ stakeholders;
To optimise the utilisation of its resources through the identification, selection, and deployment of the latest technology;
To optimise the utility of the Human Resources of the department, while at the same increasing the members loyalty and productivity;
To adequately allocate the budget of the project in line with the justified business needs thereby decreasing the department’s expenditures;
To create an effective and transparent communication system that facilitate the good working relationships of the department’s business partners; and
To continuously improve the organisation in terms of quality services, efficiency and stakeholder responsiveness (Dubai Municipality Department, 2004).

These goals are factors that serve as bases for performance measurement, especially in developing indicators and monitoring systems for each goal.

A.2 Types and Scope of DMD E-Services

Appendix 1 lists the department’s transactional and informational services. This summarises the services offered by DMD that were currently available online in 2005. These e-services are available online by accessing the website of the department.

The Dubai Municipality Department first introduced informational e-services. These were informational e-services related to revenue collection, data sharing and online public library access. In addition, the commencement of e-services with revenue collection, data access and data sharing to facilitate easier payment of taxes was due to pressures also from the central government to improve revenue generation processes. Following these informational e-services, simple transactional e-services such as applications for various certificates were introduced before the more complex transactional services such as payments were eventually commenced.
A.4 Phases of DMD’s E-Government Initiatives

Appendix 2 lists all the services that have been chosen for phases 3, 4, and 5 within the DMD. These services were chosen based on the following criteria:

- High Number of Transactions
- High Number of Users
- More Sophisticated Customers
- Level of Complexity of implementing the service (Dubai Municipality Department, 2004).

The phases reached by the offering of e-services were largely influenced by the feedback that the department received from the public. The number of transactions (as rationale for the phases of the e-service delivery) refer to the increase in the number of users of the website and to the number of transactions made online. Customer sophistication refers to the diversity of a wide range of feedback received from customers that served as a basis for improvements in the system or the movement towards the next phase of e-service development. This means that the introduction and development of e-services by the department was based on a significant consideration to external sources of feedback for the purpose of benchmarking their own performance.

A.5 Benefits of DMD’s E-Government Initiative

DMD at present has over 70 Web services that are both informational and transactional in which the business sector, the general public and Government workers have all benefited. This was made possible through the creation of a common vision between and among the members of the department. This involved adjusting the predominantly top down communication of the vision, but also of the participation of department employees in providing internal feedback on the status of e-services. Top officers made regular consultations with key personnel in assessing various aspects of the e-service delivery. This highlighted the utilisation of the e-Government solutions as the primary delivery channel to provide a single, easy, integrated, and reliable means for accessing Municipal information and services. DMD e-services continue to improve the quality of services provided to residents, businesses and partners, to reduce internal
operational overhead, to enhance revenues and to promote Dubai’s image as a commercial and tourist hub in the Gulf region. This is evident among others by the building of new airports and improvement in dock facilities as well as in improved support services for investors (Rehman, 2007).

After the initial phase of the e-Government initiative, municipality customers’ use of the online services in attending to their civic responsibilities has been recorded. Over 225,000 online transactions were made during the first year, which categorised the DMD e-services among one of the most popular government e-services portals available. This was made possible by deploying a controlled and timely modernisation of the department’s offered public services.

The municipality wants its departments to deliver ‘outcomes’ and outputs, as well as achieving better results focusing in particular on the goal of reducing costs and becoming more efficient in the delivery and execution of the municipality services. As such on-line services helped both the general public and businesses to access faster, more accurate responses to their requests and queries. This resulted in cost reductions for all the involved individuals participating in the utilisation and application of the e-services. Nearly AED 5.5 million has been saved by the introduction of e-Government transactional services. This reduction is generated mainly by fewer customer visits at the municipality. The tracking of submission statuses has also ensured that customers are able to plan more correctly and react appropriately through the efficient use of the department’s online portal.

Appendix 3 presents the types of services, number of transactions, savings incurred by the DMD, and savings incurred by the customers. Also, the total savings experienced by the parties involved and the average savings by every availed transaction is shown.

Savings is an important measure for the impact of the introduction of e-services because it contributes justifying the expenditures allocated to developing the e-Government initiative. The table shows savings accruing to both customers and the department. However, there are also limitations to using savings as a measure.

77 Interview with Husain Nasser Lootah, DMD Deputy Director-General
78 Ibid
79 Ibid
Comparative volume could be an additional measure to use. In addition, although e-service supposedly make access to the services of the departments easier, these measures do not reflect the fact that e-services also may cause additional work for the users of the services in terms of the necessity for learning the basic functioning behind using e-services and the website. Also, the processing of transactions could take more time compared to the traditional system based on human interaction.

Two years after the launch of the first e-service, DMD has successfully been able to provide convenience to its customers in reducing the needs for customer to visits the department, thereby contributing to making it easier to do business with government. Such improvements in the public services provided by the DMD seem to result from the department’s e-Government initiative to the extent that it focuses on people, provides better service, creates better service value, influences other government organisations, collaborates with other departments, delivers solutions, leads IT development projects and manages the responsibilities of the government.

A.6 Challenges Faced by DMD

Along with these developments are the challenges that lie ahead of the DMD as an independent government department to realise the plans and objectives of the e-Government system. There are indications of a need for scrutinising the re-engineering aspect of the project in order to fully implement the enhancement in the processes and functions of the department, as well as to eliminate the existing constraints faced by the DMD. This entails a full cooperation among the members of the department. Since the e-Government project is a new trend of service delivery to municipality customers, long-term plans are at required for providing comfortable solutions for the individuals both in the public and business sectors. Press conferences, open discussions with the public, and the continuous enhancement of the available services can contribute to building the necessary level of trust between the departments and the customers to ensure a successful implementation of the e-Government initiative. Marketing teams and product experts are expected to be formed to consider future plans and development of the e-Government system of the DMD, the communication with the public, and to identify means for measuring the productivity of the entire department.\(^{80}\)

\(^{80}\) Interview with Husain Nasser Lootah, DMD Deputy Director-General
It is also apparent that there is a need for adjusting the cultural mindset when introducing initiatives such as the e-Government system at all levels within and outside the DMD. Traditionally, the government culture is bureaucratic in nature dictated by the size and nature of the public administration. However, the e-Government system necessitates a higher degree of interaction between the public administrators and the public to ensure the effective utilisation of the modernisation effort. The visions of serving customers more efficiently, competitive, and sophisticated should be inculcated within the minds of employees and staff of the department. Hopefully, this will foster a similar cultural understanding and mindset among the citizens - as well as among other government departments. In principle, the decentralised structure of implementing the e-Government system gives opportunities for all members of the public administration to contribute to developing the government through a continuous participation and commitment to strong and effective communication channels. The department are in the process of adjusting a more participative e-service management.

Data quality, likewise, presents a challenge to the DMD e-Government initiative since other government departments and agencies are utilising different databases with different structures, purposes and processing. As such, the level of coordination between departments involves difficulties related to achieving a unified e-Government system. Moreover, the strategic partners critical for realising the plans and objectives of the DMD’s e-Government structure necessitates an environment that allows for collective problem planning. It is a precondition that the strategic system partners are informed and involved in the process when system development and maintenance activities are taking place in any government departments, Therefore, the creation of a special process and the establishment of special and continuous dialogue channels are needed to ensure that planned changes in the systems are communicated to and with the strategic partners involved in the e-Government initiative.

B. The Dubai Land and Property Department in Focus

B.1 Organisational Structure of the DLD

Figure 5.4 presents the organisational structure of the DLD as an independent organisation affiliated with the Dubai Government. It summarises the key components of
the DLD and depicts the hierarchy of the administrative and management staff of the department.

**Figure 5.1 Organisational Structure of the Land and Properties Department**

![Organisational Structure Diagram](image)

Source: (Dubai Land Department, 2005)

**B.2 Goals and Objectives of the DLD’s E-Government Initiative**

The Dubai Land Department (DLD) has three main sections that incorporate all the functions, responsibilities, and duties of its members and staff as a direct public service provider to the citizens and business sector of Dubai. These are: The Customers’ Service section, the Financial and Administrative Affairs Section, and the Technical Affairs Section. With the introduction of the e-Government initiative, the department, along with other government organisations, was tasked with modernising the delivery of the services to the public by the year 2007. The DLD management immediately set about effecting changes in the department in order to attain these objectives and goals.

The Customers’ Service Section of DLD is expected to carry out functions such as (1) appraisal, (2) registration and documentation, (3) transaction checks, (4) allegiance registrations,
and (5) inheritance concerns. Three other different units under the section, which include the Documentation and Registration Unit, the Expenditure Unit, and the Auction Unit provide these functions. A total of 25 employees compose the customer service section. They are responsible for the registration, selling and recording of grants, inheritance, registration endowment mortgages, pricing of real estate, and others. Figure 5.2 below presents the statistics of the section’s services in the years 2003 and 2004.

**Figure 5.2 Statistics of the Customers’ Service Section (2003-2004)**

(Source: Dubai Land Department, 2005. Comparison of sales in the first quarter of 2003 with first quarter in 2004. The bars represents from right to left: Buying and selling, Mortgage, Redemption, Donations and Total. The figures in are in Dirhams by Millions).

The Financial and Administrative Affairs Section of the DLD is guided by the goals and objectives: to (1) plan, provide and develop the human and financial resources of the department, (2) maintain the property and assets service, (3) provide administrative services, (4) control attendances as well as recruitment procedures, (5) train, develop, evaluate and guide the tangible and intangible resources of the organisation, (6) collect and deposit disbursements and financial reports, (7) security maintenance of incoming and outgoing transactions, and (8) manage the department of procurement and storage. Among the administrative units under the Financial and Administrative Affairs Section are (a) the Financial Affairs Unit, (b) the Administrative Affairs Unit, (c) the Administrative Services Unit, (d) the Security Unit, and (e) the Procurement and Storage Unit.

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81 Interview with Mahmoud Ahmed Al Jmail, DLD Senior Web Architect
Affairs Unit, and (c) the Human Resources Unit, which are composed of 20 employees for all units.

Finally, the Technical Affairs Section of DLD focuses on the (1) identification of information systems needs in the department, (2) management and maintenance of the organisation’s website, (3) provision of technical support to users such as installing systems, maintenance and operation of internal network, (4) optical archiving, (5) filing, and (6) mapping. The units under the management of the Technical Affairs Section include the (a) Survey Unit, (b) the Systems and Studies Centre, and (c) the Files Unit. The Technical Affairs Section is composed of 40 employees. Moreover, the information systems being operated under the Section are composed of the Land System, the Land Information System, and the Electronic Archiving System.

The basic service objectives of the DLD can be summarised as follows:

- Access to excellence in the environmental, social, and economic service of the community.
- Training and learning for all workers and trained rehabilitation workers.
- Access to advanced stages on the background of the quality initiatives of the procedure.
- Work to remove the waste.
- Using modern technology in all business.
- Providing a clear law of the land to contribute to providing a safe environment for the real estate investment.
- Establishment of a real estate consulting and study function.
- Establishment of an electronic real estate stock market.

Source: (Dubai Land Department, 2005)

**B.3 Types and Scope of the DLD E-Government Initiatives**

The Land Department is primarily concerned with servicing the landowners and real estate dealers in Dubai in order to facilitate the delivery of information needed by the customers. The land location, the type of land, and other information that interests the customers are provided by the electronic website of the department (in line with the goals and objectives set by the public service modernisation of the government through the e-Government initiative). The website features a large number of pages, which benefit landowners, real estate owners and the business owners regarding information on their
land properties. Below are samples of the web pages that can be accessed through the Land Department Website.

**Figure 5.3 Sample Web Pages of the Land Department**

Source: (Dubai Land Department, http://www.dubailand.gov.ae)

Along with web pages that show the maps and location of different land sites within the premises of Dubai, are other data and information catered for by the electronic portal of the DLD. The website contains (1) real estate news broadcasts on a daily basis, (2) daily land transactions such as sale, mortgage, grants and others, (3) monthly reports of all the department’s [82](#) This Website was accessed on February 2007
expenditures, (4) annual reports with available and accessible statistical tables and figures, and (5) links to several electronic locations that specialise in real estate businesses as well as real estate projects in Dubai.

Along with the main sections and their respective units that compose the main operations of the DLD are additional offices: the Financial and Administrative Monitoring Office, the Legal Affairs Office, and the Customer Care and Institutional Development Centre.

- The Financial and Administrative Monitoring Office has the tasks and duties to:

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83 *This Website was accessed on February 2007*
➢ Ensure the application of the financial and administrative laws, regulations, policies and regulations
➢ Check the financial transactions and compliance with the terms of annual budget
➢ Control the revenues from inception to deposit in banks specified
➢ Monitor the movement of funds and stores in the Department
➢ Check and validate data in the final account
➢ Audit the Department procedures in order to verify compliance with the financial and administrative control regulations
➢ Study the performance costs levels
➢ Verify the commitment to procedures and evidence of actions adopted in sections
➢ Make sure that the sections applies the approved functional structure
➢ Control performance according to the ISO 9001 / 2000 standards
➢ Verify the organisational performance indicators according to the Executive Board of Dubai Government requirements

Source: (Dubai Land Department)

Meanwhile, the Legal Affairs Office is primarily concerned with the duties and responsibilities that can be summarised as follows:
➢ Represent the department in front of the judicial authorities and arbitral bodies on raised cases for and against the department
➢ Defend the interests of the Department before the judicial authorities
➢ Clarify the legal texts
➢ Provide legal documents to the requesting units within the Department
➢ Provide legal opinion on grievances, claims and administrative reviews
➢ Develop or review legal drafting of rules, regulations, policies, procedures and decisions
➢ Participate in the committees and specialised legal dimension
➢ Follow up on the administrative units’ work to ensure their operation happens according to laws, regulations and policies adopted
➢ Inspection tours of various units to identify weaknesses, irregularities and to suggest effective ways of correcting
➢ Develop and implement programs to strengthen the element of self-censorship among individuals and administrative units
• Edit law periodicals and newsletters
• Prepare legal research
• Propose law projects
(Dubai Land Department, 2005)

Lastly, the Customer Care and Institutional Development Centre cater to the needs and demands of the public as well as to the private sectors with regard to the following tasks and objectives:

• Measure customer satisfaction
• Communicate with the public
• Handle complaints
• Propose Department policy in implementing Total Quality
• Improve the administrative systems
• Determine and document the quality standards
• Spread the Total quality culture
• Communicate with foreign agents.

Source: (Dubai Land Department)

In order to help the Centre in carrying out its duties and roles, the Centre operates four units. These are the (1) Institutional Marketing Unit, (2) Planning and Quality Management Unit, (3) Customer Care Unit, and (4) Community Service Unit which are composed of 12 employees and staff in the whole centre.

Source: (Dubai Land Department, 2005)

**B.4 Phases of the DLD’s E-Government Initiatives**

The management and administration of the DLD believes that the department has the capability to be the most appropriate government arm for the real estate consultations and investment needs from both the private and public sector. All members of the organisation likewise are expected to uphold a system of common values. These values include:

• Building an institutional culture which reflects the customers’ ambitions and respects their participation in determining the department direction,
• Achieving development and continuous improvement through an environment that appreciates the ideas and the innovative talents,
Preparation and encouraging the human resources and enhancing the institutional sense of belonging,

Designing and adopting flexible operations that meet the recent operational needs and the future challenges,

Achieving the strategic transference through the increasing dependence on the IT, and

Stabilising unshakable loyalty to Dubai government and overall commitment to its vision and aspirations and constant endeavour in achieving strategic priorities to reach the desired vision.

Source: Dubai Land Department

The DLD’s strategic plan preparation has been launched on the basis of a deep understanding, full awareness of the local, regional and international positions and the drastic changes for the requirements, expectations, and ambitions of the different sections of Dubai society with all its members; Nationals, residents and visitors. As a result, the department is fully aware of the reflections of the cultural variety on the bulk and quality of the department services. The General Director’s strong claims may be explained by the relative success obtained by the department in its e-Government initiative. Nevertheless, the strategic plans of the department are meant to express the joint ambitions and a real reflection to the requirements and expectations of the public. There remains room for improvements. In the site allocated to the users there is a need for a continuous improvement and extension through the determination of the horizons, areas, objectives and goals during the implementation and achievement process of the modernisation initiative of the e-Government system. Upon completion of the strategic plan from January 2005-December 2007, full confidence about the ability of the administration to translate these plans into operational objectives and distinguished performance will be realised.

The Tripartite Strategic Lands and Properties Department Plan for the period between January 2005 and December 2007 focuses on eight strategic areas discussed in the following which purpose is to contribute to achieving the following:

Meeting the needs and living up to the ambitions and expectations of the customers who affect and are affected by the strategic performance of the department.

84 Khalifa Mohammed Al-Khelaﬁ, General Director of the Dubai Lands Department
Achieving the effectiveness of the performance of employees and information systems through goals enhancing the achievement of e-service objectives to determine the performance of the lands and properties department.

Achieving continuous growth as to income from varying the services, and broadening the range of customers that benefit from the department services.

Enhancing the role and the position of the real estate sector in the economy of the emirate and the effective participation in making Dubai the preferred centre for work and money in the first half of this century.

Source: (Dubai Land Department)

Strategic area 1). The first strategic area constitutes the leadership and institutional performance of the department by attracting and building leaders characterised by strategic effectiveness and operational dynamism and developing, preparing and enabling them to lead the strategic transference trip to reach the excellence performance in all the specialisations and on all levels.

Table 5.1: Objectives, Goals and Implementation Plan of the First Strategic Area

<table>
<thead>
<tr>
<th>No</th>
<th>Objectives and goals</th>
<th>Starting Implementation Year</th>
<th>Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Exerting efforts and harnessing resources and potentialities to introduce a strategic leadership characterised by trust and credibility that qualify it to gain the workers' loyalty and motivate them and mobilise their efforts to move ahead along the strategic transformation march and promote the distinguished one and make them prepared to fill the recent and future leadership positions.</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>1.1</td>
<td>Forming a high leadership team that represents the organisational units and the major specialisations in the department and allocating roles, tasks, powers and mechanism of action.</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>1.2</td>
<td>Designing, accrediting, and activating the strategic management patterns concerned with the real state, properties and lands department and raising the awareness of linking the directors' objectives and their operational activities to these patterns.</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>1.3</td>
<td>Determining and categorising a group of external consultants that the department leadership may resort to at the time of need.</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>2</td>
<td>Ensuring the renewal and updating of the knowledge and concepts of the department's leaders, and increasing its deposit of power and leading potentialities that are able to stir its vitality and dynamism and raise its leading preparation in all the supervisory, specialised and operational work sites.</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>2.1</td>
<td>Determining, accrediting and spreading modern performance criteria and indicators to the team members of the high leadership and activating their commitment to these criteria and indictors through their basic measurement of performance in a regular and organised way.</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>2.2</td>
<td>Designing, accrediting, and activating a development platform for the</td>
<td>2005</td>
<td>First quarter</td>
</tr>
</tbody>
</table>
team members of the high leadership and increasing the deposit of knowledge for leaders on all levels and adopting the proper methods and mechanisms to spread their knowledge to all the workers in the department.

2.2 Selecting, preparing and forming a group of second-degree leadership and raising their preparedness to deal with the recent and future necessities of the customers and urging them to adopt the spirit of change and the transference culture for the generations to come of the department's workers.

2005 First quarter

3 Providing a work environment that adopts, fosters, and develops the teamwork culture, receptiveness and innovation, which ensures the practice of cooperation, mutual dependence in achieving the goals and objectives of individuals, the organisational units and work team inside and outside the department.

3.1 Analysing the training requirements for the four leading levels and laying out a plan for the leadership development based on the special requirements of individuals and the general requirements of the work teams they belong to.

2005 Second quarter

3.2 Forming, preparing, strengthening and motivating the three main types of the work teams on the internal position and institution levels between the department and the main sections of the strategic partners.

2006 First quarter

3.3 Introducing an innovation bonus to motivate and encourage the innovative ideas and practices of workers and adopting criteria and proper mechanisms to organise and measure them.

2005 First quarter

4 Stabilising the performance culture and the administration based on facts and circulating them on the tactic, operational and strategic levels and achieving integration and harmony of individuals' performance and work teams and the organisational units in a harmonious institutional performance.

4.1 Doubling the awareness levels of the existence and meaning of the mission, vision and value of the department to include all the workers in the department and all the different sections of visitors.

2005 First quarter

4.2 Determining and accrediting the performance and work teams and individuals and adopting the right mechanisms to check the performance standards on the basis of these criteria.

2006 Second quarter

4.3 Making sure that the directors make their decisions on the basis of facts and existed absolutes

2005 First quarter

4.4 Linking the performance of directors and individuals to the mission and vision of the department and assess their performance based on its value system.

2006 First quarter

4.5 Stabilising the internal customer's culture and assessing the performance of each organisational unit by directors and specialists working in the other organisational units.

2006 Third quarter

Source: (Dubai Land Department, 2005)

Strategic area 2). The second strategic area caters to the value of knowledge and human capital by attracting qualified nationals, and harnessing all the potentials needed to prepare, develop and keep the individuals who constitute a real value to the department. This should ensure its vitality and renewal and enhance its role in the development of the emirate and its constructive renaissance, by making best use of underexploited intellectual and cultural capital.
### Table 5.2 Objectives, Goals and Implementation Plan of the Second Strategic Area

<table>
<thead>
<tr>
<th>No</th>
<th>Objectives and goals</th>
<th>Starting Implementation Year</th>
<th>Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attracting the national human powers that have the essential qualifications of the strategic dimension needed to accomplish the mission and major roles of the department and keep them.</td>
<td>2005</td>
<td>Second quarter</td>
</tr>
<tr>
<td></td>
<td>1.1 Developing and activating a comprehensive and modern system to attract and encourage nationals of the specialised qualifications proper to join the department and motivate them to keep working with it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.2 Designing, developing and implementing modern policies and practical procedures to keep the human elite of strategic efficiencies and reducing the departure of the national specialised citizens.</td>
<td>2005</td>
<td>Third quarter</td>
</tr>
<tr>
<td></td>
<td>1.3 Determining, assessing, operating, and training the recent graduates of nationals who have willingness and the features needed to take up administrative posts and occupy the jobs that have sensitive missions</td>
<td>2007</td>
<td>First quarter</td>
</tr>
<tr>
<td></td>
<td>1.4 Laying out, adopting and activating the policy and methods of Emiratisation (initiative by the UAE government to employ UAE citizens in both public and private sectors to lessen the state’s dependence on foreign workers) and job replacement to the supervisory and specialist jobs and advertising vacancies internally before heading for the external sources.</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>2</td>
<td>Developing the national human capital qualified in the field of managing lands and properties</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.1 Making a solid relationship with specialist colleges and institutes with the aim of identifying the national talented students, fostering and attracting them to be qualified in all the different real state fields.</td>
<td>2006</td>
<td>Second quarter</td>
</tr>
<tr>
<td></td>
<td>2.2 Carrying out and approving a program for analysing gaps in the recent skills and laying out the measurements and mechanisms for assessing the performance of the people working in all the organisational levels and positions in the department and adopting and carrying out the training programs that can bridge their skill and ability gap.</td>
<td>2007</td>
<td>First quarter</td>
</tr>
<tr>
<td></td>
<td>2.3 Preparing, supporting and rewarding the front line officials and motivating them to take the initiative and raise it to their superiors supported by their suggestions that respond to the customers' requirements and raise the standard of customers' service.</td>
<td>2007</td>
<td>Second quarter</td>
</tr>
<tr>
<td></td>
<td>2.4 Designing and activating joint programs with the international academic institutes to raise the awareness of the importance of managing properties and lands and attract students to join these programs.</td>
<td>2007</td>
<td>First quarter</td>
</tr>
<tr>
<td>3</td>
<td>Stabilising the performance culture in all the work sites of the department, activating, spreading, and rewarding efforts, practices, and distinguished achievements for all the major customers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.1 Ensuring complete evidence in the performance standards expected of workers through reviewing, updating, allocating the responsibilities of each position and ensuring the continuity of their validity and their modification when necessary</td>
<td>2006</td>
<td>Second quarter</td>
</tr>
<tr>
<td></td>
<td>3.2 Designing a practical system for organising the employees' suggestions and making use of their participations and activating it by designing and implementing a program of incentive awards related to the initiatives and suggestions of workers.</td>
<td>2005</td>
<td>Third quarter</td>
</tr>
<tr>
<td></td>
<td>3.3 Adopting the principle of innovation, participation, and group work as a stipulation to get rewards and linking these incentives to the innovative participations, and by taking the initiatives and the ability to meet the challenges and make hardships super able.</td>
<td>2007</td>
<td>First quarter</td>
</tr>
<tr>
<td>4</td>
<td>Developing the levels of job satisfaction and stabilising the institutional loyalty for all workers thus participating in the continuity of their preparedness to achieve the strategic goals and objectives.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategic Area</td>
<td>Description</td>
<td>Target Year</td>
<td>Quarter</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------------</td>
<td>---------------</td>
</tr>
<tr>
<td>4.1</td>
<td>Achieving a job satisfaction percentage that exceeds 85% for workers in the whole department</td>
<td>2005</td>
<td>First Quarter</td>
</tr>
<tr>
<td>4.2</td>
<td>Regular and organised identification of the workers’ requirements and conducting questionnaire to measure their job satisfaction, and continuous checking over the supervisors’ performance and their supervisory techniques and raising their efficiencies in the job communication and motivation.</td>
<td>2006</td>
<td>Second Quarter</td>
</tr>
<tr>
<td>4.3</td>
<td>Designing and implementing a comprehensive and integrative system for job growth and adopting the mechanisms operational in organising the job routes for supervisors, specialists and the directors of the main organisational units in the department.</td>
<td>2005</td>
<td>Third Quarter</td>
</tr>
<tr>
<td>4.4</td>
<td>Designing, approving, issuing and implementing a table of the powers and the operational and financial authorities proper for directors and supervisors and helping them make the decisions in a way commensurate with their job and organisation levels and responsibilities.</td>
<td>2006</td>
<td>Second Quarter</td>
</tr>
<tr>
<td>4.5</td>
<td>Ensuring the job security principle for the national human resources</td>
<td>2005</td>
<td>First Quarter</td>
</tr>
<tr>
<td>5</td>
<td>Managing and investing the stored information, knowledge and intellectual abilities of the strategic department and harnessing them to achieve growth and expansion in the local and regional markets related.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td>Establishing, and developing local, regional and international relationships to gain knowledge and harnessing it for raising the standard of performance in the field of the lands, properties and real estate services.</td>
<td>2006</td>
<td>First Quarter</td>
</tr>
<tr>
<td>5.2</td>
<td>Transferring the data and the collected information from the main customers’ sections into knowledge and harnessing it in the field of developing performance and updating additional services.</td>
<td>2006</td>
<td>Third Quarter</td>
</tr>
<tr>
<td>5.3</td>
<td>Designing, developing, approving, accrediting and applying an effective system for marketing and investing the institutional experiences, knowledge and information and harnessing and using them to achieve the goals and objectives of the department and achieve good investments.</td>
<td>2007</td>
<td>First Quarter</td>
</tr>
<tr>
<td>6</td>
<td>Adopting the concepts of the knowledge administration as a main type in making the lands and properties department a teaching institution that makes use of its knowledge deposit and of the best practices and experiments wherever they are and harnessing them to manage its intellectual assets and to accomplish its high mission and achieve its strategic priorities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.1</td>
<td>Transferring the department into a knowledge and teaching institution and establishing coordination and harmony between the strategies concerned with knowledge and information administration and the high strategy of the department.</td>
<td>2005</td>
<td>First Quarter</td>
</tr>
<tr>
<td>6.2</td>
<td>Inventorying and determining the knowledge deposit recently available in all the different organisational units of the department, classifying and indexing the knowledge it has as a reference at the time of need.</td>
<td>2005</td>
<td>Second Quarter</td>
</tr>
<tr>
<td>6.3</td>
<td>Fixing the recent knowledge in the knowledge database and ensuring its inheritance and continuity for the coming generations.</td>
<td>2007</td>
<td>Second Quarter</td>
</tr>
</tbody>
</table>

Source: (Dubai Land Department, 2005)

Strategic area 3). The third strategic area focuses on the customers and society in general, by specifically achieving higher degrees of satisfaction among all the sectors of society through the provision of a cost-effective channel for the government to provide public service and
citizens to access these services. Through the e-Government initiative, the Dubai government intends to meet social needs and live up to the expectations for public service of its citizens. The E-Government initiative becomes a means of linking government with the people and developing their trust and confidence in the various departments.

Table 5.3 Objectives, Goals and Implementation Plan of the Third Strategic Area

<table>
<thead>
<tr>
<th>No</th>
<th>Objectives and goals</th>
<th>Starting Implementation Year</th>
<th>Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Widening and diversifying the brackets and sections of the departments' customers in a way commensurate with the reality of the demographic diversification in Dubai and working to meet their needs and please them, and gain their loyalty and their continuous support.</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>1.1</td>
<td>Achieving a satisfaction percentage that exceeds 85% of all the sections of the department's main customers.</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>1.2</td>
<td>Establishing, developing, activating partnerships with the private sector in the field of organising and managing lands and properties</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>1.3</td>
<td>Double the number of services the department submits through the increase in the circulation of its traditional markets and reaching new sections of customers.</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>1.4</td>
<td>Laying out clear and certain criteria for the customers' catering level and enhancing them with the methods that reflect their demographic diversification, and respond to their cultural differences and lay out the right mechanisms to implement them.</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>1.5</td>
<td>Increasing the facilities of the customers' service and making them available round the clock with the help of efficient employees</td>
<td>2007</td>
<td>First quarter</td>
</tr>
<tr>
<td>2</td>
<td>Providing an effective system of feedback that allows collecting, and analysing data and deriving and classifying the information related to the requirements, expectations, and ambitions of the different sections of customers and adopting a main and accredited reference in the process of designing the services the department provide them with.</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>2.1</td>
<td>Updating and implementing a program that ensures the participation of customers in designing the services provided to them.</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>2.2</td>
<td>Enhancing and activating the role of customers' catering unit and updating a system for tackling their problems and providing the fast and right solutions</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>2.3</td>
<td>Holding semi-annual symposiums with the forefront employees to listen to their views and saving the opportunity that allows knowing their perspective related to the standard of services the department provide</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>2.4</td>
<td>Commitment to the open door policy on the part of all the directors to meet all the sections of customers and conduct dialogues with them in an organised way.</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>3</td>
<td>Encouraging ownership and real estate investment; protecting, and maintaining the rights of owners and investors and ensuring their satisfaction and working on gaining their loyalty and their continuing participation in supporting the department's strategic activities, programs and priorities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Designing, developing, and implementing a system for monitoring, following up and organising the real estate offices, work in a way by ensuring their commitment to the vocational criteria that elevate to the best acknowledged levels in the gulf region.</td>
<td>2005</td>
<td>First quarter</td>
</tr>
</tbody>
</table>
3.2 Developing and activating the real estate sector through the issuance of legislations and granting approvals and licenses to the private institutions and ensuring their preparedness and monitoring them to keep the rights of owners and investors.

3.3 Inviting representatives for investors for meetings to discuss regularly and on an organised basis to brief on their requirements and make use of their suggestions to develop the department's work and improve the mechanisms of its dealing with them.

4 Ensuring the satisfaction and trust of the community of the emirates and all the bodies and institutions related through commitment and fair and cordial relationships that enhance the department's position and its societal reputation and facilitate the implementation of its tasks and programs to reach the strategic goals.

4.1 Achieving a satisfaction percentage that exceeds 85% of all the sections of the department's main customers.

4.2 Determining and approving the opportunities that help make use of the potentialities and abilities of the department and raising the levels of its participations in the development and social and economic progress of the Emirate.

4.3 Organising cultural activities for circulating the habits, cultures, heritage of the Emirati people between the departments' employees and the sections of customers dealing with it.

4.4 Enhancing the heritage culture through adopting and organising programs, activities and the preservation of archaeological sites and properties in the Emirate

Source: (Dubai Land Department, 2005)

Strategic area 4). The fourth strategic area is realised by achieving a high degree of coherence in the requirements and directions of the Dubai government. This is done by attempting to build trust and increase the level of support provided to staff within the department. This should contribute helping to deliver the message of the department and encourage the issuance of legislations necessary for supporting the department's directions in organising and managing investment in land and properties.

Table 5.4 Objectives, Goals and Implementation Plan of the Fourth Strategic Area

<table>
<thead>
<tr>
<th>No</th>
<th>Objectives and goals</th>
<th>Starting Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Adopting the Dubai government directions towards building an electronic base characterised by the depth of its concentration on achieving the results and serving the public within the framework of the market interactions and the effects of the supply and demand powers in a way that achieves the priorities of the department and enhances its electronic abilities and achieves integration in its procedures and improves its services and reduces its expenditure.</td>
<td>2005 Second quarter</td>
</tr>
<tr>
<td>1.1</td>
<td>Implementing the program of the electronic government focusing on completing the project of planning the governmental resources during the recent planning session GRP.</td>
<td>2006 First quarter</td>
</tr>
<tr>
<td>1.2</td>
<td>Designing and implementing the direct and comprehensive process, which ensures the electronic interaction between the department and the sections of its customers.</td>
<td>2005 Fourth quarter</td>
</tr>
<tr>
<td>1.3</td>
<td>Reaching a pioneering position among the governmental departments through</td>
<td>2005 Second quarter</td>
</tr>
</tbody>
</table>
commitment to Dubai award for the electronic government and reaching the first top five during three years.

<table>
<thead>
<tr>
<th></th>
<th>Task Description</th>
<th>Year</th>
<th>Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.4</td>
<td>Implementing an integrative program for reviewing, organised and regular checking for all the electronic records and securing the preservation of the secrecy of the private information the public offers through their interaction with the department.</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>1.5</td>
<td>Ensuring the modernisation, accuracy, and the appropriateness of all the information the department provides.</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>2</td>
<td>Designing, developing, and managing an electronic system that fulfils the aspirations of Dubai government in the process of unifying and integrating the governmental resources and making the best use of them in the</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>2.1</td>
<td>Establishing beneficial work relationships with the professional working in the program of the electronic government and making use of the resources and potentials available</td>
<td>2007</td>
<td>First quarter</td>
</tr>
<tr>
<td>2.2</td>
<td>Making a standardised comparison with the best practices of the department's resources, operations and efforts in the fields of the electronic transference and making use of these practices.</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>2.3</td>
<td>Updating and developing a program for helping the public and preparing the private sector institutions to double their electronic transactions with the department</td>
<td>2007</td>
<td>First quarter</td>
</tr>
<tr>
<td>3</td>
<td>Always looking forward to excellence and moving ahead with firm steps through real commitment to the frame of Dubai program for the distinguished governmental performance and adopting a pattern for the institutional excellence strategy in the department.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Raising the status of the department in the section of the distinguished governmental department five marks in each session of the program.</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>3.2</td>
<td>Winning one of the awards related to the main sections of Dubai program for the distinguished governmental performance in each of its sessions</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>3.3</td>
<td>Forming, preparing, and updating a team of residents to understand and circulate the excellence philosophy in all the work fields.</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>4</td>
<td>Stressing the central role of the department in the field of land and properties management and looking forward to issuing legislations that enable it to practice its roles in a way that includes investment in lands and properties</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1</td>
<td>Issuing the real estate act and adopting its circulation among the customers concerned sector affairs and working on updating and reviewing it in an organised and regular way</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>4.2</td>
<td>Issuing the real estate brokers act and adopting its circulation among the customers concerned with the real estate sector affairs and working on updating and reviewing it in an organised and regular way.</td>
<td>2005</td>
<td>Second quarter</td>
</tr>
<tr>
<td>4.3</td>
<td>Issuing the real estate conflict, arbitration and reconciliation act and adopting its circulation among customers concerned with the real estate sector affairs and working on updating and reviewing it in an organised and regular way.</td>
<td>2006</td>
<td>First quarter</td>
</tr>
</tbody>
</table>

Source: (Dubai Land Department, 2005)

Strategic area 5). The fifth strategic area centres on the optimal use of the financial and technological department finances, on the one hand, to develop and extend the monetary flows and rationalise expenses, and, on the other hand, to build and maintain a coherent network of strategic alliances to achieve strategic department plans, and enhance its societal role and national mission.
### Table 5.5 Objectives, Goals and Implementation Plan of the Fifth Strategic Area

<table>
<thead>
<tr>
<th>No</th>
<th>Objectives and goals</th>
<th>Starting Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Year</td>
</tr>
<tr>
<td>1</td>
<td>Building and developing real and balanced strategic partnerships and alliances with the private and public sectors in a way that supports the accomplishment of the department's mission and enhances joint work to make Dubai the preferable centre for money and works in the first half of this century.</td>
<td>2005</td>
</tr>
<tr>
<td>1.1</td>
<td>Achieving a satisfactory percentage that exceeds 85% of all the sections of the department's main partners.</td>
<td>2005</td>
</tr>
<tr>
<td>1.2</td>
<td>Designing, developing, and implementing a multi-channelled system of communications with the main sections of the strategic partners in a way that reduces expenditure and costs and avoids double standard as to activities and resources.</td>
<td>2005</td>
</tr>
<tr>
<td>1.3</td>
<td>Updating and establishing strategic partnership treaties of clear principles that enhance cooperation and identifying the standards of services the partners expect and honouring and motivating them to commit to providing them.</td>
<td>2006</td>
</tr>
<tr>
<td>1.4</td>
<td>Designing, planning, and implementing the programs, projects, and joint services inside and outside Dubai, and updating new services that achieve growth and good reputation for all the partners.</td>
<td>2006</td>
</tr>
<tr>
<td>1.5</td>
<td>Forming, preparing, and supporting joint work teams and laying out mechanisms for handling the joint issues and the matters of concern and assessing the partners' performance in an organised and regular way.</td>
<td>2007</td>
</tr>
<tr>
<td>2</td>
<td>Updating and implementing a system that ensures the equality of opportunities, transparency, and clarity in dealing with the suppliers, and enhancing the communication network with them to ensure the easiness and regulation of the flow of resources and services to the department.</td>
<td>2005</td>
</tr>
<tr>
<td>2.1</td>
<td>Establishing an integrative database about the previous and recent suppliers and approving of the list of the distinguished suppliers and its modification on the basis of the new changes that occur to their performance.</td>
<td>2005</td>
</tr>
<tr>
<td>2.2</td>
<td>Designing and activating a modern system to organise the process of dealing with the suppliers and motivate them to use it.</td>
<td>2005</td>
</tr>
<tr>
<td>2.3</td>
<td>Holding annual meetings with the suppliers to identify their requirements and expectations and brief them on the new developments and take down their notes and put them into account.</td>
<td>2006</td>
</tr>
<tr>
<td>2.4</td>
<td>Designing and developing a follow-up system to ensure getting the services and materials matching the required specifications and implementing protective auditing programs to ensure the suppliers' commitment to the services provided to the department.</td>
<td>2005</td>
</tr>
<tr>
<td>2.5</td>
<td>Achieving commitment to the fairness and impartiality of competition between the suppliers and the participants in the tendering and fulfilling of all the contractual liabilities and respecting them.</td>
<td>2006</td>
</tr>
<tr>
<td>3</td>
<td>Ensuring the existence and growth of the department through increasing and diversifying its sources of income and the optimal use of its financial resources and ensuring the effective monitoring on its processes and the results of its financial performance.</td>
<td>2005</td>
</tr>
<tr>
<td>3.1</td>
<td>Generating and doubling revenues and monetary flows and working on making use of the commercial opportunities related to the department's mission and achieving growth in the total revenue that estimates 10% of each operating year.</td>
<td>2005</td>
</tr>
<tr>
<td>3.2</td>
<td>Achieving a financial performance that exceeds the best world results that is not less than 5% through the optimal use of the resources available.</td>
<td>2006</td>
</tr>
<tr>
<td>3.3</td>
<td>Determining, approving and applying a modern and integrative system of managing the financial resources and maintaining the percentage of increase in the indirect administrative and operational costs in a way not exceeding</td>
<td>2006</td>
</tr>
</tbody>
</table>
Developing the process of developing the budget in a way that ensures clear connection between the allocated money, the approved goals and identifying and handling the obstacles that stand against the full commitment to the budget.

Stabilising the principle of achieving self-sufficiency in the department and confronting its capital investments and operational expenditure by increasing revenues that earned by its activities and recent and updated operations.

Adjusting the proper factors and conditions to make the department the solid core and the central attraction centre to the nascent real estate sector and taking the initiative for leading and developing this sector to become a main source of bringing in economy to the Emirate.

Enhancing and stabilising the role of the magazine Tapo and diversifying its interests and the levels of its distribution so as to reach a percentage not less than 50% of the main sections affected and affecting the real estate sector in Dubai.

Organising and sponsoring an annual symposium for Dubai real estate sector.

Sponsoring a symposium or organising an international conference to encourage real estate investment in Dubai.

Source: (Dubai Land Department, 2005)

Strategic area 6). The sixth strategic area is realised through the development of the technological department’s abilities. The focus is to build a network of comprehensive and integrated databases in accordance with the recent specifications and technologies, and to harness these to get a streamline flow of information whether inside or outside the department and to be able to count on these as a documented reference in the decision-making process.

Table 5.6 Objectives, Goals and Implementation Plan of the Sixth Strategic Area

<table>
<thead>
<tr>
<th>No</th>
<th>Objectives and goals</th>
<th>Starting Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Holding and developing accredited work systems and patterns on scientific methods and bases that ensure the response to real work requirements and cope with best practices and the most recent technologies in the field of managing lands and properties</td>
<td>2005 First quarter</td>
</tr>
<tr>
<td></td>
<td>1.1 Establishing and approving a road map and updating a process for developing 50% of the electronic procedures of the department.</td>
<td>2005 First quarter</td>
</tr>
<tr>
<td></td>
<td>1.2 Assessing and aggrandising the use of the IT base and doubling the number of services provided to the customers internally and externally.</td>
<td>2005 Second quarter</td>
</tr>
<tr>
<td></td>
<td>1.3 Designing and implementing the technological security policy in all the work sites and for all the programs and the technological systems.</td>
<td>2005 Second quarter</td>
</tr>
<tr>
<td></td>
<td>1.4 Adopting and maintaining technologies that promote in its minimum level to the highest level of technology available in Dubai government leading departments</td>
<td>2006 First quarter</td>
</tr>
<tr>
<td></td>
<td>1.5 Transferring the recent land system into a system based on Net Web Based</td>
<td>2005 First quarter</td>
</tr>
<tr>
<td>2</td>
<td>Restructuring the technological basis in a way that ensures the resilience of the department processes and the preparation of its cadres and responds to Dubai government directions and cope with the changes in the operational and strategic requirements.</td>
<td>2007 First quarter</td>
</tr>
<tr>
<td></td>
<td>2.1 Updating an awareness frame for lands and properties department to cope with the all the opportunities and threats posing IT</td>
<td>2007 First quarter</td>
</tr>
<tr>
<td>2.2</td>
<td>Applying the studies of research, development and standardised comparison through censorship procedures and organised updating to all the technologies used in all the different work sites</td>
<td>2007</td>
</tr>
<tr>
<td>2.3</td>
<td>Updating a comprehensive system for joining knowledge and exchanging information in a way that enhances the process of taking the internal decision and improving the services provided to the external customers.</td>
<td>2005</td>
</tr>
<tr>
<td>2.4</td>
<td>Laying out accredited and definite mechanisms for monitoring and auditing through an IT and organised review to the requirements of the department and its customers of information and making the changes necessary for the technological solutions.</td>
<td>2005</td>
</tr>
<tr>
<td>3</td>
<td>Providing a deposit of strategic information to support the highest leadership and the sections of the department's customers in taking the decisions of the long and medium run, which enable them to get information and data in a living and documented way.</td>
<td>2006</td>
</tr>
<tr>
<td>3.1</td>
<td>Establishing a strategic database that meets the requirements of the recent lands and properties and responds to the future changes.</td>
<td>2006</td>
</tr>
<tr>
<td>3.2</td>
<td>Developing the electronic site in the department and marketing it to attract one thousand user daily</td>
<td>2005</td>
</tr>
<tr>
<td>3.3</td>
<td>Identifying the requirements of the customers' sections from the electronic channels and making them available.</td>
<td>2005</td>
</tr>
<tr>
<td>3.4</td>
<td>Stabilising the methods, practices and activities of the internal circulation of information through new services and projects and getting internal feedback before providing them to the external public</td>
<td>2006</td>
</tr>
<tr>
<td>4</td>
<td>Designing and developing a new electronic system to follow up the flow of operations and managing the incoming documents and achieving their harmony and streamline flow in a way supporting the decision-making on the part of leaders and workers and leading to facilitating procedures of work and improving the service provided to customers.</td>
<td>2006</td>
</tr>
<tr>
<td>4.1</td>
<td>Analysing, documenting, classifying the main operations and providing support to complete the flow of operations.</td>
<td>2006</td>
</tr>
<tr>
<td>4.2</td>
<td>Updating the incoming and outgoing electronic system</td>
<td>2007</td>
</tr>
<tr>
<td>4.3</td>
<td>Developing the light archive system in a way proper to the requirements of the operational department and its strategic priorities.</td>
<td>2007</td>
</tr>
<tr>
<td>5</td>
<td>Making information and technology the basic motivation and the first motif for managing the department's operations and procedures in a way to add real value to its internal and external transactions and interactions for the pursuit of pleasing and gaining the loyalty of the customers' sections.</td>
<td>2005</td>
</tr>
<tr>
<td>5.1</td>
<td>Making the best use of the recent database and increasing its use to reach 90% of the workers in the library jobs</td>
<td>2005</td>
</tr>
<tr>
<td>5.2</td>
<td>Assessing and aggrandising the security state standard for all the technological systems and programs to reach 100% of the safe electronic operations.</td>
<td>2005</td>
</tr>
<tr>
<td>5.3</td>
<td>Training all the qualified workers on using the technology related and providing priority in recruiting the candidates who have IT knowledge.</td>
<td>2006</td>
</tr>
</tbody>
</table>

Source: (Dubai Land Department, 2005)

Strategic area 7). The seventh strategic area focuses on marketing and institutional communication by investing in an institutional culture that builds bridges enabling transparency, trust and communication inside and outside the department, and with all its customers, in a way that achieves promotion, enhance its reputation and stabilise its existence as a positive institution affecting the economy of the emirate.
### Table 5.7 Objectives, Goals and Implementation Plan of the Seventh Strategic Area

<table>
<thead>
<tr>
<th>No</th>
<th>Objectives and goals</th>
<th>Starting Implementation Year</th>
<th>Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Broadening, diversifying, and strengthening the internal and external communication channels and making the function of regulatory communication a part and parcel of the leadership priorities on all the strategic and operational levels in the department.</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>1.1</td>
<td>Approving and activating a number of not less than ten kinds of the audio and visual modern communication channels and laying out the mechanisms proper to ensuring their use with the main sections of customers with the department.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>Updating and developing IT system to enhance the electronic exchange and accelerating communication processes with all the strategic partners, the top real estate investors and Dubai government.</td>
<td>2007</td>
<td>First quarter</td>
</tr>
<tr>
<td>1.3</td>
<td>Designing, establishing, and activating a feedback system and laying out mechanisms and using the communication channels that lead to the continual identification of the real requirements and the changeable expectations of the affecting customers</td>
<td>2006</td>
<td>Second quarter</td>
</tr>
<tr>
<td>2</td>
<td>Emerging the role of the department and its good reputation and increasing its presence in the local, regional and international media</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Adopting the studies and researches that are concerned with lands and properties</td>
<td>2005</td>
<td>First quarter</td>
</tr>
<tr>
<td>2.2</td>
<td>Participating in the local and regional conferences that are concerned with lands and properties and investment in properties</td>
<td>2005</td>
<td>Fourth quarter</td>
</tr>
<tr>
<td>2.3</td>
<td>Deputising representatives of the lands and properties department in all the international real estate exhibitions and participating in the commercial promotion activities and campaigns adopted by the tourist authority in Dubai</td>
<td>2005</td>
<td>Second quarter</td>
</tr>
<tr>
<td>2.4</td>
<td>Releasing a directory related to the real estate investment and distributing it on the state embassies and their diplomatic missions.</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>2.5</td>
<td>Establishing good work relationships with the satellite channels and motivating them to host the department's directors and experts in programs related to the mission and roles of the department and real estate investments</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>3</td>
<td>Keeping the institutional identity of the department and the privacy it is characterised by and inculcating its positive picture in the minds and hearts of customers through the written, audio, visual releases.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Achieving and stabilising a privileged reputation for the department that make it within the first top governmental five for all the main customers dealing with it</td>
<td>2007</td>
<td>First quarter</td>
</tr>
<tr>
<td>3.2</td>
<td>Allocating and investing 4% of the operational department budget to be spent in the auto-marketing and targeted media to implant the good picture and reputation in the minds and hearts of the residents and community in Dubai</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>3.3</td>
<td>Allocating and investing 4% of the operational department budget, and adopt and sponsor cultural, social, and sports activities that have strong impact on the residents and community in Dubai</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>4</td>
<td>Forming the department’s main features and its strategic identity through full harmony with Dubai government's expectations and directions in a way that supports the Emirate's special character and enhances its reputation that it gained in all the international fields.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1</td>
<td>Designing, determining, and approving of the strategic special features for forming a privileged institutional character able to achieve pioneering and excellence in a market dependent on knowledge economy.</td>
<td>2006</td>
<td>First quarter</td>
</tr>
<tr>
<td>4.2</td>
<td>Enhancing the reputation of Dubai through building, expanding, and strengthening a network of strategic relationships between the department and its counterparts in the governmental bodies and ministries on the local,</td>
<td>2007</td>
<td>First quarter</td>
</tr>
</tbody>
</table>
Strategic area 8). The eighth strategic area caters to building and developing an organisational structure characterised by updating, determining and designing the main operations and support based on developed patterns and modern technologies. This is done to respond to the strategic priorities and coping with the new roles that the department is discharged with, while also encouraging interest and the participation in using its results.

Table 5.8 Objectives, Goals and Implementation Plan of the Eighth Strategic Area

<table>
<thead>
<tr>
<th>No</th>
<th>Objectives and goals</th>
<th>Starting Implementation Year</th>
<th>Year</th>
<th>Starting Implementation Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Adopting the world criteria and the best practices in the field of documentation and registration of transactions and circulations of lands and properties and issuance of possessions and contracts, and developing mechanisms and programs aiming at the electronic transference in a way that ensures the highest rate of satisfaction for all the customers of the department</td>
<td>2005</td>
<td></td>
<td>First quarter</td>
</tr>
<tr>
<td></td>
<td>1.1 Achieving the mutual electronic liaison through designing, preparing and implementing an integrative and coherent system activating the participation of customers with the department in the processes of planning, decision-making, and making use of the different services of the department.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.2 Issuing the electronic possession</td>
<td>2005</td>
<td></td>
<td>First quarter</td>
</tr>
<tr>
<td></td>
<td>1.3 Reducing the use of papers in the field of documentation and registration by 20% and adapting the standardised comparison results with the best practices to reach a system of &quot;A department without paper&quot;</td>
<td>2005</td>
<td></td>
<td>First quarter</td>
</tr>
<tr>
<td></td>
<td>1.4 Organising programs for exchanging experiences and achievements and comparing them to the best world ones</td>
<td>2005</td>
<td></td>
<td>First quarter</td>
</tr>
<tr>
<td></td>
<td>1.5 Approving the electronic signature at a rate of 5% annually of the transactions and interactions with the public</td>
<td>2005</td>
<td></td>
<td>First quarter</td>
</tr>
<tr>
<td>2</td>
<td>Achieving the highest degree of fairness impartiality and credibility in distributing lands and...</td>
<td></td>
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</tbody>
</table>
possessions between partners and heirs and implementing the rulings related and seeking privileged strategic relationships with the concerned bodies.

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</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Determining and classifying the operations connected with the other concerned departments and adopting proper mechanisms to determine rules, allocate responsibilities, and organise the joint operation management.</td>
<td>2006</td>
<td>First quarter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td>Adopting and stabilising the transparency principle through the circulation and notification of all the department’s policies, methods, and operations in the field of distributing lands and possessions on the Internet and Intranet</td>
<td>2005</td>
<td>Third quarter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3</td>
<td>Developing, documenting and stabilising the moral law for the workers in the department and motivating and rewarding them to stick to it.</td>
<td>2007</td>
<td>First quarter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4</td>
<td>Issuing a final verdict concerning the pending suits of the demands for lands through activating the role of the lands committee.</td>
<td>2006</td>
<td>2006</td>
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</table>

3 Making the department the body concerned with real estate reconciliation, arbitration and conflicts

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</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Setting up a centre for real estate reconciliation and arbitration, and linking it to the qualified human resources and enhancing its reputation and the levels of confiding it.</td>
<td>2007</td>
<td>First quarter</td>
<td></td>
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</table>

4 Providing the means and potentials for encouraging, expanding, and aggrandising the circulation movement of properties in the Emirate and meeting the needs that facilitate the circulation movement.

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</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Privatising the survey services</td>
<td>2005</td>
<td>First quarter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2</td>
<td>Designing, spreading, and providing the information related to properties circulation processes on the electronic pages of the department.</td>
<td>2005</td>
<td>First quarter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.3</td>
<td>Designing and approving and spreading and maintaining a modern system for real estate electronic circulation</td>
<td>2006</td>
<td>Second quarter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.4</td>
<td>Determining and approving competitive measures and launching the annual real estate reward of Sheikh Maktoum Bin Rashid</td>
<td>2005</td>
<td>Fourth quarter</td>
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</tbody>
</table>

5 Making the department the only accredited body of credibility in the field of real estate appraisal and assessment

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</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Laying out and adopting policies and methods and techniques followed in the lands and properties appraisal</td>
<td>2007</td>
<td>First quarter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.2</td>
<td>Updating the electronic appraisal services for lands throughout the Emirate.</td>
<td>2007</td>
<td>First quarter</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>5.3</td>
<td>Issuing a formal record of the accredited appraisers, renewing and modifying it in an organised and regular way</td>
<td>2006</td>
<td>Second quarter</td>
<td></td>
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</tr>
</tbody>
</table>

6 Designing and developing a modern organisational structure that reflects the roles and responsibilities of the department and is characterised by resilience and ability to take in the operational and strategic changes in a way that makes a distinction between the main work units and support and ensures the highest degree of coordination and harmony

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</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>Modifying and enhancing a modern and flexible organisational structure that reflects the strategic policies and priorities of the department.</td>
<td>2005</td>
<td>First quarter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.2</td>
<td>Determining and classifying the organisational structure units based on distinction between the main work units and the support units and their interaction and performance in a harmonious way.</td>
<td>2005</td>
<td>First quarter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.3</td>
<td>Updating new organisational units that reflect the requirements of the department in the field of institutional marketing and real estate investment.</td>
<td>2005</td>
<td>First quarter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.4</td>
<td>Determining the numbers and classifying the levels of the jobs necessary for each organisational unit, and adopting a scientific strategy for analysis and assessment.</td>
<td>2006</td>
<td>First quarter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.5</td>
<td>Determining, documenting, and allocating the roles and responsibilities the different positional and organisational units.</td>
<td>2006</td>
<td>First quarter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.6</td>
<td>Determining the systems and operations in the department and making them prominent through maps and re-collating, facilitating, and finishing all the work necessary for it.</td>
<td>2005</td>
<td>First quarter</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6.7</td>
<td>Updating a program that urges on making the decision on the right level and</td>
<td>2006</td>
<td>Second quarter</td>
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</tr>
</tbody>
</table>
Overall, the e-Government initiative of the DLD reflects the systematic and detailed thinking of the departments that, in a way, supports its credibility as a model for the other departments to follow when engaging in their respective e-Government initiatives. The strategic direction of the DLD dictates first the development of its internal competencies such as information systems and its website together with the dissemination of information and training of the department personnel to support the provision of e-services to the public. Following this, it dictates the introduction of the electronic venue of service delivery to the public through a range of activities, such as information services, that create links between the targeted customers and the department. Its e-Government initiative model is inward going out.

The Crystal Reporting System for performance measurement used by the DLD does not underpin its strategic direction. This is because the Crystal Reporting System relies on customer feedback thereby focusing only on external feedback as opposed to including also feedback from employees – this despite the fact that the DLD’s strategic plan involves employees taking up big roles in the launching the e-services. Nevertheless, data derived from consumers through this system supported the pacing and development of the e-services.

IV. Synthesis & Discussion

Overall, the two case studies indicate that performance measures proved to be valuable tools for the two Dubai government departments in changing and improving their engagement in e-Government initiatives. I discuss below how these departments selected specific measures of performance to evaluate the effectiveness of their e-services, and how these performance evaluations have allowed these 2 departments to improve their functioning and the effectiveness of the e-government initiative. In the sections below I will attempt to answer the research questions I had initially posed.

The following section answers the following main research questions and sub question: What are the existing performance measures available for use in the implementation of e-Government initiatives? Which are being applied in the case of Dubai, and why have these been chosen? What are the advantages and disadvantages of these performance measures in improving the implementation or delivery of the e-Government initiative (e.g. when selecting the

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<tr>
<th>Action</th>
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<tr>
<td>abstaining from pushing the decisions to the highest supervisory levels</td>
<td>quarter</td>
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<tr>
<td>6.8 Setting up Dubai properties circulation centre and equipping it with the best electronic technology, and supplying it with the qualified human resources.</td>
<td>2006 First quarter</td>
<td>(Dubai Land Department, 2005)</td>
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appropriate measures to apply to this purpose)? How did the Dubai government select the performance measures to apply in the e-Government initiative? How are performance measurements based on private sector experiences implemented in the Dubai e-Government initiative?

There are a number of performance measures available for use in the implementation of e-Government initiatives. As stated before, Stowers (2004b) suggested a categorisation of performance measurements specifically for evaluation of ICT initiatives, that is: (1) the web/technology based measures and (2) the service based measures. The web/technology based approach measures the technical aspect of the projects or services differentiating the e-Government services from other manual services, while the service-based approach focuses on the measurements of the service delivery, which resembles the input, output and outcome measures previously mentioned. Web/technology and service measures carry the strength of being able to specifically measure ICT-based public services and service delivery.

The Dubai Municipality Department utilises an intensive performance measurement system to keep track of its performance and works constantly to utilise the result of such evaluation to improve its services on a consistent basis.

The process of performance measurement for the DMD begins at the strategic planning stage itself where it collects data from internal and external customers towards selection of specific e-services to provide. Once the specific services have been selected for transformation to online access, several measures are used to identify how useful these services are for users. These include goal achievement (that is whether these services are actually being used by clients using transactional service frequency as a measure as well as the ability of the department to meet its target phase and to complete the phases); how easily they can be accessed and processed (feedback from online users and process reengineering by internal staff feedback as a measure); and how much cost reduction took place as a result of conversion to online access (service savings as measure).

Transactional service frequency was a basic indicator. It informed Dubai Municipality of the success of its website for drawing people to utilise services delivered online – the higher the frequency, the greater the indication of success. Although, frequencies of use differed for the various services offered, all online services had substantial numbers of customers. Transactional service savings were measured based on the frequency of online transactional services compared
to the traditional service delivery, and to the cost-effectiveness of engaging in the e-Government
initiative, when all services offered online contribute to the savings.

Since the various e-Government initiatives were in different phases of completion, Dubai
Municipality had to focus on the areas of the initiative which were least completed, as well as to
restructure program implementation in order to complete all the areas of the IT-based public
service delivery initiative.

In view of Stower’s categorisation therefore, the DMD appears to use a combination of
both web based and service based performance delivery measures. These appear to have been
chosen because cost saving and operational efficiency was the one of the main reasons for
DMD’s participation in the e-Government initiative. These measures have proved to be highly
advantageous to the DMD as evidenced by the fact that it is has one of the highest online
footfall. Besides this, its external customer satisfaction rankings have been amongst the highest
in the Dubai Government. The Dubai Municipality Department (DMD) is one of the most
successful departments in the Dubai Government in terms of the e-services it provides. This is
evidenced by the fact that it won the prestigious United Nations Public Services Award 2006 for
application of information and communication technology (ICT) in government: e-government
(http://unpan1.un.org/intradoc/groups/public/documents/un/unpan022965.pdf) which is one of
the many awards it has won for the quality of its ICT infrastructure.

In the case of the Dubai Land Department (DLD), it utilised a more comprehensive
performance measurement system in assessing its e-Government initiative. Although its
performance measures focused on goals achievement, the goals encompassed all areas of
operation including financial and non-financial measures, service delivery measures,
organisational infrastructure provision measures, and technological competency measures. These
were enshrined in eight strategic goals that the Dubai Land Department measured by comparing
the planned progress with existing progress. Any discrepancies were investigated followed by
adjustments to ensure that objectives are met and IT-based public service delivery is fully
launched.

The Crystal Reporting System was selected as a performance measurement system
because of its ability to access specific customer issues. This allowed the department to ensure
speed of access and delivery and provide the customers with the services they require in a timely
way. Moreover, the department also utilises internal employees’ suggestions to reengineer and
improve its services on a consistent basis. Therefore, performance measures revolve around
internal and external customer feedback on process and quality. While the Crystal Reporting System is an issue specific method, it does not provide a measure of overall performance. To resolve this issue, the department selected the “Balanced Scorecard” method to provide data on its overall performance.

To answer the remaining main research questions and sub questions: *How important are these performance measures in e-Government in improving e-Government services? What benefits were originally expected in utilising these performance measures in the e-Government initiative? How can performance measurement systems lead to improvements in public sector service delivery in and through e-Government?*

Operational efficiency and cost savings appeared to be the main expected benefits of the conversion of basic services to online access for the DMD. Factors such as reducing time and increasing efficiency of work flows were a primary concern for the Department during its decision to participate in the e-Government initiative. For example, as stated before, when the department transferred the request and issuance of Non Objection Certificate (NOC) to the fully integrated electronic system, requests were submitted directly to the central database, by accessing the DMD website where the relevant divisions handle the processing. NOCs are requested from several divisions such as road, planning and sewage sections for new project infrastructure approvals. This used to take a considerable time when transacted manually by employees. The redesigned system and workflow therefore considerably reduced the time, money, and effort spent in delivering this particular service. The performance measures were also therefore designed around measuring efficiency, workflow, time taken to resolve issues and so on.

*The performance measures were used to improve service delivery in the e-Government initiative in the following way (sub-RQ 4):* The evidence on frequency of use and savings then prompted Dubai Municipality to consider those services, which had low frequency and potential savings when made electronic. Attention was given to ways of improving these areas of service delivery. Moreover, since the determination of the implementation phase depended partly upon frequency of use and savings, Dubai Municipality had to consider these measures together in order to find sufficient support for rationalizing its e-Government initiative, issues arising in the implementation stage, and ways of re-engineering its strategies to achieve completion of the program. Put this way, and the fact that Dubai municipality restructured the program implementation in order to complete all the areas of the IT-based public service delivery
initiative the performance measures not only ensured transparency for the municipality, they were effectively used for improving the e-Government service delivery.

In regard to the Dubai Land Department, the department utilises a number of performance measurement methods which are intrinsically designed to improve quality and achievement of goals (such as the Balanced Scorecard method, the ITL standards, the Dubai Excellence Awards format). Therefore, it can be said that the department utilises goal based measures as well as process based measures to improve its delivery of e-government services.

Specifically, to contribute answering the overall research question of the thesis it was clear that the performance measured are used in the following way in their e-Government initiative implementation to improve service delivery. Although its performance measures focused on goals achievement, the goals encompassed all areas of operation including financial and non-financial measures, service delivery measures, organisational infrastructure provision measures, and technological competency measures. These were enshrined in eight strategic goals that the Dubai Land Department measured by comparing the planned progress with existing progress. Any discrepancies were investigated followed by adjustments to ensure that objectives are met and IT-based public service delivery is fully launched.

The two cases illustrate that performance measures have served as important components of the change, adjustment and re-engineering processes conducted by the different Dubai government departments directed towards improvements in IT-based public service delivery. That is, in other words that the performance measures were used to improve service delivery in the Dubai e-Government initiative (sub-RQ 4), and that they have been relatively effective measures for improving the e-Government service delivery (sub-RQ 5) to the extent that they made gaps and room for improvement transparent and visible to the departments. As is clear from also the below, however, both departments need to work more on the IT transformation to ensure a complete successful implementation, and the difficulties that the departments experience when implementing the initiative differ.

The cases also illustrate that performance measures used by the two departments showed that they both experienced an uneven progress in the achievement of their respective e-Government initiatives. While some initiatives were already in the advanced stages of progress, others remained unexecuted in the end of 2007. This means that even if both departments have achieved IT transformation to a certain extent, these departments still need to work on the other
initiatives - especially since some programmes are prerequisites for other initiatives planned for the future.

However, there are differences in the areas that need work based on the application of performance measures. The DMD’s problem areas focused on culture change to ensure the cooperation of employees in the initiatives, development of intra- and inter-departmental partnership to ensure coordinated progress, and connecting to the public for the delivery of e-services. The DLD was able to determine problem areas such as the competence of personnel, strong and decisive leadership in directing the implementation of the initiative, technology placement and optimisation, coherence of the department’s overall e-Government initiative direction, and reaching out to the public to determine and meet e-service expectations.

Nevertheless, by identifying these problems, both departments have lined up various initiatives expected to be accomplished in various periods before the end of 2007 such as completing the planned phases. These planned initiatives were based on the results of the performance measurement systems applied by the departments such as the customer feedback. It was also due to the results of the performance measures, indicating the fair to moderate success of the DLD that spurred the establishment of the Technical Affairs Section, a sub-unit that could be helpful in departments with limited IT transformation competencies.

The case studies can also help us understand the e-Government initiative implementation of the other departments, and the problems these have experienced. The DMD exemplifies departments with complex organisational structures handling a wide array of public services. The DLD represents departments with a more simple organisational structure, which handles services that are less directed towards the public. Lessons from the experiences of these two departments give us indications of the role performance measures may possibly play in the e-Government initiatives of the other departments. Put differently, although this was a case study of only two departments implementing the e-Government initiative, the findings made in these cases contribute to answering the research questions of how the performance measures are used in the e-Government initiative implementation of Dubai government to improve service deliver.

To answer the question about how did the Dubai government select the performance measures to apply in the e-Government initiative, the different departments to a large extent chose those that underpinned their specific needs, but they did an effort in prioritising the use of performance measures, which were laid out and recommended by the Dubai government.
CHAPTER 6: DISCUSSION OF RESULTS

I. Introduction

The very nature of Information Technology is its ability to provide easy access to information and its potential to improve public services when used in government. Dubai Government has pro-actively embraced ICT to provide its citizens and residents access to public services through its e-Government initiative. However, without effective measurement of performance, it would be difficult to identify how far it has succeeded in achieving the goals with which it initiated the e-Government programme.

This study is an attempt to identify the performance measures that the Dubai Government uses to improve its e-Government services and to what extent these have resulted in enhancement of public service delivery. Towards this, I studied some key Dubai Government departments in terms of their specific e-Government initiatives and performance measures as well as the DEG project which attempts to synthesise the entire e-Government initiative. The aim was to identify what performance measures and measurement systems are being used to evaluate the effectiveness of the e-Government, and how these performance measures have helped the Dubai e-Government initiative to improve its public service delivery.

I utilised the case study method and interviewed key members of these departments to gain substantive data on the areas I wished to study. This chapter discusses the results that were generated and attempts to obtain critical conclusions. This chapter also discusses and analyses the results of the study in light of the research questions that I posed and attempts to provide a clear analysis of how the data that was generated through the interviews, document reviews and observations of the researcher herself answered the research questions of this study. I also discuss the results in light of the main body of research discussed in Chapter 2 – Literature review.

II. Discussion of Results:

In this section, the results of the study in terms of each research question and sub-question are discussed especially in light of the literature that was presented in Chapter 2.

RQ1: What are the existing performance measures available for use in the implementation of e-Government initiatives?
And

RQ2: Which are being applied in the case of Dubai, and why have these been chosen?

Performance measures should cover the comprehensive process of organisational reengineering that involves structural change as well as department and personnel reorganisation. Successfully launching an e-Government initiative necessitates the consideration of:

(1) structural change in the organisation to accommodate new positions, refocus jobs, or enhance tasks;
(2) training of members of the organisation to gain mastery of public service delivery through the e-Government initiative; and
(3) large-scale information dissemination to ensure that the public is aware of ways in which it can engage with the e-Government initiative, and the benefits they can expect to gain from the enhanced service.

The case of Dubai e-Government initiative provided insight into the importance and role of performance measures in assessing the initiative as well as the selection of appropriate performance measures at the department and Dubai government levels.

The review of literature provided the various components of performance measurement systems, including:

a) input measure,
b) output measure,
c) activity measure,
d) efficiency & productivity measure,
e) service measure,
f) quality measure,
g) explanatory measure, and
h) outcome measure.

These components pertain to different factors such as the results, meeting customer expectations, and information sharing. By integrating these components into the performance evaluation of e-Government initiatives, these should encompass the areas of service production, service delivery, and service production-delivery.

In the case of the e-Government initiative of Dubai, the varying performance measures employed by the departments focused on service delivery. The means of evaluating service delivery is via customer feedback as exemplified by the Crystal Reporting System of Dubai Land
Department intended to draw customer feedback and Customer Satisfaction Surveys of the Department of Economic Development, Department of Naturalisation and Residency, and Dubai Police Department to gain comments on the e-services offered. Only the performance measurement of Dubai Municipality Department came close to incorporating service production objectives by drawing feedback from members of the department as well as external consultants over its e-services. The performance measures employed by the departments failed to incorporate service-production delivery linkage as component of the performance measures in evaluating e-service delivery. This implies that performance measures employed by the different departments are limited in scope when compared to the components of performance measurement systems in the literature. As such, the impact of performance measures employed on improvements in the e-Government initiative would also be limited. Nevertheless, by drawing customer feedback, the departments at the least gain insight on e-service delivery. Since the role of performance measures in supporting e-Government initiative has not been maximised, there is then need for Dubai government to develop a performance measurement system that integrates the different components to target different objectives of service production, service delivery, and service-production delivery linkage.

Apart from the components of performance measurement system, the literature also points to the strengths and weaknesses of different performance measurement systems. The performance measurement systems fall into different classifications including general performance measurement systems, public sector performance measurement systems, and specific ICT-based performance measurement systems.

The general performance measurement systems include balanced scorecard, performance improvement, performance dashboard, programme logic model, family of measures, and benchmarking. These evolved in the private sector but could also apply to the public sector. The performance measures employed by the different departments adopted some aspects of the general performance measurement systems but only to a limited extent. The customer feedback system and surveys commonly employed by the Dubai departments are akin to the performance improvement measurement methodology framework focused on customer inputs to determine the achievement of service delivery goals. The use of key performance indicators and critical success factors by the Department of Tourism and Commerce Marketing and the project management model of the Department of Economic Development are similar to the performance dashboards framework focusing on strategy deployment. The limited adoption of general
performance measurement systems implies a number of things. One, the general performance measures that evolved in the public sector may not sufficiently reflect the context of the public sector, much less the e-Government initiative. Another, the general performance measurement systems also have limitations comprising weaknesses so this could explain non-application. Lastly, the appreciation of the role of performance measures may be insufficient from the perspective of the Dubai government departments because of its limited use even of the general performance measurement systems.

There are also performance measurement systems specific to the public sector including the performance reference model focusing on the contributions of each department of service delivery, performance assessment rating focusing on the effectiveness of government programs, and public sector value model focusing on the extent of value derived from customers for government programs. These are limited to financial measures. Although these measures focus on the public sector, the Dubai governments have adopted these performance measurement systems only to a limited extent. The context of Dubai as a non-tax raising state, with the people not paying taxes, could explain this. A non-tax raising state involves a different form of fiscal accountability when compared to tax-raising states from which these public sector measures have evolved. Nevertheless, the Dubai departments exercise financial measures as a means of accounting for the budget allocation approved by the Dubai government. These performance measures apply to the Dubai e-Government initiative only to the extent of using the financial to determine the cost savings experienced by the departments by engaging in the e-Government initiative. Even with limited adoption of the public sector performance measurement systems, the Dubai departments utilised components that fit its characteristic as a non-tax raising state.

There are also performance measurement systems specific to ICT, which are web/technology based measures and service based measures that assess the delivery of services based on ICT. The Dubai departments have adopted these performance measurement systems by including in the customer satisfaction surveys technical and service delivery components. The departments ask customer feedback on various aspects of its website such as timeliness and usefulness of information as well as navigability for the technical component and the e-service experience for the service delivery component. Of the three categories of performance measurement systems, the ICT-based performance measurement systems were of the greatest use in the assessment of the performance of the e-Government initiative at the department level. These performance measurement systems not only focused on the different aspects of the e-
Government initiative but also matched the evaluation needs or requirements of the different departments.

**RQ3: What are the advantages and disadvantages of these performance measures in improving the implementation or delivery of the e-Government initiative (e.g. when selecting the appropriate measures to apply to this purpose)?**

The performance measurement systems employed by the Dubai government departments led to a number of outcomes explaining the importance of performance measures in e-Government initiatives.

Performance measurement system that depend on getting external feedback from customers, which was commonly adopted by the Dubai government departments, led to more awareness about customer satisfaction and meeting customer needs. This in turn leads to a better outcome for e-Government rather than just measuring internal factors. The departments learned of problems in navigating the websites or the portal and feedback on the delivery of e-services. Even if the Dubai government departments mostly employed measures focusing only on drawing feedback, this supported the derivation of data on the achievement of goals of e-services based on customer views.

Performance measurement systems that focus on financial factors led to the determination of the effectiveness of financial allocation towards the various areas of e-Government initiative to achieve financial goals such as cost savings. This supports the rationalisation of fiscal allocation for e-Government initiatives and the extent of optimisation of financial resources to achieve the goals of e-Government initiative.

Performance measurement systems focusing on strategy result in the determination of areas of strength and weakness. Reduced number of similar links that are utilised by different government departments, increased information security as well as speedy and more accurate data transfer between and among departments resulted from the e-Government initiative. Online transactions between and among government departments contributed to the continuous improvement of the e-Government Information System as evaluation studies reported a general increase on customer satisfaction as implied in Chapter 5 in the experiences of the DMD. Subsequent project planning and applications were conceptualised under the principles of service initiation, service improvement, service evaluation, and service maintenance towards achieving
an electronic society as shown in e-service outcomes and implications for the departments in Chapter 4.

Performance measurement systems focusing on service delivery enhancement also contribute to the reconsideration and adjustment of e-Government goals. Revising the goals and vision of the project relative to the realistic application of the system proved to be more attainable and more satisfying - particularly in respect of the integration approaches that were initiated for efficient workflows between and among government departments. This is shown in Chapter 4 particularly the difficulties.

The e-Government initiative resulted in improvements with respect to the productivity issues of the Dubai Government. Generally, the project proved to be efficient, cost effective, and increases work quality when it comes to public service transactions as shown in Chapter 4. This system works on all the levels comprehensively from organisational performance measurement and down to subdivisions to reach and monitor individual performance. The system could also measure the efficiency of certain group activities that belong to different subdivisions. Direct communication between the client and the administration facilitated greater efficiency in the transactions between clients and department personnel, through the facility of online applications, e-payment of fees and online delivery of the services in ways that are highly similar to personal service transactions.

By reengineering the online services, the government was able to enhance the departments’ workflow systems to shorten transactions and save time, money and effort within the organisation for the benefit of both the employees and public users of the electronic services. The project made it possible for employees to approach their daily duties and responsibilities more efficiently and more convenient by learning the software lifecycle procedures and the e-Services life cycle procedures. Collaboration between government units, and a full collation of information among the units in a single database, allows the convenient and efficient access, change, and addition of relevant information needs among departments. However, the issue of privacy such as in the UK could also become a problem for Dubai in pooling different information on individuals, such as tax payment and health care insurance. This is an issue that the Dubai government could look into.

In addition, public services that used to be completed personally by visiting the departments are slowly being made available online, to achieve the electronic transformation target (of providing accessibility to 90% of the government’s public services in the Portal by
year 2007). Such initiative aims to increase the efficiency of providing government services to the public and is likewise geared towards increasing customer satisfaction among the users of www.Dubai.ae website. This was made possible by linking the websites of each government department to the main government Portal.

Moreover, Dubai Government Departments also continuously add e-services to optimise their Internet venues. The departments strategically provided online public services by completing government transactions through the Internet tool. The available online services typically include:

1. access to public documents and periodic reports of each government department,
2. short messaging system (SMS) and Personal Digital Assistant (PDA) application channels,
3. visa applications,
4. e-Payment services,
5. e-Complaints services,
6. electronic local tourism promotion and hotel reservations,
7. issuance of government certificates, and
8. remote access of department correspondence.

Performance measures determine the design to provide timely, cost-efficient and quality government services to the local sectors of Dubai Municipality, as well as to interested foreign nationals.

The use of performance measures led to the determination of a number of problems in the existing e-Government initiative of the different department as well as supported changes and improvements.

The Dubai e-Government Department presented budget constraints as one problem in using performance measures, since the standards set by Sheikh Mohammed bin Rashid entails costly technological expenditures. The expenses of using advanced technologies contributed to the lack of support for technological projects - along with other factors such as lack of communication, mismanagement, unclear vision of the project and unrealistic targets. Although each government department is equipped with their own websites and electronic services, the e-Government initiative was confronted with lack of IT experts among the employees of the departments.
The different providers of electronic services that each department consulted also made the first stages of the project more difficult, particularly in terms of the collaboration for the synergistic services. Despite the existence of considerable cooperation between government departments seeking the success of the e-Government initiative, old (and varying) infrastructure and management styles stand as barriers for full electronic integration. Other implementation barriers that slowed the improvement stages of the e-Government initiative during its early years include the shortage and lack of updated technologies, absence of clear goals and objectives, and uncertainties among departments regarding the use and importance of electronic public services. External factors likewise confronted the department particularly concerns regarding awareness among customer on such initiative and participation through usage of the department’s e-Services.

RQ4: How important are these performance measures in e-Government in improving e-Government services?

and

RQ5: How can performance measurement systems lead to improvements in public sector service delivery in and through e-Government?

Throughout the research reviewed, I found that there was no clear definition of e-Government as a whole. However, I did find a running theme through all the varying definitions, this being that e-Government necessarily improves the delivery of services to the public especially in terms of cost reduction, improvement in efficiency and reduction in time taken to access and utilise the services. For example Silcock has defined E-Government as “the use of technology to enhance access to and delivery of government services to benefit citizens, business partners and employees”. (Silcock, 2001). Similarly, Sprecher (2000) defines E-Government as the concept that helps make governmental transactions simple and efficient. Responding to the requests of employees is also made easy through this function (Moon 2002). Al-Kibsi et al (2001) pointed out that e-Government can be advantageous both for the citizens and the government department, as it should lessen the cost that both parties pay in the interchange of information and the delivery of services that they may require and may be finished in lesser time and thus leave the department more opportunity to serve other people. Benefits will also increase, as the people will be more likely to use these services to their convenience. McClure, Sprehe and Eschenfelder (2002) (cited in Stowers, 2004a:169) define e-Government as “the use
of technology particularly web-based internet applications, to enhance the access to and delivery of government information and services, and government entities.

In light of the research studies quoted above, it would be useful to analyse the results of the present study to understand whether the e-Government initiative of Dubai has actually resulted in the benefits mentioned. Specifically we will analyse whether the e-transformation of these 6 departments has resulted in the following benefits as culled from the above definitions: simplicity, accessibility, efficiency, responsiveness to requests, cost reduction. Apart from this, we will analyse whether the deployment of the e-Government initiative has resulted in further benefits such as empowerment of citizens, public sector reform, improving government decision making, and bringing about transparency and accountability within the government departments.

Our study found that the Dubai e-Government initiative launched in 2000 appears to be largely successful in terms of the adoption of a number of government bodies’ e-services, to the extent that it appears that the initiative has significantly contributed to ranking the United Arab Emirates on a 32nd position among the Arab countries according to the e-government readiness report of the United Nations for 2008. Similarly, Madar (2003) compared the types and extent of Dubai e-services with that of the e-services offered by the European Commission and concluded that the Dubai Government has made significant progression in bringing online its basic services to the public, and in some aspects the Dubai Government even performed relatively better than some European institutions.

We will now examine each of the departments studied and analyse whether the launch of e-services has enabled the department to provide better and improved services to its users.

**B.1 Dubai Land Department**

The Dubai Land department has indeed been able to significantly improve its services to the users through the use of automation and online transactions. To this extent it can be said that the e-Government initiative of this department has resulted in improvement of services to customers especially in terms of speed of delivery.

The DLD follows a very thorough process in terms of designing, implementing and maintaining its e-Government initiative. First of all, it has incorporated the provision of e-services in its strategic plan right from the start. Secondly, its strategic plan incorporates the idea of applying performance measurement methods to ensure that the department receives continuous feedback from a number of sources including internal – employees and external –
customers. Next, it has ensured that there is the use of different methods of feedback collection such as the Crystal Reporting System to enable it to evaluate the end-user’s satisfaction of the quality of its services.

Moreover, the DLD rigorously incorporates the feedback and performance evaluation that it conducts on its e-services, website, processes etc. by continuously re-engineering its processes and ensuring that they meet the demands of the customers. DLD enabled its staff to process and authenticate land transaction operations in Dubai using the latest IT systems, initiated procedures to introduce e-services for development and better public service, which made DLD one of the promising departments in customer service in terms of the number of transactional services. The e-services of the department can be accessed through its website, which was designed to allow citizens to navigate the site along with the corporate and registered users. Through the website, customers can view the daily, monthly, and annual reports prepared by the department. These include data on the completed land transactions, along with detailed information on the particular location and area, a land description, and the price per square foot, total value of each plot, and total sales value of all transactions in Dirhams.

The department also conducts studies to determine the most visited and viewed pages of the site on a regular basis. The results of the studies are utilised for the continuous improvement of the website, including those involving changes in the portal particularly in terms of content and layout. Based on the results of the performance evaluation system that this department uses (Crystal Reporting System), DLD started to reconsider the available services in the website. It introduced reengineering of the entire workflow of the system - not only to fully transform the services of the department electronically and to renovate the portal, but also to make the necessary changes in the department’s goals to reflect the principles of Dubai Government as a whole.

The department is not without its set of challenges however. One of the areas that it has faced maximum challenges is the e-Pay service. Since online payments are critical to the department’s electronic functions, it is imperative that this particular service flows flawlessly to the customers. However, the software and electronic system developed by DLD was unable to support electronic payment and had many glitches and unsuccessful transactions.

In short, one can say with confidence that the e-Government initiative of the Dubai Land Department has resulted in improving the efficiency, accessibility and effectiveness of its public services in line with the research available in the Literature Review. However we cannot
say with certainty that it has been able to improve public sector reform or lead to citizen empowerment through provision of the e-Government initiative.

B.2 Department of Tourism and Commerce Marketing (DTCM)

The interviews, documents analysis and background research of the DTCM reveals that the DTCM offers online public services to the people through its website, which features:

(1) the Overseas Promotion Online Registration System (OPORS),
(2) the One-Step Information Centre (e-OSIC),
(3) the e-Complaints,
(4) the Online Hotel Reservation System, and
(5) a Webcam system for Dubai city.

The e-Complaints is a free service offered to Dubai tourists and residents which allows people to register complaints against DTCM and other Dubai-based establishments, with the goal of achieving direct response and rapid resolution of problems.

The DTCM’s experiences involved the automation of several systems like the OSIC, the overseas promotion system, the permit system, and the on-going e-Government initiative of the classification system. The department decided to host an online booking service since 1999, which is run by an outsourced company to avoid losing potential tourists who favour the services of a government sponsored online booking company, as well as to create a competitive edge over other international tourism sectors. As such, the department has succeeded in providing 90% of its services online.

The department appears to be highly focused on obtaining feedback from its end users which it does in several ways: through the e-Complaint services, the One Stop Information Centre (e-OSIC), and in terms of Key Performance Indicators (KPI), and Critical Success Factors (CSF). The e-Complaint service collects survey responses from the department’s customers particularly complaints against hotel, tour companies, as well as other government and private organisations. The e-OSIC is an e-service, which provides a wide-range of informational services for customers, as well as it draws on customer feedback performance statistics. It provides data from customer feedbacks and surveys where the survey results also serve as the DTCM’s marketing and promotions medium, as well as it is relevant for information gathering as well as it can be useful for determining the local tourism trends.
Moreover, DTCM uses the International Organisation for Standardisation (ISO) system and the Balanced Scorecard approach along with the e-Complaint services, the e-OSIC, the KPIs, and the CSFs. The ISO system considers and manages the continuous improvement of the entire department to create customer satisfaction through the Balanced Scorecard system. Furthermore, the department utilises international quality standards like the ISO and the European F Quality Model (EFQM) which cover the strategies, leadership, operations, customer satisfaction human resources and the general performance of the department.

The DTCM utilises the data that it gathers from these various feedback mechanisms to evaluate the performance of its e-Government initiative in a very thorough manner. It uses the data from the customer feedback processes by targeting directly the customer groups and their particular problems. Through these mechanisms, it determines which people are highly engaged in the use of its services, and which service needs are most frequently demanded and used for supporting the improvement of services.

The use of performance measurement systems has helped the department to improve the efficiency of its services to its users and increasing the customer satisfaction levels. Not only this, the employees too appear to be more motivated and engaged following the launch of the e-Government initiatives. In the past, the employees at the DTCM classification section had resisted to implement any new technologies that could renew their systems. However, these same people now embraced the system as they realised that their work could be performed more efficiently, as well as their output level could be increased, by simply upgrading their technologies.

Therefore, one can say with confidence that the e-Government initiative of the DTCM has definitely resulted in improving efficiency of it public services to its end users as well as to its employees – therefore to the public in general. It has also improved its internal decision making through the deployment of the Balanced Scorecard and by feeding the end user feedback into the system to reengineer its processes. However we cannot evaluate whether these measures have significantly benefitted the citizens in the long term or lead to citizen empowerment though conceivably, the improved decision making may have lead to increased accountability and transparency.
B.3: Department of Economic Development (DED)

The DED appears to be one of the departments, among the 6 main departments studied, which has instituted a very rigorous system of monitoring and evaluation of its processes and outputs to the end users in terms of e-Government initiative. As such it can be said that this department has succeeded quite well in improving its public services and enhancing the efficiency of the public services.

Firstly, the department has started providing most of its core public services online though the pace was pretty slow initially. From 2003 onwards, the department rapidly improved its online services, added new e-services, upgraded its website and also introduced new forms of electronic communication to allow its users to make use of its services (such as Short Messaging System (SMS) and the Personal Digital Assistant (PDA) applications, which were intended to reach the public more efficiently.

The department also utilizes a number of customer feedback mechanisms to elicit end-user satisfaction data. Apart from the DEG sponsored manual customer satisfaction surveys, the department also has designed and implemented short surveys in the form of “Polls” in the department’s website, to elicit data from the customers’ viewpoint. Apart from this, the Project Management Model measures the department’s performance through a complete monitoring of workflows, follow-ups, as well as of delays on particular segments of the projects. Since the DED website offers different services for different customers, the different sections of the department each handle different types of customers as well as contributes to ensuring the validity and reliability of the website’s contents. The people responsible for each section meet monthly to assess the progress of the entire website. The data collected are analysed periodically and the final analyses are submitted to the higher management.85

The DED is also the first government department to operate a mobile programme, which supported mobile telephone users employing the GPRS system. Through the INFOTouch system, customers can also avail the department’s services without having to visit the department in person. The system links the DEG services directly to the internal customer care system to complete procedures and track the status of transactions by entering the reference number. The services provided by INFOTouch are free of charge, the system was not meant as a revenue generating service and the system was designed for convenient transactions of business entities with the government.
In addition, through the Project Management Model, the department’s electronic service applications can be comprehensively examined for evaluation purposes. The model enables the department to efficiently attend to every project under its supervision by tracking delays, which the software is able to update.

In this way, the department has sufficiently improved the public services and its internal and external efficiency levels. The most critical changes are a shorter and faster work flow in the department’s business processes after they replaced the old internal applications with the advanced e-Government system applications. This again resulted in a more efficient and effective customer service, which improved the public services of the DED. The e-services integration made public service deliveries more efficient since the department’s services are highly associated with that of the federal ministries. Satisfaction levels among the employees and public users of the department’s e-services increased by more than 25%. These results encouraged the higher management to continue to support the department’s IT initiatives. Moreover, the DED provided basic training orientations and practical lessons among the members of the public users. Demonstrations were also provided for the customers to learn the basic computer operations of availing the department’s e-services.

It is obvious that the department’s efforts have resulted in increased customer and end user satisfaction due to the enhancement of the efficiency of its services by moving to the online mechanism. Once again however we cannot evaluate whether this resulted in citizen empowerment or public sector reform due to insufficient data.

**B.4: Department of Naturalisation and Residency, Dubai (DNRD)**

The pace of electronic transformation in the DNRD appears to have been much slower than the other selected departments. However the DNRD has phased out its OLD system and has been providing its services online through the newly implemented EDNRD Online System.

The department has instituted a number of evaluation systems to analyse the customer satisfaction levels and ensures that the data from these evaluations is fed back into the system in order to continuously improve its services. The department measures its information system performance through customer satisfaction evaluation by:

1. surveys by the customer service department and the quality department,
2. user comments on the DNRD web site and their feedback,
3. monitoring of problems received by the customer service agents, and
(4) the DNDRD e-services support team that monitors the clients’ comments and issues. These services add value to the DNRD’s public services, which proved to be efficient and cost-effective, and at the same time serve as a performance measurement system to evaluate the e-services of the department.

With these IT infrastructures, the department was also able to provide information for other government departments such as Ministry of Health (MOH), Dubai Economic Dept (DED), Dubai Municipality (DMD), and the Ministry of Labour (MOL). These online transactions between and among government departments contributed to the continuous improvement of the e-Government Information System design to create better public services to the customers of each department. It also constituted an effort to standardise e-services and foster networking among the different departments. As an initial effort, the engagement in collaborative e-service systems in the future involving more departments and e-services would imply to make a continuous improvement in the implementation of the e-government initiative.

Moreover, the online service through the website of the DNDRD (www.dnrd.ae) ensures a direct communication between the client and the administration in, for example, ensuring a more efficient transaction with the department personnel. This has become possible through the facility of online applications, e-payment of fees and online delivery of the services.

The eForm attachments operate immediately in Arabic and English and are classified into simple categories allowing customers an easy access to the desired form. The website employs a code-based electronic contact channel to guarantee customers’ privacy and confidentiality and prevent any attempts to manipulate their data.

This electronic transformation within DNDRD contributed greatly to a paperless archive within the department and to information sharing with other government departments. Field studies on customer feedback on its e-services are continuously conducted of the DNDR eForms service in an effort to enhance its efficiency level.

The department did face some hitches in implementing its e-Government initiative. During the early phase of the project, DNRD management was not very keen to invest as much to facilitate the use of technology in all the department’s operations since the standards set by Sheikh Mohammed bin Rashid entails costly technological expenditures. Along with these financial concerns, customers of the DNRD addressed difficulties and apprehensions regarding the e-services provided by the department. Customers also faced some difficulties in logging in to the website as they had to go to specialised computer shop to do this, which charged an extra
rate for them to do this. They also faced problems obtaining their refunds (if their application got rejected) and had to wait for about three to four months to get the refund. Thus, while the DNRE’s objective was to provide efficient and cost-effective transactions to its customers and increase satisfaction levels, the department was initially unable to achieve this objective. However, DNRE was later able to establish eForms that did away with these problems and allowed direct access to e-service applications. Thus, while slow, the department was able to improve its efficiency and end user satisfaction to the public eventually.

**B.5: Dubai Municipality (DMD)**

The DMD can be said to be one of the most successful departments in terms of delivering efficient and effective services to the public (among the 6 departments studied). First of all they have a very efficient and effective electronic system consisting of a network of 7,800 computers connected to 80 servers, which are interlinked through a network that links over 90 sites across the emirate of Dubai. The portal provides around 105 e-services, out of which 89 are transactional services and 16 information services.

The success of the e-transformation instituted by the department can be gauged by the fact that during the first two months of the current year, DMD recorded 95.67 per cent online transactions - out of a total 99,174 transactions, 94,224 were completed electronically. This makes DMD one of the more successful departments in terms of actual online transactions.

In order to impact the end – user, the DMD has implemented a thorough and rigorous process which starts right from the business planning stage goes through to strategy, operations and processes, moves to a intensive process of internal and external feedback gathering and then feeds the data back to the system in order to continuously improve the services.

Let us now review how exactly the department improves the efficiency of the public services it provides to the citizens through the use of e-Government initiative. The process starts right at the business strategy/planning stage. Through an intense process involving internal and external consultants, the department identifies the needs of the end users. The department has instituted a transformation committee which analyses the data available from the consultants and following a joint meeting, the output is generated in the form of a comprehensive e-Government initiative plan for the department’s public services. Next, an analysis team revises the electronic workflow of the service so as to accommodate the new e-services. This is followed by a trial and training period – where external customers are provided training and feedback is also collected to
evaluate the performance of the e-services. This is used to identify changes, which can increase
the service value provided by DMD. This entire cycle is a thorough process of end user need
satisfaction in keeping with the department’s core efficiency objectives.

However the cycle does not end here. It is followed by regular evaluation to maintain the
efficient work flow of the system and provide satisfying customer services. Public awareness
campaigns and training sessions for both the internal and external customers are likewise
provided by DMD to ensure high usage of the electronic services offered by the department. This
process itself has resulted in improving the efficiency of public services and in providing
increased value for money, time and productivity as well as consistency in quality.

Let us now examine the feedback of internal and external customers on the quality of e-
services provided by the DMD and whether they have actually experienced the benefits of
efficiency. The feedback from internal customers appears to be quite positive in this regard.
Employees who had previously opposed the electronic transformations during the early
implementation of the e-Government services found that the work output was increased
significantly which was visible from their number of completed service applications and the
number of people involved in servicing them. The online surveys also showed that the general
public and private organisations that utilised the DMD’s e-services became more satisfied with
the quality of service rendered by the department through online transactions. Over 225,000
online transactions were made during the first year, which categorised the DMD e-services
among one of the most popular government e-services portals available.

Efficiency of services can also be gauged from the cost reductions that were made
possible by converting the public services to electronic medium. Nearly AED 5.5 million has
been saved by the introduction of e-Government transactional services. This reduction is
generated mainly by fewer customer visits at the municipality. The tracking of submission
statuses has also ensured that customers are able to plan more correctly and react appropriately
through the efficient use of the department’s online portal. Two years after the launch of the first
e-service, DMD has successfully been able to provide convenience to its customers in reducing
the needs for customer to visits the department, thereby contributing to making it easier to do
business with government.

Thus we can say with confidence that the department has indeed made its public services
more accessible, reduced costs for both the government and the customers and increased the
efficiency of its internal and external processes through the deployment of the e-Government initiative.

**B.6: Dubai Police (DP)**

Right from the start, the Dubai Police department has been working to increase the efficiency of its services to the public by a number of different e-services designed to allow the users easier access and reduce time of transaction. Early in its e-transformation, for example, the department designed and produced an electronic gate guide which was distributed in 2003 among its officers who worked on the Weblisher system accessing it from different public administrations and police stations. This was introduced to achieve a comprehensive and active public services system that simplified and facilitated specific tasks of the members of the department and enabled them to perform its duties and responsibilities better. Moreover, the use of e-mail via a secure information network has enabled Dubai police officers from all over the world to access correspondence from the department in a secure environment. Apart from this, the Document Management System has been designed to help in the department’s decision-making management, while the e-Communication program was designed to retrieve reports that provide the statistics on the frequency of internal transactions delivered and the rate of completed transaction within every division. The transaction workflows monitoring section delivers reports on the speed of completed transactions, as well as identifying cases of workflow or load blockages, and investigating the reasons behind such electronic service provision delays.

The department also conducts regular evaluation of its performance through customer satisfaction surveys provided by the DEG as well as the deployment of external consultants to evaluate DP’s performance. The new internal assessment appraisal procedure also provides supporting data. Periodic performance measurement reports are compared across the different departments to evaluate the progress and development of the e-Government initiative within DP. Decisions are subsequent administrative decisions are drawn from resolutions provided. The department reviews its achievements on a quarterly basis to find out if the targets are being met, and to provide sound explanations to the higher management whenever there are organisational failures.

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86 *Interview with Awatif Al Swaidi, PD Systems and Programs Section Head and Noura Al Sayegh, PD e-services Development Section Head*
Moreover, the department also utilises the Balanced Scorecard and the RADAR system though the Archive. This has enabled the DP to define its goals in terms of performance measures based on internal criteria such as the adaptability of personnel and of technology needed to support e-services, as well as in terms of the external criteria such as the extent of customer satisfaction. This resulted in daily adherence to, and implementation of, the general government strategy by achieving the goals designated to the department to meet the standards provided by the DEG.

By reengineering the services, DP was able to enhance the department’s workflow systems to cut down the time spent on transactions and to save time, money and effort within the organisation for the benefit of both the employees and public users of the electronic services. This development supported the initiative of the entire government to transform the majority of public services online. Furthermore, the Comprehensive Officer project handles and completes customers’ requests more efficiently, which saved every potential customer from the hassle and inconvenient personal processing of requests. The project made it possible for employees to approach their daily duties and responsibilities more efficiently and more conveniently, as a result of their training and familiarity with the software, and the e-services, and life cycle procedure.

SQ1: How did the Dubai government select the performance measures to apply in the e-Government initiative? SQ2: What benefits were originally expected in utilising these performance measures in the e-Government initiative?

Apart from the importance of performance measurement systems in e-Government initiative, the selection of performance measures on the department level and Dubai e-Government level also emerged. Most of the departments developed their respective performance measurement systems but there is still need to develop a generic measurement system to address collaborative e-Government, which is the essence of the program logic framework; and integrate the different contributions of the departments to the overall Dubai e-Government initiative, which is the focus of the performance reference model. These performance measurement models were not utilised by the departments.

Selection of measures at the department level should encompass not only service delivery but also service production and service production-delivery linkages. As such, the performance measurement systems at the department level include those that include measures of goal achievement through external feedback from customers, which many of the Dubai government
departments adopted. However, the Dubai government departments also need to select performance measures that cover service production-delivery linkages such as measures of internal performance. This is one aspect that requires improvement in the application of performance measures for the e-Government initiative at the department level. Performance measures for internal aspects could include the family of measures framework and benchmarking. By integrating performance measures, the departments would be able to assess performance at the frontline level of e-Government initiative.

Selection of measures of generic performance measures considers the integrative and strategic level of the e-Government initiative. This means that the measures should provide a common ground on which to bring together the e-Government initiatives of the different departments as well as support strategy formulation and planning at this level. There is no clearly defined generic performance measurement system tying up the e-Government initiatives at the department level in Dubai. As such, this constitutes another area for improvement in the utilisation of performance measurement systems to support the Dubai e-Government initiative. Performance measures that support integration and strategy determination are performance dashboards framework focusing on strategy deployment using financial and non-financial measures and programme logic model framework focusing on collaboration, albeit at the planning level.

SQ3: How are performance measurements based on private sector experiences implemented in the Dubai e-Government initiative?

A number of performance measures applicable to IT transformations in general are applicable to the public sector. General performance measures such as Balanced Scorecard and performance improvement models carry the advantage of being goal-based; so that by using performance measures, the departments were able to have an idea of the extent of the achievement of the IT transformation goal. However, these also carry the limitations of being limited only to the availability of measurable data as opposed to qualitative data. Other general performance measures offer the advantage of being able to consider both financial and non-financial aspects in the evaluation but these are limited only to particular phases of implementation as discussed Chapter 3. The application of general performance measurement systems to e-Government initiatives should depend upon the purpose of the evaluation; various objectives may require different performance measures.
Specific performance measurement systems are available for use in evaluating e-Government initiatives such as website or specific service assessments, designed to measure the extent that technology supports public service delivery. However, these are limited to technological aspects or to limited services and areas of service delivery. Other measures such as usage, financial and time consuming measures are necessary to cover broader aspects of e-Government initiatives to ensure that the full benefits of performance measures are experienced.

A consideration of six Dubai government departments showed similarities and differences in the performance measures these used, such as the Crystal Reporting System of DLD that gathers customer feedback, e-Complain services and Key Performance Indicators (KPI) of DTCM, customer satisfaction model and project management model by DED, customer satisfaction surveys of DNRD, and the internal and external feedback and assessment systems of DMD and DP. These performance measures have been chosen either through incorporation of the DEG requirements (the customer satisfaction surveys) or through an internal evaluation of the requirements by each department individually. While each department appears to conduct a rigorous analysis of what they need to do in order to provide the best possible services to their customers, there is no unified approach among the departments. This lack of an integrated approach among the departments is the weak link in the Dubai e-Government initiative. The lack leads to an inability to share information, learning and experiences and therefore one department cannot learn from the mistakes of the other. It can be assumed that the government perhaps can reduce costs if they institute a uniform approach in performance measurement of the e-Government initiatives of all departments on a single platform or single performance measurement system.

A commonly applied performance measure is customer surveys or feedback systems. These actively seek out the opinions of the people engaging in e-services, or allow people options to give feedback through a link in the website of the departments.

Differences across departments involve, for example, the use of models such as KPI, external consultant assessments, and internal assessment systems. This variance could be due to the limited linkages between departments or the decision to enforce their own systems as a form of top-down decision-making so that the selection of performance measures was made on a department level. The basis of the selection of performance measures were the information needs of the departments and the objectives they have identified for their e-Government initiatives. Since the different departments have varying information needs and IT transformation
objectives, it followed that the selected performance measures also varied. This reflects the decentralisation of the departments resulting to customised decision-making in areas such as performance measures appropriate to its experience.

Although The Executive Office (TEO) and the Dubai E-Government Department have established basic performance measurement standards, particularly surveys and feedbacks, the departments applied these standards differently, with some departments considering the basic standards as sufficient to determine its evaluation needs while others deemed these measures as insufficient for enabling them to achieve their assessment objectives.

The performance measurement systems implemented by the departments could be classified as either external or internal. External measures are those intended to elicit information from the parties outside of the department. Internal measures in contrast are aimed at obtaining information from the employees and managers of the departments. Out of the six departments studied, two exclusively applied only external measures, while four combined external and internal measures. This means that even if performance measures were recognised as important in determining the success of these departments achieved in their e-Government initiative, there is a difference in the recognition of the sources of data and measures to be used. This then affects the outcome of the performance assessment and the accuracy of e-services based on the results. In effect, the specific use of performance measures limits the benefits that the departments can experience from these tools.

The type of measures used has an impact on the information that is obtained from using the measures, and the effectiveness of the information thus provided in assessing various aspects of the e-Government initiative. Depending upon the assessment objectives, relying merely on external measures may not be enough to achieve a holistic measurement of performance. The argument would be that the employees and managers can also provide valuable information on the implementation of e-Government initiatives, based on their first hand or front line experiences, in the same way that external consultants could also offer an outside-looking-in perspective of the department’s IT transformation performance. In addition, obtaining information from various sources provides insight on various aspects of the e-Government initiative that the department heads could have overlooked. External sourcing of data also enables the departments to determine their performance based on independent expert opinion or the customers themselves who are the stakeholders in the e-Government initiative.
Evaluation and assessment of the progress and development of the e-Government project is made possible by the application of performance measurement systems for each government department. Such measures should guide and support decision and policy-making on the fulfilment of IT transformation. To a certain extent, the utilisation of performance measures is linked through the collation of reports by the TEO, to create data sets from which subsequent decisions regarding the e-Government services of Dubai will be based. The collation process leads to the comparison of the different departments and their respective use of measurement systems that is a key in determining areas for improvement in the different departments as well as the necessity and manner of developing inter-departmental linkages to support improved e-service delivery.

Performance measures were applied in various ways for various purposes, with several similarities and differences apparent. All the departments used performance measures to generate information to support the development of e-service systems such as websites and networking, software for e-service delivery, and organisational infrastructures. However, not all the department used performance measures to evaluate the performance or extent of completion of these systems.

Moreover, some departments applied performance measures to all aspects of the e-Government initiative, while other departments only used performance measures for limited areas of their IT transformation. DLD and DNRD used performance measures to derive information for developing its website in the case of DLD and to determine fit marketing strategies. However, these departments did not use performance measures to assess the extent of achievement and success of these and other areas of IT transformation. DED, DMD and DP used performance measures patterned after the Balanced Scorecard system to cover various aspects of their respective e-Government initiatives, by looking as income or savings by the department, frequency and extent of transactions, and the degree of accessibility or connectedness of the e-Government initiatives. This implies that some departments are not able to achieve an accurate reading of their e-Government initiative performance or their e-service delivery. This further implies the possible flaw or weakness of succeeding actions and decisions of the department. This could impede the achievement of the e-Government initiative objectives of the department and the central government.

Performance measures were applied with the intention of achieving various objectives such as identifying e-service customer demands or system requirements, determining the extent
of general or per area success of their initiatives, the areas requiring improvement, and the appropriate means of achieving change. Again, the application of performance measures varied depending upon the extent of transformation prioritisation and IT transformation strategy of the departments. These differences are reflected in the results of the ranking of departments in terms of e-Government initiative success. The departments who limit their use of performance measures, by using performance measures only in specific areas of e-service delivery or relying solely on consumer feedback, in evaluating IT transformations achieved lower ranking when compared to the departments that used and combined performance measures extensively as shown in Chapter 3. This implies the positive and strong relationship between the extensive use of performance measures and e-Government initiative success.

**Conclusion and evaluation of the e-Government initiatives in light of organisational learning**

According to McLaughlin, Osborne & Ferlie (2002), in order to benefit from the organisational learning, it is necessary to create learning processes at the levels of organisational structure that involves vertical and horizontal linkages of personnel or departments and management that covers leadership and policymaking. This is especially important in view of the high degree of uncertainty about the impact of the e-Government programmes on improving public sector reform, user satisfaction, and perception about the improvement in services provided by the government.

The Dubai e-Government initiative established the DEG to serve just such a synthesising purpose. It collaborates with other government departments to define and identify a set of standard criteria that enable the evaluation of all the available government services online. This is to ensure a continuously effective and efficient planning of the e-Services activities. Apart from this, it designs and implements public awareness programmes designed to help users to access and utilise the e-services provided by the various departments. One of its key goals is to provide a unified interface where users can access all available e-services on a one stop shop basis.

However, the DEG has had limited success in its goals so far. This has been primarily due to the variations in the technology utilised by various government departments and the non-availability of trained technical staff to deal with the technical problems of providing one platform for all the departments. There is also insufficient evidence about how the DEG utilises the feedback obtained from the various departments to strategise, plan and implement
improvements to public policy making and transparency of government functioning as a whole. Due to the technical problems being faced, it appears that the overall e-Government initiative is still at a level where operational rather than strategic issues are at the forefront.

On the other hand, the various government departments have instituted quite intensive organisational learning efforts. It is clear that all of them utilise both internal and external customer feedback to continuously improve their e-government public services, transparency and accountability. They have also made good efforts to incorporate data into strategic planning and policy making. Organisational learning is the effective processing, constructing and reacting to information coming from within and outside of the organisation (Argyris & Schön, 1996 p 15) and comprises 'the capacity or processes within an organisation to maintain or improve performance based on experience' (Nevis et al (1995, p. 15). As such, there is good evidence that there is solid organisational learning happening at the department level in the Dubai Government.

On the other hand, organisational learning in the context of e-Government also requires developing cross-agency communication and contact - such that various government departments are able to create and sustain mutually beneficial dialogues, learn from each other's experiences, pool resources and utilise information (Lazer & Binz-Scharf 2008). While DEG has instituted measures to unify the services provided by the various departments, there is not enough cross-departmental contact or learning and to that extent the benefits of such learning do not seem to be available to the Dubai Government as a whole.

In the context of our present research we have found that the government departments studied have largely been successful in improving the communication between the citizens and the government agencies in question. Simply with the use of customer feedback measures, polls and surveys, the government can have said to have initiated a dialogue with the people as to what their needs are and how these can be best fulfilled.

It would be useful also to examine the results of our study against the benefits of knowledge management proposed by Charalabidis and Metaxiotis (2008). According to Charalabidis and Metaxiotis (2008), e-Government is the space where public administrations meet their customers – that is citizens and businesses during service provision and knowledge management is the tool which can integrate the data obtained through performance measurement and feed it back into system through a knowledge chain that will ultimately support and improve the organisational effectiveness and therefore delivery of public service. For the reader’s
reference, according to the authors, knowledge management can provide the following benefits to e-Government: transformation of governmental services and processes, composition of new services, training of Public Administration officials, setting up goals and metrics for measuring e-Government progress, achievement of interoperability and onestop services composition, building or transforming information systems, assisting user access to electronic services, diffusion of new electronic services towards citizens and enterprises, setting up large initiatives (such as the Digital Strategy of a country, lighthouse projects involving Public Administration and IT companies and new research approaches in e-Government.

Examining the results of the present study against the above framework proposed by Charalabidis and Metaxiotis (2008), we find that the government departments studied in the current research have harnessed most of those as mentioned below. I provide an explanation of my results against each of the benefits postulated by the authors Charalabidis and Metaxiotis (2008):

- Transformation of Governmental services and processes: As stated before during the discussion of the research questions RFQ 4 and RFQ 5, in the previous sections of this chapter, the results of this study clearly indicate that each of the departments studied have been successful in transforming the governmental services and processes through a rigorous process of knowledge management. While all departments use different methods to harness the knowledge obtained from various sources, they have all established processes to feed the data back into the system in order to provide an expanded scope of services to the users electronically as well as to continuously improve the quality of these services. Since its inception the entire Dubai e-Government transformation has resulted in the provision of hundreds of public services to users electronically. This has resulted in ease of use, convenience, reduction in costs and time and user satisfaction as demonstrated through various customer satisfaction survey results obtained from the departments studied. How far this transformation process has moved is beyond the scope of this study – however we can say with confidence that the process has advanced quite rapidly in a very positive direction.

- Composition of new services: Once again, the results of our study indicates that all the departments studied have worked pro-actively to regularly add new e-services to the range of services provided, and the data used to create new services has been obtained through use of various performance measurement methods such as customer surveys, usage of services,
customer polls etc. Moreover – each of the departments studied has continuously strived to introduce new services to its portfolio based on the performance measurement systems used.

- Training of Public Administration officials: This is one area where improvement is needed as far as the departments we have studied are concerned. While public administration training appears to be an on-going part of the department’s functioning, it is not clear whether the data obtained from the performance measurement processes is being used in an integrated manner in order to help management make solid public policy decisions or to further develop policy makers. There is insufficient evidence for example whether there is any inter-departmental sharing of best practices (even through DEG), lessons learnt etc.

- Setting up goals and metrics for measuring e-Government progress: The data obtained from the DEG surveys is definitely being used for the purpose of setting up goals and metrics for Dubai e-Government progress, however the effectiveness of such a process is debatable in light of the various complaints received from some of the departments.

- Achievement of Interoperability and one stop services composition: While this is one of the goals of Dubai e-Government, the e-Government initiative has so far not evolved to a status where such a service can be provided to the Dubai public.

- Building or transforming information systems: Our study does not provide sufficient evidence that knowledge from the performance management is being integrated in such a manner as to make this possible. In fact, the complaint of some of the departments is that the technology being used by DEG is not aligned with their specific objectives and does not provide them with the ease of use that has been envisaged. In one case, the department had to drop use of the technology proposed by the DEG and return to their original technology.

Therefore, there is much progress to be done in this area as far as Dubai e-Government is concerned.

- Assisting user access to electronic services:
- Diffusion of new electronic services towards citizens and enterprises
- Setting up large initiatives
- New research approaches in e-Government

In light of our study, the last 4 areas would be considered as “areas of development” for the Dubai e-Government as significant improvements would be required to achieve these
benefits. Some of this can be attributed to the fact that the performance measurement for e-Government is a complex and challenging task particularly in a political environment. In regard to performance measurement in general, we know through our review of the literature that measuring ICT-enabled government reform is a challenging endeavour. There is a noticeable lack of agreed upon key performance indicators necessary to document e-government value and lack of standardized frameworks and guidelines for applying performance indicators to ensure uniform and comparable performance data.

Moreover, E-Governments usually operate in highly politicised environments with issues of culture, bureaucracies, legacies and out-dated procedures and processes which provide an on-going challenge to performance measurement. E-Government initiatives can also span organisational boundaries, and often include other stakeholders outside the defined organisation creating issues relating to boundaries and inter-dependant functions. In such a scenario, it is difficult to identify the objectives and goals against which performance can be measured and obtain data from appropriate sources.

At the same time, there is a lack of clarity on the actual impact that is to be measured - for example are we looking for tangible improvements to operational effectiveness or are we looking for more citizen engagement? These kind of questions need to be addressed by practitioners as well as researchers looking into this aspect of e-Government that is e-Government Performance Measurement.

In light of this - the results of our study are neither surprising nor unexpected. Each Dubai department we have studied has attempted valiantly to institute performance measures and methods to monitor performance. At the same time, cross departmental conflicts and lack of understanding of needs as well as differences in service approaches have created a disharmony in the performance management of the Dubai E-Government Programme.

In conclusion, we can say that while performance measurement has certainly contributed to enabling the departments to regularly improve the quality of the services they provide to the public and to increase the number of public services provided through e-Government, there is a need for an integrated “knowledge management” approach in order to harness the key benefits of e-Government for citizens and users.
III. Link to Literature Review

In the Chapter 2- Literature Review I provided a few important concepts underlying IT use in public service. These concepts are considered key to the effective transformation of public service to e-Government. The concepts are change management, new public management and privatisation and outsourcing. In this section, I review the results of the current study in light of the research on these concepts that I provided earlier. I also provide a summary of the organisational learning and good practices that were identified in the e-Government initiative of Dubai Government.

A: Change management

In the context of the present research project, it is important to study the concept of change management because as government departments shift from more traditional form of functioning to e-Government, a radical shift would also be required in the way the department functions. Apart from the vast technological changes that are required to institute a new e-Government programme, a number of other changes are also required. Moving to e-Government requires changes in managerial and leadership methods, change in systems and procedures, and change in the way employees think about and serve their customers. How public sector officials adapt to these changes will in part determine the success of the e-Government initiative. In this regards, an effective change management process will be key to the success of an e-Government programme. (Riley 2002)

Introducing and implementing a new organisation design such as e-Government requires flexible strategic organisational change. People are adaptive to change. However, the initiators of change must deploy certain skills in order to successfully implement their project. Thus, managers need to have the necessary abilities not only for detecting what needs to be changed, but also for identifying how to introduce the change effectively. Managers are also required to have broad managerial skills to take effective e-Government based decisions (Human Resources Steering Group of APEC, 2004). Similarly, employees need to have the required competencies in order to effectively adopt the technological and intellectual changes that are required in successfully managing the e-Government initiative. Thus, in terms of implementing new e-Government initiatives, it is imperative that all human resources involved in the application of these services need to be trained intensively. A World Bank survey of e-Government projects
that successful e-Government initiatives spend at least 10% of the budget on training of human resources. (World Bank, 2004)

In the context of our present study we have realized that out of the 6 departments studied, most of them have instituted some form of training in order to educate their employees on the use of the new e-Government initiative. This focuses on technological training more than general management training in the use of the kind of decision making that may be required in a changed scenario (one that has moved from the traditional form of public service to an e-Government). We can say that all the government departments need to institute formal change management processes in order to ensure that all employees are fully bought in to the process and cooperate in the provision and evaluation of the e-services. Our study found that in some of the cases, the senior management of the departments was not bought in to the objectives of the DEG and therefore some amount of conflict has arisen which could have a potentially negative effect on the integration of the e-Government initiative of Dubai across the board. The reasons have been due to the technological hitches that the DEG has faced in providing an integrated platform for all departments to utilized and the lack of or insufficient technological support provided by the DEG to the departments. In case of one department, (DLD) they actually withdrew from the DEG initiative because the integrated platform was unable to support their requirements at a time when they needed it the most. This example illustrates the importance of a systematic change management process that the government needs to implement in order to ensure that all departments are on the same platform both technologically as well as in terms of the buy in from the people especially at the top and senior levels.

Appelbaum et al (1998) focus on change management activities as related to the end beneficiaries, which is very relevant to e-Government initiatives. The authors state that the focus of successful organisations is on customers and their needs, which includes investing in ways to improve product or service delivery to achieve customer satisfaction and provide superior service to clients. Organisations should maintain a customer-centric view: those customers and their needs underlie the organisations’ existence. In addition, adapting factors crucial to the success of certain missions and the implementation of solutions to problems are common traits of a successful organisation (Appelbaum et al 1998). The lack of such initiatives can throw an organisation into confusion, and/or leave it stuck in traditional practices that cannot handle the current problems faced. Thus, the lack of such factors stresses the need for a strategic organisational change – as already indicated, moving to a flexible strategic planning process as
opposed to a static form of strategic planning. In our study we found that most of the departments utilise one or the other form of end user feedback measures and they have all attempted to feed the data back in order to reengineer their processes and improve the efficiency. Therefore at the departmental level, some amount of change management has definitely been happening though efforts need to be synchronized across all the departments and with the DEG.

Drucker (1999) focuses on leadership in bringing about change as a critical feature of change management. The author emphasized that being a change leader requires the willingness and ability to change what is already being done just as much as the ability to do new and different things. He suggests a set of required leadership-based practices that make the present create the future. Drucker (1999) also sees leaders as the basic resource for an organisation: without forward-looking managers, organisations cannot function properly. Instituting new e-Government initiatives require a change in the way leaders manage their human resource functions. They must create systems for organisational learning and knowledge management, rework compensation and benefits strategies, support results based performance management measures, implement innovative recruitment and talent management programmes. Applying this focus means that effectively achieving the changes needed to achieve e-Government initiative goals requires strong leadership to direct and motivate the organisation towards the desired changes. There is a strong link between a leader’s competencies and organisation performance. It has been recognised that leaders are a significant power behind the progress and successful development of an organisation’s e-Government strategy and such success is very much dependent upon their attitudes, behaviour and commitment to their specific responsibilities. Values, skills and most importantly, the involvement of the members of the entire organisation must be part of the effective organisational change framework. The committed, authoritative and adaptable role of the management is also significant in establishing quality customer relationship. In our study we found that the management in all the departments has been able to provide a solid leadership in leading the e-Government transformation. All departments have taken robust decisions in utilization of performance measures, designing and implementing customer feedback mechanisms, training of human resources and reengineering processes on a continuous basis in order to ensure quality and consistency.

Nickols (2000) propounds that, in addition to a consideration of the needs and expectations for resolution through the change as well as the strength of leadership of the organisation in directing the organisation towards change, there is need to consider
infrastructural support for change. This refers to targeting the overall capability of the organisation in terms of improved workflow, feedback, service delivery, and public consultation instead of focusing only on a particular area. In e-Government initiatives, leadership and good working relationships are important but infrastructural support for change is also equally important. Infrastructural support is necessary in order to link the efforts of the leader with the contributions of the members as well as the contribution of all members towards goal realisation. While in the departments studied, there appears to be sufficient support for the infrastructural and technological upgrades that have been instituted right from the top management down, some departments have expressed the disappointment with the kind of support that they have received from the DEG.

In light of this research, the current study has found that while the departments being studied have implemented several of the change management measures identified as necessary for success of e-Government initiatives on a piecemeal basis, there is not sufficient evidence to state with confidence that this has been done in a planned and orderly fashion either at department level nor at the level of the DEG where we would have expected such change management planning to occur.

For example, all the departments have designed and implemented training for their managers, and employees on the e-Government services. They have also, with the support of the DEG, designed and implemented various public awareness programmes to mobilise public support for the e-Government services as well as train users in utilization of the online services.

The feedback from end users has been utilized to improve services in general demonstrating that all the departments have steadfastly taken a customer-centric approach to launch and maintenance of the e-services. Infra-structural support at the department level has been effective though not so much at the level of the DEG.

In short, the effectiveness and success of the e-Government initiative at the Dubai Government does not stand up in terms of a lack of systematic change management processes utilized. While our current study did not focus specifically on the impact of inadequate change management processes on the success of e-Government initiatives, this lack of a planned change management process could have been a factor in the inability of the DEG to mobilise the support of all the departments in the e-Government initiative. It might be useful to study all the other departments in the Dubai Government to analyse them from a change management perspective.
and identify what the DEG needs to do in order to ensure that all their needs and requirements are met adequately.

Moreover, as noted in the Literature Review chapter, evidence points to the fact that a large percentage of e-Government projects in developing nations fail (Heeks, 2003) mainly because ICT projects are often applied willy-nilly from an industrialised context without sufficient customisation or contextualisation.

For example, Heeks (2005) explains a number of factors responsible for this failure. These include

- **Hard-Soft Gaps**: when technology is imposed willy-nilly to an e-Government project without regard to the political and cultural factors, they are often rejected by the users and result in complete or partial failures;

- **Private-Public Gaps**: When an e-Government project utilises information systems designed for the private sector and try to fit it into the context of the public sector which has a very different operating culture and requirements, the e-Government project is much more likely to fail;

- **Country Context Gaps**: When Governments of transitional and developing nations (or the IT consultants) try to pull solutions off-the-shelf from other countries (usually developed nations) and impose it on their situation without considering country-specific realities, partial or total failures is the frequent result.

In regard to the departments of Dubai e-Government studied, it is important to note that the Dubai e-Government project has not appeared to put together an integrated strategy which will ensure minimisation of these gaps. For example, the goals of e-Government for each department appear to be different and not aligned fully with the Dubai e-Government goals. At the same time, not all departments are fully satisfied with the IT tools currently in use and have stated that the tools have not provided them with the benefits originally envisaged.

Moreover, while most departments use performance measures which incorporate customer data in some form, there is not sufficient evidence that the e-Government projects have sufficiently ensured user buy in or attempted to make it culture specific. This is even more significant in light of the fact that the end users belong to a diverse set of people with very different cultural and socio-economic backgrounds in light of the diverse demographic spread of Dubai population.
The literature review also indicates that there is a lack of an integrated and comprehensive e-Government change management model that can enable governments to successfully design effective change management programmes to ensure success of e-Government projects. While some authors have concentrated on change management success stories within specific governmental contexts (eg – Low et al 2010), others have presented partial models to explain how e-Government programmes can handle aspects of change such as change management approaches and resistance to change (eg – Ndou, 2004). Some have attempted to fit already existing generic organisational or change management models to the e-Government context (for example Sachdeva, 2009). However these studies have merely explained the process partially and without providing a generic model that can assist the practice of e-Government implementation for managers and policy makers.

Nograšek’s (2011) model is one which holds the most potential in the light of the current research. This model postulates that the following factors need to be managed using a systematic approach in order for the e-government initiative to be successful:

- Organisational structures
- Organisational culture
- Processes
- Technology
- People
- Leadership styles

The author of that study states that most e-government initiatives are burdened by a legacy of bureaucratic procedures and hierarchies, a highly politicized environment with inherent personal rivalries and centralized decision making. The author contends that decreasing the number of hierarchical levels, transforming a hierarchical structure into a network one, decentralising activities and developing new horizontally linked and strategically independent agencies through a comprehensive change management strategy is necessary to ensure the effectiveness of the e-government initiative. Moreover, successful change management in e-government transformation requires a service-oriented culture where employees are motivated to overcome departmentalization thinking, perform more challenging tasks, and to take responsibility. The culture also requires strong organisational loyalty, inter-departmental and inter-organisational cooperation and trust, strong leadership and focus on organisational learning. In terms of processes, successful e-government transformation requires a systematic business process
reengineering and process standardization. The importance of leadership has also been emphasized by this model and the author of that study concluded that all of these factors require a comprehensive and integrated change management strategy.

While an in-depth analysis of the results of the present study (current thesis) against all the elements of Nograsek’s model is beyond the scope of this study, a general review of the results provides some interesting insights for the Dubai e-government initiative. The first thing that comes to light is that while the DEG has certainly been mandated with the integration of the e-government transformation, and while it does appear to have a comprehensive strategy for change management (at least on paper), it does not appear to have been implemented in a systematic manner. For this reason, there is not adequate buy in from some of the departments (in terms of leadership and employees). Also, the results of this study did not provide sufficient information about whether the organisational structure and culture (and other important elements highlighted by Nograsek’s model) of the Dubai government departments have been focused on as part of the DEG strategy for change management. The DEG’s strategy appears to be targeted towards the technical transformation and measurement of operational results rather than policy or culture change as such. As the Dubai e-government transformation is still in the initial stages, it might be expected that DEG may focus on some of these factors at some later stage in the process increasing the likelihood of success for the Dubai e-government transformation. Having said that, it is also important to highlight that each of the departments studied have attempted to put in place some change management practices although without a holistic concept of all the factors that need to be taken into account. More in-depth research into this aspect of e-Government implementation would be very valuable for further research of the sort that we have conducted in our present case as well as provide guidelines for change managers implementing e-Government projects of this kind.

Apart from this, change management it itself is a complex process with many and different stakeholders and varying factors to take into account. In the e-Government context, we add to the mix political undertones and bureaucratic issues that make the whole process even more difficult to design and implement effectively. Sachdeva (2009), for example, has enumerated 28 factors that cause resistance to change and could lead to total or partial failure of e-Government projects. Generic models such as Kotters 8 step model or other frameworks that have been postulated in the corporate (private sector) context, have largely been the output of practitioner efforts. Applying these willy-nilly to the e-Government context may lead to loss of
valuable information on how change processes actually occur in the e-Government context and whether we need different models and processes to guide us in this regard.

B: New Public Management

New Public Management constitutes a set of concepts relating to how Government departments have expanded and improved the provision of their services in order to improve their effectiveness, transparency, accountability and public service. It evolved during the 1970’s following a movement towards large scale re-organisation of the public sector in the western/developed world to make it more efficient and accountable. (Bonina and Cordella, 2008). The concepts under new Public Management include productivity, marketization, service orientation, decentralization, policy, accountability (Kettl, 2005); disaggregation, competition, incentivization (Dunleavy et al, 2006); organizational restructuring, and performance orientation (Batley and Larbi 2004). Scholars have argued that ICT and specifically the World Wide Web have played a great role in assisting the reform and transformation of the public sector into an accountable and transparent body (Bonina and Cordella, 2008).

One underlying assumption of the new public management approach here is that one of the most critical aspects of reform is to use contact or interaction between and among the parties involved in the adoption of IT in public service to facilitate acceptance and change, instead of depending on hierarchical relations as the dominant means of control. This means that there should be communication between the different organisational units involved in the adoption process to ensure a unified understanding of the process and the respective contributions of the various units to the endeavour - instead of merely expecting organisation members in the lower segments of the hierarchy to automatically follow the commands of the key decision-maker by virtue of hierarchical authority. This is necessary because they need to be able to decide and act in an informed way such as providing feedback as to problems and needs. Organisational units need to be enlisted in the mission rather than just required to follow specific commands with little sense of what the command relates to or needs coordination with what other units are doing. A move to e-Government can assist in the transformation of the public sector from a hierarchical, centralised body with decision making held by few towards a decentralised, participatory and democratic organisation with decision making distributed to those closest to the customer/user – administrators and customer service professionals. Therefore E-Government closely follows the
goals of the New Public Management – that is creating a democratic and participatory public sector with a strong focus on performance, results and meeting customer needs.

In light of this research, it is evident from the results of the present study, the Dubai Government departments have adopted a number of methods from the private sector to provide better services to their customers. The results show that the departments have definitely adhered to some of the assumptions underlying the concept of new Public Management. The emphasis on strategizing on the basis of end user feedback, the focus on obtaining regular internal and external feedback and the openness to reengineering processes in line with the needs of the users and to improve efficiency and effectiveness all demonstrate that the departments have instituted a number of internal reforms.

For example – performance measurement methods such as Balanced Scorecards, Crystal Reporting Systems, international best practices and IT Lab standards etc. have been utilized to ensure that the public receives high quality services. While the government department studied here have all faced many technical, strategic and policy challenges while designing and implementing the transformation to e-services, they have been on the same platform as regards the government’s will and determination to ensure that the transformation does take place and in a timely manner. All departments as well as the DEG have proactively elicited public involvement through feedback, training and polls/surveys to mobilize public involvement in the e-Government initiative. They have also endeavoured to bring about more transparency in the provision of services through the adoption of various ICT methodologies.

While NPM proponents have forwarded a set of reinvention values such as efficiency, cost-effectiveness and customer satisfaction, an alternative set of administrative values, such as accountability, democratic procedure and equity, has been reemphasized by other theorists in reaction to the entrepreneurial government paradigm.

Developed mainly in the European context, NPM is considered an umbrella concept of neo-managerialism that includes various managerial reforms for market efficiency, decentralisation, devolution, customer satisfaction, and quality improvement. (Jones & Thompson, 1999).

What has been largely missing in terms of the Dubai Government departments studied has been the managerial reforms that should normally accompany a move towards a reform of the management of government departments. This could be explained by the fact that while the Dubai e-Government initiative has moved forward in leaps and bounds as far as the
operational/technological aspect of provision of e-services, it has not advanced very far ahead in terms of a move towards use of e-Government to bring about policy reforms, public accountability or transparency per se.

C: Privatisation and Outsourcing

The benefits of privatization have immediate relevance to the present study particularly in the context of e-Government. Economic theorists have argued (Elam, 1997) that the government may not be as motivated to keep costs of a public service to the lowest possible (thereby keeping down the costs to the public exchequer and thereby lowering the taxes for the general public) as a private organisation who might be contracted to provide the same service on behalf of the government. Private organisations who operate for profit would obviously have more incentive to provide the same service at lower cost and higher value in order to maximise their profit margins and also satisfy the customers so that they could justify keeping the contract for a longer period of time. Due to the fact that government departments function as a monopoly in their area of service (lack of competition) and have no incentive to maximise profits they are less likely to focus on customer delight, cost reduction, or working to higher and higher levels of quality and performance as would any private organisation that may be contracted to provide that same public service. (Elam, 1997) Due to this, it is likely that private organisations would be able to implement specific public services at a higher level of quality and customer satisfaction than a public organisation. However in our study we found that regardless of whether the government departments have utilised external IT consultants or deployed their own internal sources, they have attempted to reduce costs for their customers and optimize on available budgets. Hence to that extent the question remains open as to whether privatisation impacts cost reduction or efficiency improvement in government departments in Dubai which have launched e-Government initiatives.

D: Research on the good practices in e-Government and comparison of Dubai departments in terms of the e-Government they provide

In Chapter 2 – Literature review, we provided several examples of good practices in e-Government initiatives across the world and what makes e-Governments succeed or fail. Some of these have been analysed below in relation to the findings of our present study.
Today, human society is a web of interconnected information networks. Technology – especially the internet and mobile telephony have enabled people to obtain service 24 hours a day. This technology has also enabled service providers and businesses to conduct their operations with great efficiency and providing high quality customer service. Dubai does not lag anywhere behind the developed world in terms of the way commercial businesses operate their functions. Today smart phones are a way of life in Dubai and the internet is an integral part of the Dubai lifestyle.

The Government of Dubai proactively decided to tap into the immense potential that the internet has for providing an improved experience for its citizens and residents while using public services. Its aim was in keeping with best practices of international governments worldwide that is transforming the government towards a citizen centred government which is transparent, accountable and responsive to citizen needs. Towards this, it set up the DEG which is the primary government unit whose responsibility is to focus on offering full government services to the public through online transactions.

DEG aims are to ensure that 90% of the services offered by the government is made available online and ensure a more efficient public transaction through the integration of services offered across different government departments but which are of a similar nature. It also aims to set up a ‘Single Sign on Project’; to integrate government functioning and to measure and evaluate customer satisfaction among users of e-Government services. The establishment of the DEG can be considered as the most striking example of the good practices used by the Government of Dubai, ostensibly to make it easy for citizens to obtain service and interact with the government; improve government efficiency and effectiveness; and improve government’s responsiveness to citizens.

Some of the good practices that can be gleaned from within the function of the DEG itself are (a) provision of consultancy services to government departments and other local and international agencies who seek knowledge, technical support and recommendations from the DEG department to improve the success rate of projects that aim to transform public services to online transactions (b) educational programmes for the public on the use of e-Services, computer technology and the Internet and to create technological awareness through the e4@ll Initiative Programme (this programme includes the e-Citizen and e-Learning programmes, and the e4all magazine) (c) provision of training sessions for government employees and public users (d) ensuring transparency for the public by uploading all necessary reports, power point
presentations, pdf magazines, DEG strategies, quarterly reports, goals, research papers and studies to ensure easy information access for involved researchers (e) willingness and effort to ensure customer satisfaction by conducting regular customer satisfaction and public awareness surveys and production of periodic statistical reports of the received calls, complaints, and suggestions from the public, which measure the user’s rate of satisfaction (f) incorporation of customer feedback into process re-engineering and creation of plans and policies that aim to increase public participation and involvement in online government transactions, as well as to design strategies that will encourage the use of the e-Services especially within the targeted public sectors (g) measurement of satisfaction of government departments and partners with the effectiveness and efficiency of the online services provided by DEG through periodic field visits (h) effort to identify and define a set of standard criteria that enable the evaluation of all the available government services online through collaboration with other government departments (i) training employees of various government departments to equip them with the knowledge and skills to evaluate their own online service performances (j) helping the other departments to continuously plan their e-services effectively and efficiently by sending the results of the annual assessment procedures to them.

E-Government as an IT system can be broadly defined as the concept that helps make governmental transactions simple and efficient (Sprecher 2000). Fountain (2001) also suggests that e-Government is somewhat synonymous to a virtual state wherein most of the operations, structure and capacity of the government are based on information and communication technology. In light of this definition, the services, goals and missions of the DEG serve the purpose of ensuring smooth and efficient integration of the transformation of Dubai Government to an effective e-Government which is able to help citizens have a stress free experience while interacting with various government agencies.

Our study has also identified several examples of good practices in the various departments studied. For example, all departments use various customer satisfaction measures to analyse ease of use, and process efficiency. All departments have proactively attempted to eliminate red tape and delayer processes. They have all involved internal employees in the transformation and obtained their feedback. They have all involved the public and mobilised the public support through polls, training, and awareness programmes. They have all fed the results back to re-engineer processes, fix bugs and towards continuous improvement. In short, all departments have utilised various methods to facilitate easy delivery of services to public; reduce
layers of government management; make it possible for public, businesses, other government departments, government employees and researchers to easily find information and get service from the government; improve the department’s service delivery processes and decrease costs through integrating and eliminating redundant systems; and reform government operations to ensure speedy response to citizen needs.

This is in keeping with the definition of e-Government is as a ‘tool to enhance the economic competitiveness of business and to empower citizens’ (ESCWA, 2003:2), and as a means to improve both service delivery and government decision-making (OECD, 2001). Research has also identified that the benefits to citizens and businesses from E-Government is better delivery of services and information; the creation of new employment opportunities; reform of the public sector; empowering citizens through access to information; bridging the digital divide; and improving efficiency, effectiveness, transparency and accountability of government processes (ESCWA, 2003). The perceived benefits even stretch to increase the possibility of foreign investment and assistance (ITU, 2002). Our study has found that the department’s as well as the DEG have designed and implemented various good practices aimed towards providing such benefits for their users.

We have also found that the larger the department in terms of the workforce it employs, the more the number of services it provides to the public. While it is difficult to say with certainty how significant this finding might be in the context of this study, we can conclude that there is some link between the skills available with the department and the speed and efficiency with which it can perform its IT transformation. Whether there is a cause-effect relationship between these 2 variables (that is, between the number of employees in the department and the number of e-services it provides) is beyond the scope of this study. This does, however suggests some interesting potential areas to explore and analyse in future studies of e-Government in Dubai and elsewhere. We can explore for example whether the Category III departments (as explained in our classification in Chapter 4) which provide a large number of e-services have a larger user base and may be required to handle a larger demand for e-services - the argument would be that as citizens became familiar with technologies, they began demanding more and better quality e-government services. Future research could also focus on the progress of the e-Government of Category III departments in relation to Category I and II departments, to find out whether such departments are likely to develop new technologies to make their e-government services more sophisticated, providing enhanced abilities for citizens to connect and
communicate with the government online. Moreover, Category III departments with a large workforce are more likely to benefit from transformation to e-Government - or at least, this would be the hypothesis, since providing services online is likely to reduce costs associated with processing transactions in person for example.

**Conclusion**

In general, the study has been largely successful in answering the research questions posed at the beginning that is in brief what performance measures have been used by the Dubai Government’s e-Government initiative (In terms of 6 departments studied and the DEG) and how these measures have helped the departments to improve their public service delivery.

The research has found that a variety of performance measures as well as measurement systems have been used by the departments mainly focusing around customer satisfaction, process and operational efficiency, speed of response, ease of access, and cost reduction. These performance measures have facilitated the departments to improve their public service delivery as evidenced by the positive customer satisfaction rates and feedback received from the users. The results of the feedback have been fed back into more enhanced process re-engineering and further improvements.

On the other hand, none of the measures attempt to evaluate whether the e-Government initiative has resulted in improved transparency, accountability or public policy making. In addition, the departments use different performance measurement systems. This means that we lack a common measure of performance to permit comparative analysis of the different e-Government departments’ performance - except perhaps for customer surveys that utilised scales and draw comments or suggestions. This means that we have to consider differences in performance measurement systems in order to understand what the various evaluation results might tell us about relative patterns of success across different departments.

At the same time, we identified that the departments studied in the current study have faced a number of challenges in executing their internal and external web technologies. The progress of launching the e-services has often been slow and beset by problems. While the DEG has attempted to provide a single platform for all departments to launch their e-Government initiatives, they have often encountered hitches in doing so – with one department actually pulling out of the joint effort because the technology provided by the DEG was not adequate to meet their requirements.
Our study also identified that there needs to be more cooperation and collaboration among the government departments, more sharing of technological resources and more buy in from the management of all departments if the DEG and the Dubai Government wants to succeed in presenting a unified face to the end user and improving the quality and consistency of the public services. While the research has found that the e-Government initiative in Dubai has been largely successful in terms of the number of services being offered to the public online, the training being offered to members of the public in order to help them utilise the services without having to visit the department in question and the rigorous efforts to institute mechanism to obtain and end user feedback to continuously improve services; there is still a long way to go in order to be considered a tool for public reform, citizen empowerment and transparency/accountability of government in general.

The current research study has thrown up a number of important learning for the Dubai e-Government initiative in terms of having a more planned change management process, integrating the lessons learnt from each department to improve the entire initiative and to feed the results of departmental feedback and end user feedback towards policy reform and empowerment of citizens. While the study has some limitations which I will discuss in the next chapter, it can be considered one of the pioneering research on the issue of e-Government in the UAE and the Gulf region and could be extremely valuable for researchers as a stepping stone to further and more in–depth across the board research on this topic.
CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

I. Introduction:

Governments encounter many setbacks in their IT projects due to the failure to understand all the factors that are involved in information systems, including the management and organisational aspects. To understand the entirety of the IT, a wide range of interactions or linkages involved in the business processes, and a wide range of factors surrounding IT (such as economic, political and social issues) deserve consideration. Only then can we be sure that important issues have been taken into account. IT can often help an organisation, whether public or private, achieve the goals and objectives it has determined for itself.

Compared to the other emirates and countries in the region, it is evident that Dubai has reached the developed stage in the e-Government sector of public administration initiatives. This reflects early commitment to the transformation of public services (Chapter 3) together with continuous learning from experience and the support that the project gained from the different departments (Chapter 4 and 5). This is symbolised effectively by the single sign-in service and the single portal that host the Dubai services from different departments, adhering to the objectives of the entire government.

Changing public service requires a comprehensive consideration of the factors and parties involved and affected by the change. This implies that, in relation to performance measures for e-Government initiatives, holistic measures—uniform measures applicable to all the e-Government initiatives of the different departments and sufficient to cover all aspects of the e-Government initiatives—are needed to determine overall effectiveness of the initiative. This is as opposed to department-by-department evaluation. Without holistic measures, it would be difficult to determine whether the different departments have achieved the objectives of the Dubai E-Government and to assess aggregate performance.

Overall, the purpose of this research has been to provide an understanding of the appropriate framework for assessing e-Government initiatives to provide better services to citizens and businesses; we have done so by presenting the current progress and performance management approaches of the selected government departments in Dubai. The hope is that this will enable other organisations in the public service to improve their approaches to providing better services to the people by improving their information system. The results and findings of
this research project provide should help in designing systems for institutions and organisations that belong to the public sector. Messages that are developed here include the streamlining of systems with the vision and goals, customisation of systems according to public service needs and demands, and enhancement of information security to improve the reliability of e-services. In this chapter I present some of the important lessons that can be derived from this case study, the important recommendations for the Dubai Government, how the findings can be applied to other cases and the limitations of the current study.

II. Important lessons and learning:

Overall, the research was able to answer the research questions and fulfil the objectives we set ourselves. The research was able to describe the utilisation of the various Dubai Government Departments of various performance measures to achieve change and organisational learning in Chapter 3, 4 and 5. The major lessons that can be derived from this study are:

A: Value of this research to the success of performance measures as applied in e-Government initiatives:

Research presented in Chapter 2 of this thesis had highlighted the fact that ICT plays an important role in the general reform of Government – as expressed in the form of e-Government with its resultant transparency and accountability as well as its potential to involve citizenry in Government workings and make Government more responsive to citizen needs.

At the same time, research has not thrown up any integrated performance measure that e-Governments across the world have used to measure the benefits of e-Government as expected under the umbrella of the New Public Management. For example, the four country-specific case studies that I presented in Chapter 2 (namely the performance measures used for e-Government evaluation in USA, UK, Canada and Hong Kong) showed that that although these all utilise performance measures to assess the progress of their e-Government initiatives, they mainly focus on operational efficiency and service delivery (ease of use, accessibility, online footfall, frequency of visits, savings, customer satisfaction, and site reliability etc). Research has not yet thrown up specific performance measures used by Governments to study the impact of e-Government on general reform, transparency, involvement of fringe communities in government and mainstream and so on.

As noted before, as governments are turning more and more towards ICT as their preferred mode for providing public services to citizens, some research studies have cautioned
public sector organisations to keep the focus on the overarching goals of government which primarily being social welfare. Unless the aims are e-Government is aligned with overarching government philosophies, they are unlikely to have any major impact on public service delivery (Visser and Twinomurinzi, 2008) While it is well documented that use of ICT will and does reduce costs of providing services in some contexts (for example in the year 2000 alone, US Banks were able to reduce their costs from $ 1.27 per teller transaction and $0.27 per ATM transaction to a low as $0.01 per online transaction by shifting to an ICT based service thereby saving millions of dollars) (Lucking-Reilley and Spulber, 2001), there may be some fallouts of an overdependence on ICT to provide public services. One of these is the risk of potentially excluding a large section of the public who may not have access to the technology required to access ICT based public services – most notably the poor or those on the fringes of the society. (Jones and Williams, 2005). This is even more relevant to Dubai due to the fact that a large percentage of the expatriate population (which in itself comprises around 80% of the population of Dubai) comprises of labour workforce and they may not have access to computers or other devices that may be required to access such public services being offered by the government.

Enhancing administrative control therefore, can lead to several positive effects including the reduction of inefficiencies in the government (Kalathil & Boas 2003). By cracking down on corruptive and inefficient activities, economic development and stability are promoted. Economic stability and general reform would be especially important for developing nations particularly in the Middle East in light of the recent civil unrest and citizen’s demand for reform in government. Therefore, a study of this kind (our present research) would be especially valuable as a stepping stone for further research in this area.

This study can be considered as a first step as it has provided a baseline to measure the effectiveness and progress of the e-Government in Dubai, which is still in a stage where operational issues are being resolved. Further research perhaps a few more years down the line, could be conducted to evaluate how the performance measures have changed in order to include not just operational impact but also impact on policy, reform, transparency and increased accountability of the Government of Dubai in general. This study also has value for study of e-Government in other nations in the Middle East – whereby a comparison could be made in terms of progress of e-Government. It would also facilitate sharing of lessons learnt in order to improve functioning.
B: *E-Government initiatives should allow government departments to have both need specific performance measures as well as integrative ones that can aid general policy reform:*

Our study highlighted the importance of context-based selection and utilisation of performance measures in order to achieve accurate and relevant results. The case studies have shown that the performance measures selected and applied by DLD and DMD were based on the recognition of their needs and objectives. This is the reason for the differences in the performance measures used by the departments. By doing this, the departments were able to determine their weaknesses. DLD was able to determine that it lacked the human resource competency to effectively implement its e-Government initiative. DMD was also able to determine the e-services that contributed minimal savings less than its target.

On the other hand, the presence of a comprehensive or integrative perspective, as compared to limited views of the importance, use and benefits of performance measures, is no less important in order to cover all areas of the initiative and derive a comprehensive understanding of issues together with options for resolving issues.

Although DLD and DMD were able to determine their areas of strengths and weaknesses, the application of performance measures were not able to provide enough data to support the overall assessment of the Dubai E-Government, which is necessary to determine whether policy support is sufficient or effective in directing or guiding the implementation of the e-Government initiatives of the different departments. Although DEG and TEO provided for basic performance measurement standards, these are not enough to cover all areas of e-Government initiative implementation as shown in Chapter 4. Establishing uniform holistic standards would allow the different departments to apply, according to their own contexts, performance measures that cover external feedback as well as internal performance evaluations of the organisational aspects such as employee competence and cost-effectiveness of resource utilisation.

Uniform performance measures would also allow DEG and TEO to determine effective means of strengthening inter-departmental linkages to improve e-service delivery. There should be basic measures that all departments can use to achieve uniformity but the departments can also use additional measures or use the outcomes of the measures variedly as needed based on their context. Information on employee competence and customer satisfaction can be obtained by all the departments but the manner of using the information in fashioning policies could differ. The top five conclusions of the research in this regard are:
Performance measures should cover the comprehensive process of organisational reengineering that involves structural change as well as department and personnel reorganisation.

Performance measures have strengths and weaknesses and as such have varying applicability to e-Government initiatives.

Appreciation of the role of performance measurement systems in e-Government initiative aids in the selection of appropriate generic and department level measures.

By integrating multiple measures into the performance evaluation of e-Government initiatives, these should encompass the areas of service production, service delivery, and service production-delivery.

The use of performance measurement in e-Government initiative of Dubai was able to draw internal information and external data on the extent of goal achievement and the effectiveness of processes and systems.

C: Need for integrated research on e-Government practices, processes and models: As stated in Chapter 6, this study suffered from the limitations imposed by lack of integrated models that could aid the research process. For example, while research on change management is aplenty, even with regard to e-Government, there is no integrated and holistic change management framework that can guide research into this aspect.

Similarly, with regard to new public management and privatisation, we find a paucity of research into whether and how e-Government has enabled the strengthening of good governance values rather than merely resulting in operational efficiencies, cost reduction or customer delight. In order to guide further research into this area and also to enable practicing managers to put together effective e-Government Programmes of the kind instituted by the Dubai e-Government Programme, we need more and deeper research and theories that provide comprehensive guidelines for practitioners, policy makers, officials and researchers.

D: Need to focus on e-Government as a means to deliver public sector reform: In the literature review section we discussed a number of theories and models which have propounded New Public Management as a valuable concept promoting e-Government as a tool for public sector reform. However, this same concept has often been criticized because it appears to focus on the negative aspects of government functioning while neglecting the values of bureaucracy such as
promotion of citizen interests, human rights, individual rights, justice and equity, democratic values etc.

We notice that most of the studies into how e-Government can promote public sector reform focus on apparent benefits of e-Government transformation such as cost reduction, operational efficiency and transparency. Moreover, ICT has often been the focus of such research and often researchers have focused on the benefits of computerisation and automation of government services.

Similarly, research on outsourcing and privatisation within the e-Government context has focused on such benefits as customer service and quality of services. For example Elam (1997) has argued that government organisations effectively are monopolies and therefore are not as motivated to provide customer delight as a private sector organisations and therefore e-Governments may be able to provide similar benefits to citizens which normal non-ICT based government functioning cannot because e-Governments traditionally bring in private sector organisations to handle key aspects of their functions. Such an argument assumes that private and public sector entities are more or less similar structures with similar frameworks, whereas the fact is that the aim of government (which is primarily social welfare and promoting citizen rights) is significantly different from the aim of business and therefore it is difficult to integrate the two in such a simplistic manner.

Heeks (2006, b) states that government operations are not business operations and that views and models from business and eBusiness cannot be implemented without taking the differences in core values into account. Sannarnes et al (2006) echo this argument when they state that e-government literature has used relative simple frameworks and observations from the NPM and innovation studies and applied them in studies of e-government implementation and that the domain has only been subject to research for about half a decade and is still unexplored in some of these aspects.

Of course, we can conversely argue that the stated objectives of e-Government programmes often focus on similar benefits that is operational efficiency, customer delight and cost reduction. In the USA, the objective of e-government as to integrate islands of automation and to simplify business processes to maximise the benefits from technology; in Canada the aim is to redesign services in ways that ‘make sense’ to citizens, businesses and international clients; in Norway and Spain the emphasis is placed on the modernisation of public services and administrative procedures; while Singapore stresses the need to create a knowledge based work-
place for technology experimentation (Navarra and Cornford, 2005). However, e-Government cannot be separated from the Government in general and its aims must closely replicate the aims of good governance and national values. Therefore e-government must primarily be seen as an agent of reform of public management and for achieving better (or good) governance.

Although e-Government provides a great potential for citizen and civil society engagement, as well as for public consultation and political discourse, there has been not enough research into these aspects of e-governance. Our current study too indicates that the Dubai e-Government project has not sufficiently focused on larger aspects of public sector reform such as those mentioned earlier, has the e-Government enabled the fringe sections of society to receive better services from the existing government channels for example. It is true that the e-Government of Dubai is still in the nascent stages of development and that perhaps as the programme moved into the "integration" stage we may expect to see benefits which move beyond operational efficiency and enhanced access to services to such improvements as reduction of corruption and citizen empowerment.

E: Specific recommendations for the Dubai Government: Our study is valuable specifically for the Dubai Government as it has thrown up several issues and challenges which if resolved would facilitate the improved functioning of this initiative. I also examine in this section, some of the challenges faced by the Dubai e-Government initiative in light of some of the literature review I provided in the context of e-Government challenges.

The following are recommendations for the Dubai e-Government initiative:

- Dubai E-Government needs to gain greater public confidence to overcome the communication gap and barriers to the full use of e-Government Services through general public education
- Focus on building interactive services
- Develop transparency to support full data sharing
- Establish procedures for the documentation of the available system workflows
- Support by more advanced departments in e-Government initiative to struggling departments through information sharing
- Develop inter-department collaboration
The recommendation in relation to the research investigation is further research in drawing similar information on the other departments to derive further generalisations on the impact of performance measures on e-Government initiatives.

The results of the study were able to point to various implications for action by DEG and TEO. While the concepts from the literature considered the theoretical impact of performance measures on e-Government initiatives, the results of the study provided some of the context-based details of the use of performance measures by actual government departments engaged in e-Government initiatives. The Dubai E-Government needs to gain greater public confidence to overcome the communication gap and barriers to the full use of e-Government Services though continuous effort to increase public awareness, knowledge and skills of using the technological advancement of the Internet. This calls for general public education on the use of electronic communication to access government services and meet the target of 90% government services provision online (This target been announced for the year 2007 by Dubai Ruler two years after launching Dubai e-Government initiative). Information campaigns and increased rate of usage should be seriously implemented for the completion and full success of the project as mentioned in Chapter 5. This is especially relevant in the light of the research by Jaeger and Thompson (2003) quoted earlier in thesis. To repeat for reference, according to Jaeger and Thompson (2003), how well a user is able to access and utilise e-government is directly dependant on how easy it is to access the service and upon the user’s skill. If for example less advantaged sections of the citizenry are limited by their lack of skill, education or access, e-government will not be successful. Lau (2003) similarly found that while e-government can improve services to citizens through other channels, the inability to provide online services to all citizens can hold back e-government projects.

DEG’s own Portal is only suitable as a static informative site that does not contain interactive services. As such, there is need to provide a more advanced Portal to accommodate the more advanced electronic stages of other government departments. Moreover, full electronic transactions between the departments are still impossible since there are still services in the concerned departments that are not yet in their electronic versions as mentioned in Chapter 4. In this light, productive competition between departments – for example by making the bottlenecks and lagging departments more visible – could be an effective way of stimulating action to
improve the entire e-Government system through transparent technical and managerial developments.

One of the challenges confronting the Dubai e-government initiative is the problems of information ownership, and of security (especially with respect to private company partnerships of each government department). As Lau (2003) stated, e-Governments which do not address citizens' concerns around maintenance of privacy and security of the information provided are not likely to be as effective as those which demonstrate a strong interest in maintaining citizens’ trust that information provided will not be misused (Lau, 2003). These problems in the Dubai e-government initiative we found are in large part are a product of unclear rules and responsibilities. Information duplication slows and delays the completion of DEG’s on-going technological projects, particularly those of the synergistic services, due to inadequate communication among concerned parties. There is need to determine the degree of integration that would ensure information security but at the same time supports improved e-service delivery via inter-departmental linkages.

The e-Government committee needs to have a sense of transparency, by considering the overall service delivery goals of Dubai to cope with the development of each department and to enable full data sharing. The entire Government and the e-Government initiative will be in a better position if it is further equipped with the shift from the top-down decision-making that will support the aims of the project, and is more able to facilitate the employment and involvement of qualified and quality people to consist the professional team in each department. It is important to thoroughly examine the possibilities and risks of reengineering processes and systems, as well as exploring ways of achieving such reengineering most effectively.

The public sector likewise lacks procedures for the documentation of the available system workflows, of the e-Government initiative initiatives that have been undertaken and the stages they have reached, and for collation of records of the e-Government project progress and development among each government department. Greater effort by TEO to collate data could address this.

As Holmes (2001) has suggested, it is the moral duty of the government to ensure that public services are accessible to all citizens regardless of their skill level, ethnicity, age or other restrictions. In this context, it is important for every department of the Dubai e-government initiative studied in this thesis project to be sensitive to the shortages and weaknesses of other
government units when it comes to technological capacity, knowledge and skills. This will only support information and skills sharing but also a signal to the departments in terms of their relative status in engaging in e-Government initiative and therefore help them to work together to make the services accessible to all users. A simplistic comparison of the achievements of each government departments would prove misleading due different target customers and organisational size. As Holmes (2001) has suggested, more and closer partnership between the public and private sector is needed and for designers of e-government transformation to be more context specific (keep in mind cultural, political and organisational issues while designing e-government platforms rather than trying to impose private sector frameworks to government without taking into account critical differences). For the Dubai e government project, what is required is teamwork and systematic problem-solving approaches to overcome the challenges that beset the full functioning of the e-Government project. Internal training of staff and employees of government units should be practiced, encouraging full use and implementation of the e-Government initiative objectives through the presence of the incentives, clear vision and open-minded approaches among individuals of authority.

A major reason behind problems in the implementation of the Dubai e government initiative was the presence of unqualified persons in too many of the highly important technical and managerial positions as shown in Chapter 4. This is not unusual as found by Dawes (2008) who found that a major challenge of e-government initiatives in developing countries is the lack of ICT skills in the public sector. According to the author, chronic lack of qualified staff and inadequate human resources training has been a problem for years though it is recognized that the availability of appropriate skills is central for successful e-government implementation. In this regard, the Dubai e-government will greatly benefit from adapting best practice hiring processes to meet the ever-increasing demand for competent and hard-working labour units among each department. This adaptation involves several elements. The conventional Human Resources management practices (particularly in the public sector, but probably also in private firms) need to be restructured. The career paths among staff and employees should be observed, to promote continuous development of the organisations though competitive members of the workforce. Full technological independence of the government should be realised by enriching technical skills and knowledge of the members of the public sector.
Dawes (2008) also found that leadership is one of the main driving forces of every new and innovative project or initiative especially in the developing countries. The author contends that a leading player (organisation, institution), which is able to understand the real costs and benefits of the project, to motivate, influence, include and support other organisations and institutions, is required. Leadership is necessary before, during and after project implementation. In our present research, we found that the lack of internal communication is detrimental to the attainment of the goals and objectives of the entire Dubai Government. This has been evident in a clear absence of planning among several departments and the lack of the professional environment, which obstructs many project implementations as shown in Chapter 4. Management changes should be approached with rational and business-like perspective in order to avoid waste of money and effort as opposed to personalized management by sticking to flagship projects.

Moreover, resistance to change should be minimised through full collaboration with every member of the organisation and transparency between parties. During implementation initiatives, collaboration (and necessarily compromise) among government organisations practices required to fully attain technological advancement of the government. Individual members of the departments may have fears about their lack of technological capacity - these should be addressed with open-mindedness and willingness to help. Issues and concerns on projects should be rapidly and visibly being addressed, with a commitment to speedy resolution, to keep morale and motivation high. This will help equip every government department with productive and cooperative employees and staff.

III. Limitations of the study and recommendations for improvement

The study has presented both benefits and drawbacks of the e-Government system. Such evaluation and assessment of the application of information systems in the public service arena should contribute to improved design of public services utilising online communication technologies. This will help underpin a holistic approach to practice, and further in-depth investigations into the overall effect of modernising the operation systems of the e-Government.

However, there are also further concepts to develop and data needed, which comprise the limitations of the study. There are twenty Dubai government departments offering various e-services. However, only six departments were included in our size-based categorisation (which also reflected the resources and extent of e-services offered by the departments). This was due to
the difficulty in obtaining information because of the highly disorganised character of the other departments. Moreover, only two departments were considered in the case study. Time constraints resulted in the consideration of in-depth information on only two departments. Further research is needed creating similar information on the other departments to derive further generalisations on the impact of performance measures on e-Government initiatives.

Investigating the impact of performance measures on the e-Government initiative of Dubai proved to be a challenging feat because of the number of important considerations such as using the appropriate data collection and analysis methods as well as organising the bulk of data collected. Working under time constraints and gathering information from departments, some of which are highly disorganised, placed limitations on the research. However, these difficulties in the research process, in a way, proved to be fruitful by providing preliminary information on the impact of performance measures on e-Government initiatives to serve as basis for future researches and policy consideration of the DEG and TEO.

In relation to further research, an expansion of the study could include case studies on most of the departments to support generalisation. A comparative study with other countries or focus on other countries could be made. Other methods can also be used to derive a different perspective of performance measures such as ethnographic studies.

There is need to further develop performance measurement concepts since the study shows that performance measurement systems do not necessarily lead to improved performance. A look at the performance measures used and the use of these performance measures by the different departments show the differences in performance. DLD only employs a performance measurement that collects data from customers while DMD also collects data from employees. However, both are considered as the best performing departments in terms of e-service delivery. Performance measurements concepts have been shown to be valuable, but clearly we cannot assume that an absolute best practice exists which will always result in good performance outcomes whatever the context. Specific prescriptions for performance measurement will neither be sufficient nor necessary for desired outcomes and learning, but the weight of evidence here suggests that performance measurement systems can be very important in promoting them and that they deserve significant attention.
IV. Conclusion

The findings of this study make an initial, yet important contribution to our knowledge of the importance of performance measures in evaluating the effectiveness of e-Government with specific reference to public sector reform in the Dubai Government context. The findings of this study contribute to enriching the understanding of how the e-Government of a Middle Eastern nation such as the UAE has progressed in terms of providing citizens with easier access to public services. It also throws up the importance of having both department specific performance measures to evaluate the success of operational improvements in government functioning as well as holistic measures that can evaluate the impact of e-Government on general public sector reform. It would be very valuable to repeat such a study in a larger context incorporating other departments as well as in the UAE as a whole which will provide researchers with improved data with a more representative sample in a similar context.
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Appendices
Appendix 1: DMD’s Services, Launch Date and E-Government initiative Phase

<table>
<thead>
<tr>
<th>Service</th>
<th>Description</th>
<th>Launch Date</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Control Health Certificates</td>
<td>Primarily serves companies that operate in Dubai within the food industry, importing, exporting or producing food for human consumption in which a customer can apply for a number of different types of certificates online, amend application and view the status of the application.</td>
<td>May 2002</td>
<td>2</td>
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<tr>
<td>Export Food Health Certificate</td>
<td></td>
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<td>2</td>
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<tr>
<td>GCC Export Health Certificate</td>
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<tr>
<td>Radiation Test Certificate</td>
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<tr>
<td>New Food Label Approval</td>
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<tr>
<td>Food Destruction Certificate</td>
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<td>2</td>
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<tr>
<td>DMD Clinic Health Certificates</td>
<td>Primarily serves companies in Dubai that apply for occupational health cards and medical certificates as a part of their normal operations.</td>
<td>October 2002</td>
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<tr>
<td>Apply for Medical Certificate</td>
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<tr>
<td>Apply for Occupational Health Card</td>
<td></td>
<td></td>
<td>1</td>
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<tr>
<td>Veterinary Services Health Certificates</td>
<td>Primarily serves customers in Dubai who are involved in importing or exporting animal and veterinary items or live animals, which include Imported/exported animal and veterinary items health certificates, and the issuing of veterinary health certificates.</td>
<td>April 2002</td>
<td>1</td>
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<tr>
<td>Apply for Imported Animal or Veterinary Items Certificates</td>
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<td>1</td>
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<tr>
<td>Apply for Export Animal or Veterinary Items Certificates</td>
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<tr>
<td>Apply for a Veterinary Health Certificates</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Food Import &amp; Re-Export</td>
<td>Helps DMD customers (i.e. dealing with food import or export) apply for a number of different types of certificates online, amend his application and view the status of the application.</td>
<td>December 2002</td>
<td>2</td>
</tr>
<tr>
<td>Apply for a Food Import Request</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Apply for a Re-Export Request</td>
<td></td>
<td></td>
<td>2</td>
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<tr>
<td>Demarcation Service</td>
<td>Offered to the landowners, civil engineering consultant and contractors in which land parcels extents and boundaries are accurately marked on ground based on</td>
<td>December 2002</td>
<td>2</td>
</tr>
<tr>
<td>Service</td>
<td>Description</td>
<td>Launch Date</td>
<td>Phase</td>
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<tr>
<td>Apply for a Demarcation Request</td>
<td>The approved plot boundaries.</td>
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<td>2</td>
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<tr>
<td>Apply for Control Points Co-Ordinates</td>
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<td>2</td>
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<tr>
<td>Apply for Utility Points Request</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Hazardous Waste Disposal</td>
<td>Helps any organisation that generates any type of waste to report hazardous waste, obtain permits, and check status of certificates and to perform billing enquiry.</td>
<td>August 2002</td>
<td>1</td>
</tr>
<tr>
<td>Apply for Waste Disposal Request</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Dubai Municipality Plans</td>
<td>Serve citizens to make applications for obtaining a site plan or affection plan for granted land or owned land.</td>
<td>September 2002</td>
<td>1</td>
</tr>
<tr>
<td>Apply for New Land Residential Allocation</td>
<td></td>
<td></td>
<td>1</td>
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<tr>
<td>Apply to Renew Site Plan – Granted Land</td>
<td></td>
<td></td>
<td>1</td>
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<tr>
<td>Apply for New or Renew Affection Plan – Private Land</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Zoning Regulations</td>
<td>Provide the full planning information and zoning regulation of any plot (Lot) or parcel in the Emirate of Dubai online used by real estate investors and building consultants.</td>
<td>June 2002</td>
<td>2</td>
</tr>
<tr>
<td>Enquire about Planning Information &amp; Zoning Regulation</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>DCL Test Results – Engineering Materials</td>
<td>Primarily serves the Consultants working on various types of construction projects in Dubai, varying from roads, building, drainage or also private projects and caters for the management of engineering material tests.</td>
<td>November 2001</td>
<td>1</td>
</tr>
<tr>
<td>Apply for Engineering Materials Testing Request</td>
<td></td>
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<td>1</td>
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<tr>
<td>DCL Block Certificates</td>
<td>Primarily aimed to serve the Block factories, operating in the city of Dubai provides the customers with: 1. Application for Block certificates over the internet. 2. Certificate request status checking. 3. Downloading test results and certificate as soon as they are ready. 4. Enquiring about bills through DCL. 5. Cancelling and correcting submitted requests.</td>
<td>May 2002</td>
<td>1</td>
</tr>
<tr>
<td>Apply for Block Certification</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Service</td>
<td>Description</td>
<td>Launch Date</td>
<td>Phase</td>
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<tr>
<td>DCL Equipment Calibration</td>
<td>Primarily aimed to serve the Private Laboratories operating in the city of Dubai, which includes facilities such as applying for calibration certificates, checking the status of a test, bill enquiry and cancellation of submitted requests.</td>
<td>March 2002</td>
<td>1</td>
</tr>
<tr>
<td>Apply for Laboratory Equipment Calibration Request</td>
<td></td>
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</tr>
<tr>
<td>No Objection Certificates</td>
<td>Helping contractors, consultants and service agents within Dubai to submit online requests for No Objection Certificates and allows them to track the status of these requests online.</td>
<td>April 2002</td>
<td>1</td>
</tr>
<tr>
<td>Apply for Informational NOC</td>
<td></td>
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<td>1</td>
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<tr>
<td>Apply for Design NOC</td>
<td></td>
<td></td>
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<tr>
<td>Apply for Construction NOC</td>
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<tr>
<td>Apply for Other NOC</td>
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<td></td>
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<tr>
<td>Apply for Revalidation of an Existing NOC</td>
<td></td>
<td></td>
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<tr>
<td>Apply for an NOC for Final Clearance</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Drainage &amp; Irrigation</td>
<td>Designed to provide support to Drainage and sewage department employees (Internal Users) and to consultants/contractors (External Users).</td>
<td>June 2003</td>
<td>2</td>
</tr>
<tr>
<td>Submit Request for Fees Estimates</td>
<td></td>
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<tr>
<td>Submit Request for House Connection</td>
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<tr>
<td>Submit Request for Dewatering</td>
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<td></td>
<td>2</td>
</tr>
<tr>
<td>Submit Request for Dewatering Renewal</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Explore Dubai</td>
<td>Provide information regarding Landmarks, Heritage and Culture, Children’s City, and Parks and Zoos, Bazaars, Mosques and other attractions in Dubai.</td>
<td>November 2002</td>
<td>2</td>
</tr>
<tr>
<td>Enquire about Geographical Information &amp; Interactive Mapping</td>
<td>Provides accurate, detailed and up-to-date address based information designed to serve service providers, residents and tourists with the capability of locating a place of interest or updating their services.</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>One Stop Inspection and Fine Results Inquiry</td>
<td>Provides the facility to check whether or not a vehicle has a parking fine</td>
<td>May 2002</td>
<td>1</td>
</tr>
<tr>
<td>View Inspection Results</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>View Fine Records</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>View Unpaid Fine Records</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Recruitment Service</td>
<td>Allows application for specific vacancy within the municipality</td>
<td>June 2002</td>
<td>1</td>
</tr>
<tr>
<td>Submit an Online Job</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Service</td>
<td>Description</td>
<td>Launch Date</td>
<td>Phase</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------</td>
<td>-------</td>
</tr>
<tr>
<td>Application</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Online Statistical Information</td>
<td>User-friendly site through which users (researchers) can search for and obtain copies of statistical reports published by the Statistics Centre such as municipality statistics and social demographic statistics within the Emirate of Dubai</td>
<td>May 2002</td>
<td>1</td>
</tr>
<tr>
<td>View Statistical Report</td>
<td></td>
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</tr>
<tr>
<td>Order Statistical Reports</td>
<td></td>
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<td>1</td>
</tr>
<tr>
<td>Studies &amp; Research</td>
<td>Enable users to view available published studies and researches.</td>
<td>January 2003</td>
<td>2</td>
</tr>
<tr>
<td>View List of Published Studies &amp; Research</td>
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<td></td>
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</tr>
<tr>
<td>Revenues Collection</td>
<td>Helps cinemas, Hotels, hotel apartments, restaurants, special shops and retail shops to submit their monthly income, manage payment vouchers, and view balance sheet history and other financial reporting</td>
<td>July 1998</td>
<td>1</td>
</tr>
<tr>
<td>Submit Monthly Fees for Hotels</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Submit Monthly Fees for Hotel Apartments</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Submit Monthly Fees for Catering</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Submit Monthly Fees for Cinemas</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Submit Monthly Fees for Special Shops</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Submit Fees for DMD Property Claim</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Parking Fines Inquiry</td>
<td>Enable the public to determine information regarding parking fees.</td>
<td>January 2002</td>
<td>2</td>
</tr>
<tr>
<td>Enquire About Parking Fines</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Directory of Services</td>
<td>Lists all the services and information groups that can be used by the general public.</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>View Detailed Information About DMD’s Services</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Geographical Information System</td>
<td></td>
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<td>2</td>
</tr>
<tr>
<td>View Maps of Dubai</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Find Addresses</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Find Facilities in Dubai</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Dubai Public Library</td>
<td>A Library site for the general public to view, Search and reserve an item such as books, videos, CDs etc. from the public library</td>
<td>September 1999</td>
<td>1</td>
</tr>
<tr>
<td>View Books Titles, Subjects, and Authors</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Service</td>
<td>Description</td>
<td>Launch Date</td>
<td>Phase</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------------</td>
<td>-------</td>
</tr>
<tr>
<td>Reserve Books</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>SMS e-Service</td>
<td>Enable the public to send short messages to the department through online connection to the Internet.</td>
<td>October 2002</td>
<td>2</td>
</tr>
<tr>
<td>Sending Short Messages to Dubai Municipality Customers</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>User Management</td>
<td>Allow additions of users and the setting up of user profiles.</td>
<td>April 2002</td>
<td>2</td>
</tr>
<tr>
<td>Apply for Company and Administrator Registration</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Apply for Public Registration</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Central Online Payment Service</td>
<td>Provide a gateway to electronic payment provided by Dubai’s e-Government.</td>
<td>November 2003</td>
<td>2</td>
</tr>
<tr>
<td>Centralised Bill Presentiment &amp; Payment</td>
<td></td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Source: (Dubai Municipality Department, 2004)
## Appendix 2

<table>
<thead>
<tr>
<th>e-Service</th>
<th>Description</th>
<th>Phase</th>
<th>Rationale</th>
<th>Department / Beneficiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipality Fee for Rented Accommodation</td>
<td>Provides an online interface through which Real Estate Agents and Property Owners can enter details of new tenancy contracts. The Dubai Water and Electricity Authority (DEWA) use the data as the basis for enforcing the collection of the applicable fee prior to provision of DEWA related services to the customer.</td>
<td>3</td>
<td>Improve collection of Fee for the municipality.</td>
<td>Finance Department/ Government</td>
</tr>
<tr>
<td>Provision of Advertising Permits</td>
<td>Helps customers apply online for advertising permits, applications to be processed internally in which a customer may check the status of the application, and will be informed of the outcome electronically.</td>
<td>3</td>
<td>E-enablement of the service can produce a more efficient operation.</td>
<td>Business</td>
</tr>
<tr>
<td>Clearance for importation of dangerous goods</td>
<td>Covers the provision of import clearance of any shipments arriving in Dubai that have a product or an ingredient that is classified as &quot;dangerous.&quot;</td>
<td>3</td>
<td>Reduce number of attachments, Processing times, and customer visits.</td>
<td>Environmental Department/ Business</td>
</tr>
<tr>
<td>Information and selling of DMD tender Documentation</td>
<td>Allows the contracts section to sell its contracts online to selected service departments and provides the facility of publishing DMD tenders on the DMD portal with their related details to invite/inform selected service providers to buy the tender documents and publishes details of winning bids on the DMD Portal and utilise the e-Payment service to facilitate the provision.</td>
<td>3</td>
<td></td>
<td>Contracts and Purchasing Department/ Government Business, Public</td>
</tr>
<tr>
<td>Used Car Complex Portal</td>
<td></td>
<td>3</td>
<td>Departmental request</td>
<td>Markets and Butchery Department/ Business, Public</td>
</tr>
<tr>
<td>Web Services</td>
<td>Extends existing e-</td>
<td>3</td>
<td></td>
<td>Multi-</td>
</tr>
<tr>
<td>e- Service</td>
<td>Description</td>
<td>Phase</td>
<td>Rationale</td>
<td>Department / Beneficiary</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-------</td>
<td>---------------------------------------------------------------------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>payment service</td>
<td></td>
<td></td>
<td></td>
<td>Departmental. IT/ Business, Public</td>
</tr>
<tr>
<td>e-Payment enhancements</td>
<td>Extends e-payment to parking fines, drainage, and DCL</td>
<td>3</td>
<td></td>
<td>Multi-Departmental. IT/ Business, Public</td>
</tr>
<tr>
<td>Extended Revenue collection</td>
<td>Extends revenue collection to Liquor Stores, and DMD Road Signs</td>
<td>3</td>
<td></td>
<td>Finance Department/ Government, Business</td>
</tr>
<tr>
<td>Horticultural Portal</td>
<td>Agricultural portal and ornamental planting.</td>
<td>3</td>
<td></td>
<td>Horticultural/ Business, Public</td>
</tr>
<tr>
<td>Media Output Plan and Define</td>
<td>Investigates the usage of Mobile devices and Media for all existing and planned e-services. Identifies service candidates and produce a plan for implementation</td>
<td>3</td>
<td></td>
<td>Multi-Departmental-IT/ Government, Business, Public</td>
</tr>
<tr>
<td>Suggestions and complaints service</td>
<td>Records and reports suggestions and complaints from the general public, government employees or business</td>
<td>3</td>
<td></td>
<td>Multi-Department/ Business, Public, Government</td>
</tr>
<tr>
<td>SMS Pull Service</td>
<td>Implements SMS Pull service facility for all e-services that offer SMS Push Facility</td>
<td>4</td>
<td></td>
<td>All Departments- IT/ Business, Public</td>
</tr>
<tr>
<td>Allocation of Industrial Land</td>
<td></td>
<td>4</td>
<td>Number of Transaction, Users, and Customer Sophistication</td>
<td>Planning and Surveying Department/ Business, Public</td>
</tr>
<tr>
<td>A transaction on allocated Industrial Land</td>
<td></td>
<td>4</td>
<td>Number of Transaction, Users, and Customer Sophistication</td>
<td>Business, Public</td>
</tr>
<tr>
<td>Zoning Permit</td>
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<td>Planning and surveying/ Business, Public</td>
</tr>
<tr>
<td>Accessory Use Permit</td>
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<td>4</td>
<td>Number of Transaction, Users, and Customer Sophistication</td>
<td>Planning and Surveying/ Business, Public</td>
</tr>
<tr>
<td>Building Addition Permit</td>
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<td>Number of Transaction, Users, and Customer Sophistication</td>
<td>Business, Public</td>
</tr>
<tr>
<td>e- Service Description</td>
<td>Phase</td>
<td>Rationale</td>
<td>Department / Beneficiary</td>
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</tr>
<tr>
<td>------------------------------------------------------------</td>
<td>-------</td>
<td>------------------------------------------------</td>
<td>------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Planned Unit Development (PUD) Permit</td>
<td>4</td>
<td>Number of Transaction, Users, and Customer</td>
<td>Business, Public</td>
<td></td>
</tr>
<tr>
<td></td>
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<td>Sophistication</td>
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<td></td>
</tr>
<tr>
<td>Occupancy Permits</td>
<td>4</td>
<td>Number of Transaction, Users, and Customer</td>
<td>Business, Public</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sophistication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requests for planning information</td>
<td>4</td>
<td>Number of Transaction, Users, and Customer</td>
<td>Business, Public</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sophistication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General NOC</td>
<td>4</td>
<td>Number of Transaction, Users, and Customer</td>
<td>Business, Public</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sophistication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOC for Station Removal</td>
<td>4</td>
<td>Number of Transaction, Users, and Customer</td>
<td>Business, Public</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sophistication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOC for Completion of Project</td>
<td>4</td>
<td>Number of Transaction, Users, and Customer</td>
<td>Business, Public</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sophistication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOC for Defect Liability Certificate</td>
<td>4</td>
<td>Number of Transaction, Users, and Customer</td>
<td>Business, Public</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sophistication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control points data</td>
<td>4</td>
<td>Number of Transaction, Users, and Customer</td>
<td>Business, Public</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sophistication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravity Data</td>
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<td>Business, Public</td>
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<tr>
<td></td>
<td></td>
<td>Sophistication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geographic ID data.</td>
<td>4</td>
<td>Number of Transaction, Users, and Customer</td>
<td>Business, Public</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sophistication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contract Renewal.</td>
<td>5</td>
<td>Number of Transaction, Users, and Customer</td>
<td>Butchery and slaughter house department/</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sophistication</td>
<td>Business</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Rationale:**
- Number of Transaction
- Users
- Customer Sophistication
<table>
<thead>
<tr>
<th>e- Service</th>
<th>Description</th>
<th>Phase</th>
<th>Rationale</th>
<th>Department / Beneficiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requests for Road Bumps.</td>
<td>Request for installing Road Bumps</td>
<td>5</td>
<td>Number of Transaction, Users, and Customer Sophistication</td>
<td>Traffic Technology Section/ Business, Public</td>
</tr>
<tr>
<td>Request for Traffic Diversion.</td>
<td>Request for installing traffic diversion</td>
<td>5</td>
<td>Number of Transaction, Users, and Customer Sophistication</td>
<td>Traffic Technology Section/ Government</td>
</tr>
<tr>
<td>Request a node attachment to sewage network.</td>
<td>Request to install sewage connection to buildings</td>
<td>5</td>
<td>Number of Transaction, Users, and Customer Sophistication</td>
<td>Drainage and Irrigation Department/ Business, Public</td>
</tr>
<tr>
<td>Recording of Importers.</td>
<td>Records of Importers</td>
<td>5</td>
<td>Number of Transaction, Users, and Customer Sophistication</td>
<td>Contracts and Purchasing/ Business</td>
</tr>
<tr>
<td>Provision of Crowd Control metal roadblocks.</td>
<td>Request for Installing Metal Road Blocks.</td>
<td>5</td>
<td>Number of Transaction, Users, and Customer Sophistication</td>
<td>General Maintenance Department/ Government</td>
</tr>
</tbody>
</table>

Source: (Dubai Municipality Department, 2004)
## Appendix 3: Summary of Savings in Implementing the E-Services

<table>
<thead>
<tr>
<th>Service Name</th>
<th>Number of Transactions</th>
<th>Savings to DMD</th>
<th>Savings to Customers</th>
<th>Total Savings</th>
<th>Average Savings per Request</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOC</td>
<td>23,201</td>
<td>12,685</td>
<td>484,170</td>
<td>496,855</td>
<td>21</td>
</tr>
<tr>
<td>Food Control Certificates</td>
<td>37,554</td>
<td>46,094</td>
<td>538,900</td>
<td>584,994</td>
<td>16</td>
</tr>
<tr>
<td>Veterinary Certificates</td>
<td>1,707</td>
<td>3,468</td>
<td>44,382</td>
<td>47,850</td>
<td>28</td>
</tr>
<tr>
<td>Dubai Clinic Certificates</td>
<td>36,269</td>
<td>445</td>
<td>942,994</td>
<td>943,439</td>
<td>26</td>
</tr>
<tr>
<td>DCL-Engineering Materials</td>
<td>42,047</td>
<td>758,540</td>
<td>1,051,175</td>
<td>1,809,715</td>
<td>43</td>
</tr>
<tr>
<td>DCL-Blocks</td>
<td>27,231</td>
<td>246,619</td>
<td>612,698</td>
<td>859,316</td>
<td>32</td>
</tr>
<tr>
<td>DCL-Sand</td>
<td>12</td>
<td>120</td>
<td>510</td>
<td>630</td>
<td>52</td>
</tr>
<tr>
<td>DCL-Calibration</td>
<td>1,712</td>
<td>25,600</td>
<td>38,520</td>
<td>64,120</td>
<td>37</td>
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<tr>
<td>DMD Plans</td>
<td>271</td>
<td>542</td>
<td>8,808</td>
<td>9,350</td>
<td>35</td>
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<tr>
<td>Hazardous Waste Service</td>
<td>2,220</td>
<td>121,579</td>
<td>61,050</td>
<td>182,629</td>
<td>82</td>
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<tr>
<td>Demarcation</td>
<td>9,066</td>
<td>55,437</td>
<td>203,985</td>
<td>259,422</td>
<td>29</td>
</tr>
<tr>
<td>Food Import and Re-Export</td>
<td>1,120</td>
<td>0</td>
<td>19,600</td>
<td>19,600</td>
<td>18</td>
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<tr>
<td>Statistics</td>
<td>940</td>
<td>0</td>
<td>5,420</td>
<td>5,420</td>
<td>6</td>
</tr>
<tr>
<td>Recruitment Service</td>
<td>941</td>
<td>122,801</td>
<td>11,763</td>
<td>134,563</td>
<td>143</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>184,291</strong></td>
<td><strong>1,393,928</strong></td>
<td><strong>4,023,973</strong></td>
<td><strong>5,417,901</strong></td>
<td><strong>29</strong></td>
</tr>
</tbody>
</table>

Source: (Dubai Municipality Department, 2004)
Appendix 4: Process details

I. Survey

Sample of the survey sent to different parties in Dubai Government Departments.

Good day!

I am currently conducting a study on the progress, development and evaluation of the available e-Government services of selected Dubai Government Departments.

In order to lead me to the right findings and conclusion in this research activity, please provide the departments that best characterize the indicated assessment website criteria.

Rank 5 selected departments using the 1-5 scale, 1 being the best department.

(Feel free to forward this email to your colleges in the IT section if they wish to be part of this survey)

Thank you!

Aisha Butti Bin Bishr

PhD researcher

Aisha_binbishr@hotmail.com

+07150 5514472

<table>
<thead>
<tr>
<th>WEBSITE CRITERIA</th>
<th>RANK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. accessibility of website</td>
<td>1</td>
</tr>
<tr>
<td>2. availability of online information and services</td>
<td>2</td>
</tr>
<tr>
<td>3. reliability of e-services transactions</td>
<td>3</td>
</tr>
<tr>
<td>4. clarity of content</td>
<td>4</td>
</tr>
<tr>
<td>5. efficiency of service delivery</td>
<td>5</td>
</tr>
<tr>
<td>6. interactiveness with public users</td>
<td></td>
</tr>
<tr>
<td>7. interactiveness with other departments</td>
<td></td>
</tr>
<tr>
<td>8. sophistication or extent of available critical services</td>
<td></td>
</tr>
</tbody>
</table>
9. user-friendliness
10. attractiveness of design and features
11. innovativeness
12. flexibility towards systems change

Name: XXXXXXXX
Position: XXXXXXXXX
Email: XXXXXXXXXXXXXX

II. Interview question set

Below is set of the questions been used during the interview sessions with the departments representative:

- Service definition
  - What do you believe that service mean to you as the e-Government?
  - Is this definition a global one
  - Is this definition the same one that the government departments define their services by it.
  - How do you distinguish between different types of the electronic services? I mean the stages of these services, i.e. transactional services, informative services and fully automated services.
  - In which bases did you classified these services

- The available performance measurement systems.
  - Does Dubai e-Government apply any performance measurement systems for their e-Services?
  - If yes why this system in particular
  - Is it a standard system or tailored for your requirement
  - What about the other departments in the government
  - Is there any plan to standardise the system or you prefer to have it tailored for each department
Was it plan from the beginning to deploy such systems in the initiative

Do you have a special section or unit taking care of these measurement and does it change upon the requirement for each stage of the e-Government or it is a stable fixed measures

What do you do with the result of these measures

Is there any workflow for this system

The published statistics

- the statistic published in the e-Government magazine, is there any quality assurance or evaluating that these figures go through
- is it a result of the measurement system
- who collect it, i.e. do other departments send it or you collect it by visiting these departments
- How easy to collect these figures. Do other departments response with you requests

General questions

- Annual budget for Dubai government departments
- Annual income for Dubai government departments
- Number of employees in Dubai Government departments
- Total number of services in Dubai Government, departments as well as e-services.
- Do you as e-Government office request other departments to have special arrangement for the e-Government management, i.e. is it standard that e-government initiative in each department run or managed by a special section that is established for or it is left for each department to find the suitable way to run their business.

Open discussion