E-Government Adoption and Implementation in Oman: A Government Perspective

A thesis submitted in fulfilment of the requirements for the

Degree of Doctor of Philosophy

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Declaration

I certify that this thesis contains no material which has been submitted previously, in whole or in part, to qualify for any other academic award of any other degree in any university; the content of this thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and ethics procedures and guidelines have been followed.

Qasim Al-Mamari

28 March 2013
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List of Publications

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Dedication

This thesis is dedicated to my beloved country, Oman, and to my dear family for their love, care, and for believing in me.
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<th>Full Form</th>
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<tbody>
<tr>
<td>BPR</td>
<td>Business Process Reengineering</td>
</tr>
<tr>
<td>CBO</td>
<td>Central Bank of Oman</td>
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<tr>
<td>DOI</td>
<td>Diffusion of Innovation</td>
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<tr>
<td>HEAC</td>
<td>Higher Education Admission Centre</td>
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<tr>
<td>ICTs</td>
<td>Information and Communication Technologies</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<tr>
<td>IS</td>
<td>Information Systems</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>ITA</td>
<td>Information Technology Authority</td>
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<td>ITTF</td>
<td>Information Technology Task Force</td>
</tr>
<tr>
<td>KOM</td>
<td>Knowledge Oasis Muscat</td>
</tr>
<tr>
<td>MoCI</td>
<td>Ministry of Commerce and Industry</td>
</tr>
<tr>
<td>MoCT</td>
<td>Ministry of Communication and Transport</td>
</tr>
<tr>
<td>MoHE</td>
<td>Ministry of Higher Education</td>
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<tr>
<td>NAS</td>
<td>National Archive System</td>
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<td>NITC</td>
<td>National Information Technology Committee</td>
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<td>NRS</td>
<td>National Record System</td>
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<tr>
<td>OCERT</td>
<td>Oman Computer Emergency Response Team</td>
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<tr>
<td>PAIPED</td>
<td>The Public Authority for Investment Promotion &amp; Export</td>
</tr>
<tr>
<td>PEIE</td>
<td>Public Establishment for Industrial Estates</td>
</tr>
<tr>
<td>POGAR</td>
<td>Programme on Governance in the Arab Region</td>
</tr>
<tr>
<td>ROP</td>
<td>Royal Oman Police</td>
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<tr>
<td>SGRF</td>
<td>State General Reserve Fund</td>
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<tr>
<td>SMS</td>
<td>Short Messaging System</td>
</tr>
<tr>
<td>SQU</td>
<td>Sultan Qaboos University</td>
</tr>
<tr>
<td>TAM</td>
<td>Technology Acceptance Model</td>
</tr>
<tr>
<td>TQM</td>
<td>Total Quality Management</td>
</tr>
<tr>
<td>TRA</td>
<td>Telecommunication Regulatory Authority</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Program</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific, and Cultural Organization</td>
</tr>
<tr>
<td>USO</td>
<td>Universal Service Obligation</td>
</tr>
<tr>
<td>UTAUT</td>
<td>Unified Theory of Acceptance and Use of Technology</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organisation</td>
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Abstract

This thesis reports a description and analysis of the factors that influenced the process of adoption and implementation of the e-Government initiative in Oman over the period 2000 - 2013. The research provides an explanation of why government organisations in Oman developed and then adopted e-Government projects, and how that affected their success as an example of what might also be the case in many developing countries.

Data was collected using a theoretical framework developed from the extant literature, and analysed using Institutional Theory. The findings suggest that the Omani Government was motivated to adopt e-Government as a service to the people of Oman because of a perceived need to conform to world standards and improving the performance of the public sector. The intention in Oman was also to adopt e-Government services to improve efficiency in relations with various government departments as a means to attract foreign direct investment and create a knowledge-based industry.

The study shows that while it was considered important for Oman to adopt e-Government, the progress of implementation was slow with an observable mismatch between the rhetoric of the implementation strategy and the actual outcomes. This mismatch, the study argues, is associated with interrelated challenges within the institutional infrastructure which lacked integration, with an ineffective management style lacking effective project control and the requisite IS/IT knowledge, and with the technology infrastructure which lacked reliable high-speed network coverage.

The study concludes that although a strong will for the adoption and implementation of e-Government existed, coupled with sufficient financial resources, the necessary human and technological resources to overcome implementation obstacles did not exist. The study shows that the implementation was episodic: the implementation of e-Government in Oman was launched in 2003, discovered to be stalled in 2011, and was restarted in 2012.

As the focus of the study was on the supply-side of e-Government, an important theoretical contribution of this study is the development of a framework of e-Government adoption motivators. Using the concept of institutional decoupling, this framework offers a new understanding of the observed high failure rate of e-Government implementation in many developing countries.
In terms of practical contributions, important lessons can be learnt particularly with regard to synchronising motivating factors with institutional, technological and organisational prerequisites, and expected outcomes. In other words, governments should establish a clear and close link between means and ends prior to implementing e-Government initiatives by engaging relevant stakeholders in the design process to avoid mismatch between project design and reality.
Chapter 1 – Introduction

1.1 Introduction

This thesis is a study of the e-Government project in Oman during the period from 2000 to 2013. The initial focus of the study was on the specific events that occurred during the pre-implementation phase and led to the decision by the Omani Government to adopt e-Government across the public sector, followed by a study of what drove the implementation process. The other focus of this study was an investigation of what led to the slowdown of that implementation and subsequently what measures were undertaken by the Government of Oman in late 2012 to rejuvenate the project.

1.2 Research Background

The last two decades have witnessed a global shift towards electronic government with the objective of introducing fundamental changes to the traditional approach of public service delivery. This shift has been driven by two global revolutions: the information revolution and the governance revolution (Heeks 1999). Both revolutions were made possible by advancement in Information and Communication Technologies (ICTs). Such advances enabled cheaper and faster communication and transcended traditional paper-based operations to expedite the provision of public services through the digital exchange of information and administrative processes (Kumar & Best 2006). This paradigm shift was considered a top priority for governments seeking to improve the efficiency and effectiveness of public services (Chen et al. 2006). E-Government is understood as a blend of ICT-based innovations that facilitate the creation of public value (Grimsley & Meehan 2008). These innovations are mainly concerned with creating competitive advantage from the manipulation of information (Johnston & Vitale 1988; Porter & Millar 1985) as a strategic economic resource in the new age of a knowledge-based economy (Mansell, de Montalvo & Wehn 1998).

Success stories of implementing applications of e-business in the private sector have generally motivated the public sector to also adopt e-Government to be more business-like (Wimmer, Traunmüller & Lenk 2001). Similarly, ICT-based innovations are considered as
key enablers of Business Process Reengineering (BPR) to increase the efficiency and productivity in the public sector and decrease the cost of service provision (Davenport & Short 1990). Therefore, electronic government was often seen as an evolution of e-commerce (Chen et al. 2006). However, peculiarities of the implementation of e-commerce projects are not applicable in the e-Government context because e-Government projects have different targets, stakeholders, and implementation environment (Carter & Belanger 2004b). Their primary purpose is to enhance government service delivery to the public, whereas e-commerce is predominantly about commercial transactions and increasing company profits.

Furthermore, the outcomes of e-commerce implementations are often influenced by technological (Irani, Love & Jones 2008), organisational (Ciborra 2005), cultural, and social factors (Liang et al. 2007) which are different in the context of e-Government due to fundamental differences between the private sector business environment and that of the public sector (Cabrera, Cabrera & Barajas 2001; Doherty, King & Al-Mushayt 2003; Wood-Harper & Wood 2005). However, e-Government development is able to benefit from existent e-commerce technologies for electronic transactions and dynamic interaction with clients (Meijer & Zouridis 2004), but with certain limitations in relation to democracy and equitable service delivery (Barzilai-Nahon & Scholl 2007; Stahl 2005). These major differences between e-commerce and e-Government have led researchers (Dada 2006; Shin 2008; Wimmer, Traunmüller & Lenk 2001) to conclude that e-Government is more about ‘government’ core businesses rather than the ‘e’ or technology aspects. In line with this conclusion, the primary focus of this study is on the government perspective of e-Government especially from an institutional viewpoint. There is here also a focus on the supply-side of e-Government which has been generally overlooked in the e-Government literature (Grönlund 2010; Heeks & Bailur 2007; Scholl 2009).

Adoption and implementation of e-Government is becoming globally widespread. ICT innovations have permeated the political, economic, social, and cultural structures of societies around the world (Castells 2000) and have been associated with public sector reform (Heeks 1999). The association of e-Government implementation with the United Nation’s public administration reform and democratisation programs have increased the degree of similarities of e-Government projects across the world (Meijer & Zouridis 2004). For example, Janssen and Rotthier (2005) conducted a study on e-Government initiatives in seven OECD countries and concluded that e-Government agenda and goals were shaped by multilateral organisations. Specifically, the authors found that the primary focus of e-Government
implementation in those countries was the delivery of e-Services to citizens. Similarly, Shareef et al. (2010) investigated and reflected upon the experiences of seven developed and developing countries in implementing e-Government. They established that although there was a difference in the vision and mission of those initiatives, there was a consensus between these countries on establishing strategies of improved quality of public services, provision of effective e-Service delivery systems, public administration reform, and better communication with citizens based on the application of e-Government. The United Nations E-Government Survey of 2012 (United Nations 2012) found that all 193 member states have embarked on the implementation of some form of e-Government. The report also indicated a large variance in implementation between different member states based on differences in management, culture, infrastructure, and human resources capacities. Each country offers a unique environment for implementing e-Government projects. Seemingly, each country has different motivations at the initial stages of adoption which might induce unique events that change the focus of e-Government strategies. Studying specific e-Government initiatives can therefore offer a deeper understanding of the phenomenon and create a learning paradigm for the e-Government research field (Jaeger 2003). This study focuses on the adoption and implementation environment of the Omani e-Government initiative as an exemplar case of developing countries.

Following global trends, Oman officially launched an e-Government initiative called Towards Digital Oman in May 2003 (later shortened to e-Oman). The Omani Government had realised the remarkable turnover of e-Government projects and in 2000 invited Gartner, Inc. to assist in building a national strategy for implementing e-Government (Murphy 2002). The Gartner team was assisted by highly skilled ICT government officials to contextualise the strategy to the country’s social and economic conditions. The strategy was designed for the Government to lead the Omani society into the digital age by providing adequate education to citizens in ICT and replacing traditional channels of interaction between the government and the public with focus on the provision of electronic public services.

The e-Oman strategy originally stemmed from the Government’s realisation of a compelling need to diversify economic resources and to move away from depending on depleting oil resources. Since the export of crude oil is the main economic activity in Oman, the national income is negatively affected by fluctuating international oil prices. Such fluctuations affected the Omani economy, especially in the years 1986 and 1998. Following recommendations from the World Bank and the International Monetary Fund (IMF), the
Government of Oman has become more conscious about reducing public spending and supporting the development of the private sector (Looney 2009). In 1995, the government formulated a long term economic plan (1995-2020) called Oman Vision 2020 (Ministry of Information 1999). The ultimate aim of the Oman Vision 2020 strategy was to advance a framework of sustainable economic and social development based on economic diversification and human resources development. Due to international discourse on a knowledge-based economy and e-Government as enablers of global economic competitiveness, the Omani Government invested heavily in IT education and training of citizens. It also initiated projects to build the telecommunication infrastructure and market the e-Government projects locally through awareness campaigns and internationally through participation in international awards and convocations.

The e-Oman strategy was approved by the Council of Ministers in 2002 with appropriate financial funding under the Ministry of National Economy, which possessed a high level of authority in Oman in terms of spending and financial appropriation. In 2006, the government established the Information Technology Authority (ITA) as an independent government agency to oversee the implementation of the e-Oman strategy. Omani Government departments were urged to reach out to the ITA for technical assistance related to the implementation of e-Government. The main role of the ITA was to coordinate the efforts of the various government departments towards the comprehensive implementation of e-Government within the Omani public sector (Information Technology Authority 2012a).

Since the official launch of e-Government strategy in 2003, little practical progress had been evident. Such laggardness is alarming considering the vital contribution expected from implementing e-Government in terms of economic and social development. At the time of beginning to write this thesis (November 2012), the ITA had launched a new plan of transformation towards e-Government (Information Technology Authority 2012b) with the principal focus on the provision of government e-Services. Government agencies were given an ultimatum date for full e-Service transformation by December 2015.

The aim of this study then is to investigate the factors that motivated the Government of Oman to implement e-Government initiatives, to understand and evaluate the barriers that contributed to the stalling of that implementation, and to describe and evaluate the corrective measures undertaken by the government in late 2012 to rejuvenate the implementation process. This investigation is broadly grounded in Mohr’s (1969, p. 111) proposition that
‘innovation is a function of motivations to innovate, the strength of obstacles against innovation, and the availability of resources for overcoming such obstacles’. Prior to examining the motives related to the specific case of Oman, an assessment of the literature on e-Government adoption in developing countries was performed. This assessment covered e-Government adoption experiences in the geographical areas of South America, Africa, East Europe, and South East Asia with special focus on the Middle East region in order to achieve maximum proximity to the environment settings of Oman. This work is reported in Chapter 2 and a table of the reviewed literature is provided in Appendix C. The motives for Oman to adopt and implement e-Government are reported in Chapter 5 and the obstacles and barriers that faced the implementation are reported and discussed in Chapter 6.

1.3 Motivation for and Significance of the Research

While there is a conspicuous similarity in the direction and vision of e-Government among governments across the world, there also exist variances in the success rates of implementation. Gartner (2007) reported that 60 per cent of e-Government projects are classified as either complete failures or partial failures. Similarly, Meijer and Zouridis (2004) contended that most of e-Government projects either fail or are left to stagnate at a point in time during the implementation process. According to Heeks (2002b), the failure rates of e-Government projects are even higher in developing countries.

Heeks (2005) explained that such alarming rates of failure in e-Government implementation were due to the lack of contextualisation of e-Government to the contexts of implementation. He argued that e-Government projects’ vision and, ultimately, functional systems are influenced by economic, political, societal, and cultural aspects, which largely contributes to the potential failure of projects when implemented in different settings. Likewise, Shareef et al. (2010) argued that e-Government projects were sometimes initiated in parallel with political agendas where some governments were tempted by the potential capabilities of e-Government projects to solve chronic problems related to socio-economic conditions. So initial planning for implementation was not carried out appropriately. The authors maintained that as the implementation proceeded, policy-makers usually encounter unforeseen problems with implementation and either abandon the projects or lower their priority.

Although human factors have proved a significant force for or against successful implementation and use by citizens of e-Government, current literature on e-Government has
focused mostly on technological factors (Grönlund 2010; Heeks & Bailur 2007; Scholl 2009) and overlooked the ‘government’ aspect of e-Government. Little attention has been given to adoption implementation motives from a government perspective. Similarly, the government-to-government domain of e-Government, which this study is positioned within, is an emerging research area (Realini 2004) especially in the case of developing countries. Most of the e-Government research has focused on initiatives in the developed world (Ebrahim & Irani 2005; Siau & Long 2005). Most of the e-Government studies also focused on the adoption and implementation of e-Government in individual organisations (Grönlund 2010; Heeks & Bailur 2007; Wiberg & Grönlund 2002).

This thesis seeks to understand the importance of a close study of factors that motivate policy-makers to adopt e-Government projects prior to and during the stages of any implementation effort and evaluate what happens and why. The study of project motives is significant since the objectives of implementing a project are closely tied to its motivations (Raymond, Uwizeyemungu & Bergeron 2006). Adoption motivations influence the project system’s extensiveness, design, and implementation (Parr & Shanks 2000). This study is aligned with previous calls for attention in research towards the ‘motivations underlying public sectors adopters’ choices about computers’ (Kraemer & Perry 1999, p. 16). It is also in line with other recommendations of the significance of investigating contextual motives that influence implementation of IT projects in government agencies (Heeks & Bailur 2007; Yildiz 2007). The use of institutional theory in this context is in response to previous calls and suggestions to employ institutional theory as a lens in innovation adoption research (Berente & Yoo 2012; Currie & Swanson 2009; Hassan & Gil-Garcia 2007; Weerakkody, Dwivedi & Irani 2009).

This study uses an interpretive qualitative case study approach. The rationale for choosing Oman as the exemplar case study in this research is threefold: (i) the lack of research with focus on adoption motives from a government perspective in Oman, (ii) e-Government implementation in Oman is in its infancy, rendering the results of this research important for implementers and for future research, and (iii) the researcher is an Omani citizen involved in the public sector in Oman and there is a personal interest in seeking to understand what has happened and what is happening with the implementation of e-Government looking from the ‘outside’.
Since little research has been done on e-Government initiatives in developing countries from a government perspective, this study contributes towards filling this empirical gap. It also comes at a time when Oman, like many other countries in the region, is grappling with issues related to democratisation of public services and transparent government. E-Government is one of the tools in the process of transition. In summary, this study has research significance because: (i) it is one of the few e-Government studies that focus on the government-to-government area, (ii) it is one of the few purely qualitative studies that explore the motivations for adopting and implementing e-Government in a developing country, (iii) it is the only study of its kind conducted in Oman at the organisational domain versus the citizen domain of adoption, (iv) this study adopts a holistic approach with focus on the strategic level of decision-making as well as the implementation level in nine different government agencies rather than on a single government agency, and (v) contrary to the general focus of existing research, this study addresses the alignment of pre-implementation factors with the expected outcomes rather than on post-implementation evaluations.

1.4 Research Objectives and Outcomes

The main research question of this study is: what factors and issues influenced the adoption and implementation of e-Government in Oman? This study sheds light on the importance of understanding implementation motives of e-Government projects and how that is important for the success of such projects. The desired end of this study is to produce both a holistic and heuristic framework that enables a theoretical-based description and analysis of the gap that exists between the institutional and technical environments of e-Government implementation to which e-Government failure is attributed.

It is argued in this study that to bridge the gap between the motivating factors within the institutional environment and those within the technical environment of the government there should exist four types of agency forces: (i) constituents agency manifested in public oversight and consultation during the implementation process, (ii) professional agency designated by the existence of sufficient IS/IT experts and basing the implementation on scientific models such as service quality and information quality, (iii) technological agency which has a solid ICT infrastructure and a clear implementation structure such as the value-added processes of information systems, and (iv) state agency possessing rules, laws and legitimated authority to allow for effective project control and institutionalisation of e-Government.
In summary, the current study will contribute to the knowledge about e-Government in Oman and the ‘government’ aspect of the e-Government phenomenon in general. This study will offer a new understanding of why e-Government projects fail using the concept of institutional decoupling. In terms of practical contributions, important lessons can be learnt particularly with regard to synchronising motivating factors and expected outcomes.

1.5 Structure of the Thesis

This thesis consists of seven chapters. These chapters are described in a sequential order:

Chapter 1 provides an introduction to the thesis by providing a description of the research background, the research motivation and significance, and the research objectives and outcomes.

Chapter 2 provides a review of the literature on e-Government adoption and development. It lists the different definitions of e-Government from the extant literature. Then, a review of existing e-Government research taxonomies and key debates is provided. Also, a qualitative meta-analysis of e-Government research between 1993 and 2012 is presented. This chapter also describes the theoretical underpinnings of this research and the linkage between these theoretical elements. Then a framework of motivating factors for e-Government adoption is proposed based on a review of experiences with e-Government implementation from many developing countries.

Chapter 3 offers background information about Oman’s economic, political, geographic, demographic and cultural aspects. It also provides a description of the e-Government initiative in Oman.

Chapter 4 presents the research methodology and design adopted for this study. It describes the selection of the philosophy, methodology, and data collection and analysis techniques. This study is a qualitative exploratory case study. It is based on an interpretive research paradigm with semi-structured interviews as the main tool of data collection and hermeneutics as the data analysis technique. Semi-structured interviews were conducted with 21 respondents from the policy level and the implementation level of e-Government as well as one Omani e-Government researcher. This is in line with recommendations made by Heeks and Bailur (2007) to improve communication and collaboration between e-Government researchers in order to produce better research results.
Chapter 5 describes the events that led to the initial adoption of e-Government between 2000 and 2010. It starts with an overview of how e-Government is defined in the context of Oman. The chapter uses the framework of motivating factors developed in chapter 2 to present factors that drove the initial adoption of e-Government in Oman. These factors are divided into two domains: motives at the policy domain and motives for the practice domain. Chapter 5 ends with a discussion of these motives through the lens of institutional theory.

Chapter 6 describes the obstacles that contributed to the stalling of e-Government implementation. Also, a description of the measures that were undertaken by the government to rejuvenate the implementation in late 2012 is provided. In the discussion section of chapter 6, the obstacles to implementation are discussed in light of results from previous research in the area of innovation in the public sector. Accordingly, these obstacles are categorised into three main categories: institutional, technological, and management obstacles.

Chapter 7 concludes this thesis by presenting a summary of its content, providing an answer to the main research question, offering a brief discussion of the concept of institutional decoupling which explains the mismatch between the policy rhetoric of e-Government in Oman and the actual outcomes of the implementation, presenting the theoretical and practical contributions of this study, presenting the limitation of the current study, and recommending avenues for future research.
Chapter 2 - E-Government Literature Review and Research Framework

2.1 Introduction

This chapter presents a description of the extant literature in the field of e-Government research. It explores definitions of e-Government and the relevant theoretical themes underpinning research in the area. The chapter starts with a list of definitions of e-Government in the literature and a discussion on the origins of e-Government. Then, an evaluation of existing e-Government research taxonomies is provided which leads to the selection of theoretical elements for the empirical study. Finally, a structured presentation of motivating factors for implementing e-Government in different developing countries is presented alongside a graphically-depicted framework of these motives categorised through the lenses of the theoretical elements of this study which are Institutional Theory, Grönlund’s (2005) extension of Structuration Theory to e-Government, Service Quality and Information Quality Models.

2.2 Definition of e-Government

The growth of the research effort on e-Government has produced an abundant number of definitions for e-Government. These definitions represent different domains of e-Government research and different interpretations of the concept itself both from academic and practitioner perspectives. The following table lists some examples of these definitions ordered by their time of emergence:
<table>
<thead>
<tr>
<th>Reference</th>
<th>Definition</th>
<th>Domain of focus</th>
<th>Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Caldow 1999, p. 1)</td>
<td>‘A fundamental transformation of government and governance at a scale that has not been witnessed since the beginning of the industrial era.’</td>
<td>Organisational change</td>
<td>Internal efficiency of government operations.</td>
</tr>
<tr>
<td>The IBM Institute for Electronic Government.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Deloitte Research 2000, p. 1)</td>
<td>‘The use of technology to enhance the access to and delivery of government services to benefit citizens, business partners and employees.’</td>
<td>Service delivery</td>
<td>Easy access and delivery of government services to all constituents (citizens, businesses and other public organisations).</td>
</tr>
<tr>
<td>(Sprecher 2000, p. 21)</td>
<td>‘Electronic government is any way technology is used to help simplify and automate transactions between governments and constituents, businesses, or other governments.’</td>
<td>Process change</td>
<td>Automation of government transactions.</td>
</tr>
<tr>
<td>(U.S. Congress 2002)</td>
<td>The use by the Government of web-based Internet applications and other information technologies, combined with processes that implement these technologies, to a) enhance the access to and delivery of Government information and services to the public, other agencies, and other Government entities or b) bring about improvements in Government operations that may include effectiveness, efficiency, service quality, or transformation.</td>
<td>Service delivery and Organisational Change</td>
<td>Efficiency and service delivery.</td>
</tr>
<tr>
<td>(OECD 2003, p. 23)</td>
<td>‘The use of ICTs, and practically the Internet, as a tool to achieve better government.’</td>
<td>Organisational change</td>
<td>Better governance.</td>
</tr>
<tr>
<td>Reference</td>
<td>Definition</td>
<td>Change Focus</td>
<td>Operations Focus</td>
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<tr>
<td>(World Bank 2004)</td>
<td>Refers to the use by government agencies of ICT that have the ability to transform relations with the citizens, businesses, and other arms of government.</td>
<td>Organisational change</td>
<td>Transformation of government operations.</td>
</tr>
<tr>
<td>Gil-Garcia, &amp; Luna-Reyes (cited in Gil-García &amp; Pardo 2005, pp. 187-8)</td>
<td>‘The intensive use of information technologies for the provision of public services, the improvement of managerial effectiveness and the promotion of democratic values and mechanics.’</td>
<td>Realisation of democracy, service delivery and Organisational change</td>
<td>Internal Efficiency and democracy.</td>
</tr>
<tr>
<td>(Beynon-Davies 2005, p. 3)</td>
<td>‘The use of information and communications technology to change the structures and processes of government organizations.’</td>
<td>Organisational change</td>
<td>Transformation of government operations.</td>
</tr>
<tr>
<td>(Bekkers &amp; Homburg 2005, p. 6)</td>
<td>‘The use of modern information and communication technologies, especially Internet and Web technology, by a public organisation to support or redefine the existing and/or future (information, communication and transaction) relations with stakeholders in their internal and external environment in order to create added value. Relevant stakeholders are citizens, companies, societal organisations, other government organisations and civil servants. Added value can be found in the following goals: increasing the access to government, facilitating the quality of service delivery, stimulating internal efficiency, supporting public and political accountability, increasing the political participation of citizens, and improving interorganisational cooperation and relations.’</td>
<td>Improve relations with citizens and businesses.</td>
<td>Internal Efficiency and democracy.</td>
</tr>
</tbody>
</table>

Table 2-1 List of e-Government definitions
These definitions evolve around the themes of organisational change (OECD 2003, p.23; World Bank 20040; Caldow 1999, p.1) and public service delivery (Deloitte Research 2000, p.1; UN & ASPA 2002, p.1). Some of them are solely focused on public service delivery with no insight into the role played by transformational aspects of information technology (Deloitte Research 2000, p.1; UN & ASPA 2002, p.1). Others are broad-based, encompassing both the technical and organisational aspects of e-Government (Bekkers and Homburg 2005, p.6; Beynon-Davies 2005, p.3). The narrow definitions that focus on public service delivery overlook the importance of updating public service procedures prior to implementation in order to fit the current technological delivery platform (Grant & Chau 2005). On the other hand, along with the broad-based definitions comes confusion and uncertainty about the concept. Projects with distorted concepts and vision are superficially implemented, thus, comprehensive conceptualization of e-Government is key to its successful application (Caldow 2001). However, there is no common definition of e-Government (Bekkers & Homburg 2005; Halchin 2004; Moon 2002; Yildiz 2007).

Electronic government was often seen as an evolution of e-commerce (Grönlund & Horan 2004; Moon 2002; Stemberger & Jaklic 2007), which made early definitions of e-Government exclusively focused on the electronic delivery of services and information to the public. Eyob (2004) claimed that e-Government is the next wave of technology application in the public sector after e-commerce and e-business has reached the maturity stage in the private sector. The use of information technology in the public sector dates from the early history of computers (Grönlund & Horan 2004). However, the current concept of e-Government first emerged in the early 1990s and was used in association with the National Performance Review (Im & Seo 2005). At that point in time, e-Government meant the use of information technology in providing external customer services (Ho 2002) and was considered a practice ground for practitioners who were trying to utilise the potentials of the internet (Grönlund & Horan 2004). Early e-Government publications emphasised the use of the internet as a tool to enhance the communication between governments and citizens, also to design and implement front office electronic communication channels (Bekkers & Homburg 2007).

New ideas provided by the capabilities of information technology have drawn the attention of scholars from many humanities research fields (Yildiz 2007). The integration of new disciplines in e-Government research and the involvement of researchers from other fields, such as Public Administration (Yildiz 2007) and Political Science (Heeks & Bailur 2007),
have broadened the scope of e-Government research. Also, e-Government found its way into
the agenda of multilateral organisations such as the United Nations and the World Bank. Later definitions of e-Government have incorporated such concepts as promotion of
democracy and equality, control of corruption and transformation of government business
processes. The transformational concepts were drawn from the already matured e-commerce
field, which necessitates deeper focus on back office operations.

The concept of e-Government has now progressed into solving information and process
management related to the core business of the public sector rather than the conventional
technological issues related to the introduction of e-Services (Bekkers & Homburg 2005;
Mutula & van Brakel 2006). However, this concept of redesign and reform of processes is
against common cultures and norms in many public sector agencies as they tend to act
autonomously, highly independent from other agencies in the same administrative sphere
(Cats-Baril & Thompson 1995; Strejcек & Theil 2003). Public sector institutions may
implement information technology projects differently from private sector organisations due
to crucial constraints imposed by their higher levels of legal and public accountability and
their sense of social obligation (Kumar, Maheshwari & Kumar 2002). The institutional and
political environment has more influence than the economic environment in the public sector
resulting in short-term vision and strong accountability measures. From an organisational
perspective, public organisations have rigid hierarchies and structures that resist network
configuration. At the individual level, public employees value service incentives more than
financial incentives, are less satisfied with their co-workers, and weakly identify with their
organisations (Heintze & Bretschneider 2000).

In general, e-Government was seen in terms of the services it provided (Gartner 2000) and as
a transformational tool of public agencies to become customer-oriented organisations (OECD
2003; Roy 2003; Wimmer, Traunmüller & Lenk 2001). Easy and equal access to government
services has always been the goal of governments which seemed attainable through the
utilisation of electronic channels for public service delivery. Thus, e-Government meant
different things to different people (Grant & Chau 2005) due to the rapid change in
technology which made it difficult to comprehend the exact meaning of the concept (Prins
2001). In the political sphere, e-Government was considered as an enabler of citizens’
participation in the political process and as a warrantor of accountability and transparency of
government dealings (Carter & Belanger 2004a; Huang & Bwoma 2003; Lam 2005; Tung &
Rieck 2005). Similarly, in the civil society sphere, e-Government projects were regarded as
facilitators of focused interaction with citizens, providing empowerment through easy, ready access to government information and documents (Huang & Bwoma 2003) and efficient interaction with citizens on issues of decision making (Gupta, Dasgupta & Gupta 2008; Ndou 2004). In the economic sphere, adoption of e-Government was associated with cost reduction, preventing corruption, reduction in time and effort of public service provision and delivery (UN & ASPA 2002; World Bank 2004). As an application of the Internet, e-Government became an umbrella term that encompassed all these purposes (Yildiz 2007).

In this context, this study adopted the definition offered by Bekkers and Homburg (2005, p. 6, p.6) because it extends previous definitions and encompasses most of the defining elements of e-Government. Bekkers and Homburg define e-Government as:

The use of modern information and communication technologies, especially Internet and Web technology, by a public organisation to support or redefine the existing and/or future (information, communication and transaction) relations with stakeholders in their internal and external environment in order to create added value. Relevant stakeholders are citizens, companies, societal organisations, other government organisations and civil servants. Added value can be found in the following goals: increasing the access to government, facilitating the quality of service delivery, stimulating internal efficiency, supporting public and political accountability, increasing the political participation of citizens, and improving interorganisational cooperation and relations.

Moreover, the authors argue that e-Government is manifested in the form of ecology of information. This ecology consists of different elements within the institutional and technical domains of government. These elements must evolve conjointly in order for e-Government implementation to be successful. This proposition is based on the fact that e-Government stakeholders represent different groups of human actors. Similarly, the goals of e-Government span over multiple domains of government and governance such as the political sphere, the economic sphere, and the civil society sphere (Grönlund 2005).

2.3 E-Government Evolution

Another approach to understand the field of e-Government is to describe its evolution in terms of stages of sophistication in the technological and organisational realms (Gil-Garcia & Luna-Reyes 2003; Moon 2002; Schelin 2003). The literature encompasses several studies that have identified and analysed stages of e-Government development (Hiller & Bélanger 2001;
Howard 2001; Layne & Lee 2001; Moon 2002; Reddick 2004; UN & ASPA 2002). Most of these studies argue that the stage models are focused on the evolution and sophistication of the technology used in public service delivery. It is also affirmed that these stage models are mostly descriptive in nature and not grounded in theory, nor have they been rigorously validated (Chatfield & Alhujran 2009; Coursey & Norris 2008; Gil-Garcia & Martinez-Moyano 2005). Each stage of the evolution models presents a unique level of technological sophistication, citizen orientation, and administrative change (Holden, Norris & Fletcher 2003; Moon 2002) where e-Government services evolve from one stage to the other (Schelin 2003). However, these stages are not necessarily linearly progressive (Chatfield & Alhujran 2007), nor are they mutually exclusive (Moon 2002; Sandoval & Gil-García 2005). E-Government projects are not required to start from stage one, nor is it necessary for their success to progress through all stages as they can skip stages as they develop (Baum & Di Maio 2000; Bekkers & Homburg 2005). The following is a summary of the e-Government evolution stages compiled from the different e-Government development models.

**Emergence Stage:** This stage is characterised by one-way communication (Hiller & Bélanger 2001; Moon 2002) where government agencies launch web pages on the Internet to display formal static information to their constituents. The displayed information is usually limited in scope and is provided by few government agencies. An example of the activities of this stage is the ability for constituents to download government forms and documents online.

**Dynamic Presence:** In this stage more dynamic and customised information is presented for citizens and businesses that can interact with government agencies through lodging online requests or feedback using email (UN & ASPA, 2002). Information posted on government web sites is regularly updated and sometimes government agencies provide links to other government agencies which constituents can contact to acquire other services (UN & ASPA 2002).

**Interaction Stage:** In this stage, Governments provide a single national portal where all other government services are linked together. More sophisticated technologies are used and constituents are usually issued usernames and passwords to access secure and specialized services (Hiller & Bélanger 2001). However, constituents are able to attain services from a single government agency at a time. Services that span the boundaries of a single government agency are not available due to the lack of interconnectedness between government agencies at this stage.
**Transactional Stage:** In this stage, constituents can complete secure transactions through a single government agency portal. Citizens can obtain licenses, birth/death certificates without the need for physical availability at the premises of government agencies (Layne & Lee 2001). This stage is similar to the interaction stage described above.

**Vertical and Horizontal Integration:** In this stage, process re-engineering is introduced and the way government agencies do business is transformed rather than automated (Layne & Lee 2001). The focus is to integrate government services at different levels (Vertical Integration). The horizontal integration is concerned with the integration of government services from disparate departments.

**Seamless Integration:** This stage marks the final step in the implementation of an e-Government project where governments provide a one-stop universal portal for constituents to conveniently access all available services. Government processes, at this stage, are seamlessly integrated and organised both virtually and physically (UN & ASPA, 2002). Public sector reform and organisational change is employed to use the full potential of information technologies. In some cases, the public is able to participate in the process of public consultation and policy making online. This also enables good public governance (Chatfield & Alhujran 2009).

In the case of Oman e-Government, previous research showed that e-Government implementation was still in its infancy (Abanumy, Al-Badi & Mayhew 2005; Al-Busaidy & Weerakkody 2009a). The infancy characteristic of the e-Government initiative in Oman corresponds to the Emergence and/or Dynamic Presence stages in the evolution models presented above. Since the launch of the initiative in 2003, the progress has stagnated with simple accomplishments such as electronic information cataloguing and minimal two-way communication. Correspondingly, the implementation has not progressed to utilise sophisticated networked technologies which facilitate collaboration and integration of public services spanning the boundaries of various government agency.

**2.4 Profile of E-Government Research**

This section is an attempt to cut through the extant literature in the area of e-Government research and create a basic methodical profile to better understand this research area. The main instrument of this effort is a synthesis of existing research taxonomies by e-Government
researchers in addition to a meta-analysis of research material in the e-Government Reference Library 8.0 (Scholl 2012).

An early review of the e-Government literature between 1998 and 2003 (Andersen & Henriksen 2005) indicated that the research body was actively constructed around the technological capabilities in the provisioning of e-Services, which enabled e-Government research to become an Information System (IS) research field. The authors proposed the incorporation of government-related research themes from other fields such as Public Administration in order to make the e-Government field more unified.

In an effort to assess the distinctiveness and maturity of the e-Government research field, (Grönlund 2004) analysed a total of 170 peer-reviewed papers from e-Government conferences held in 2003. The total number consisted of 94 papers from the International Conference and Workshop on Database and Expert Systems Applications (DEXA eGov), 25 papers from the Hawaii International Conference on Systems Sciences (HICSS), and 91 papers from the European Conference on E-Government (ECEG). The author examined these papers for rigor and academic relevance and found a lack of theory generation and theory testing which made the e-Government research field immature. Only 11 papers had shared authors who were government practitioners and discussed issues related to issues of governance. This indicated a poor relevancy that prevented e-Government from becoming a distinct research field. Grönlund (2004) concurred with Andersen and Henriksen (2005) in appending e-Government to the already established and matured research field of Information Systems.

In a similar way, Norris and Lloyd (2006) conducted a comprehensive review of 100 articles published in refereed journals in 2004 and concluded that the e-Government research field was a nascent field and was lacking academic rigor. They asserted that most of the reviewed articles did not make reasonable use of available literature on e-Government, nor did they generate or test theories. It was also observed that the majority of the examined publications belonged to affiliates of the social sciences scholarly fields.

In (Heeks & Bailur 2007), a content analysis study was performed on 28 papers from the Government Information Quarterly journal published between 2001 and 2005, 28 papers from the Information Polity journal published between 2002 and 2004, and 28 papers from the Proceedings of the European Conference on E-Government published between 2001 and 2005. Their findings identified research initiatives that recognise the importance of non-
technical factors in e-Government research and presentations of ideas from different research domains, such as Public Administration and Political Science. However, there was a modest use of ideas related to governance; most of the reviewed papers had limited contributions due to the absence of underpinning theory. Similar to claims made in (Norris & Lloyd 2006) and (Grönlund 2004), Heeks and Bailur (2007) claimed that the use of available literature on e-Government in the reviewed papers was limited, which is contradictory to the notion of accumulation of knowledge in the field. There was then some agreement that the e-Government research field was still immature, lacked academic rigor and was indistinctive of other research fields such as the leading Information Systems field. Of a particular interest, Heeks and Bailur (2007) elicited a beginning of change in research direction to focus on human and contextual factors pertinent to the implementation of e-Government projects.

Heeks and Bailur contended that research in e-Government lacked methodological rigor. The research methods used in the reviewed literature were less dependent on traditional methods such as interviews, statistical surveys, or other methods that require field work research. They argued that there was a lack of clarity on the underlying research philosophies where the choices for philosophical and methodological stances were mostly dependent on convenience. The authors also noted that there were no longitudinal studies of the implementation of e-Government. Therefore, the conclusions and recommendations made by Heeks and Bailur (2007) were taken into consideration when designing the empirical investigation for this study. An attempt was made to avoid all of the observed shortcomings. Details of the research design are provided in Chapter 4.

Yildiz (2007) has also contributed to the debate on the maturity level of e-Government research and future directions. This contribution was in the form of a review of the concept of e-Government and research methodologies used in the field of e-Government research. In a way similar to previous research, Yildiz agreed about the nascent level of maturity of the e-Government research field, the poor utilisation of research methods, the descriptive nature of the research products, the dependence on conveniently available secondary data, and the absence of use of a theoretical basis. Yildiz recommended the linking of the e-Government research field to that of Public Administration and decoupling it from mere technological product-based investigations. He argued that technologies were rapidly growing and changing and it would be irrational to view and link the development of a research field with such pace.
Scholl (2009) argued that the research in e-Government has evolved and grown into a cross-disciplinary research field enriched by a collaboration of researchers from many disciplines such as Public Administration, Political Science, Management Information Systems, Business Administration, Computer Science, and Information Sciences. Thus, the research output can be categorised by two interconnecting themes: technical and non-technical (Scholl 2009). Of the 2,632 publications on e-Government, between the year of 2004 and 2008, analysed in Scholl (2009), 85% were non-technical in nature, of which 50 per cent were assertive of the research importance of issues related to organisation, management and transformation.

Grönlund (2010) produced a systematic review of the e-Government literature in the previous decade. He contended that the main focus of e-Government research was on the technical aspect of e-Government innovations such as e-Services; and less on the government aspect such as policy and organisation change and regulation of interoperability and collaboration among government departments. Grönlund concluded that more research is needed on the “government” dimension of e-Government to produce more structured theoretical models that relate technology to organisation and government values. Therefore, this thesis attempts to offer a better understanding of the factors that influence the adoption and implementation of e-Government at both the institutional and technical environments.

A meta-analysis of research artefacts from the E-Government Research Library (Scholl 2012) was conducted to supplement conclusions adopted from the aforementioned taxonomies of e-Government research. It was inferred from this meta-analysis that, although e-Government research traces its roots back to the early 1990s, it had not then been established strongly into an independent research field in the sense that research products have been consociates of the Management, Political Science, and Public Administration fields. The concentrate of researched issues was derivative of experiences of the private sector’s use of information systems in the internal and external functions. However, these studies were descriptive in nature concentrating on the potential of information technology use in public administration and its implications on public administration theory and practice (Box 1999). Correspondingly, this interest in researching new styles of public administration has given relevance to research in the issue of governance envisaging information technology as a vehicle of change towards the development of new governing styles (Deb 1999; Fountain 1999; Stoker 1998).
By the turn of the century, the research effort had moved from the introductory phase to addressing issues related to government information publishing on the Internet and providing access to constituents. Related issues of security and privacy of information were also among the acknowledged technical critical success factors of e-Government. In a general conclusion, the technical underpinnings of e-Government have parted with research issues related to public administration during the course of early 2000s. One of the main aspects of technical research related to e-Government was the integration and assimilation of Geographical Information Systems (GIS) in the planning of urban development (Oh 2001; Rocha et al. 2003), collection and analysis of spatial data for the purpose of decision-making (Amaro Oliveira, Carvalho & Bártolo 2004; Auksztol & Przechlewski 2004; Luo et al. 2004; Savary & Zeitouni 2003), and open access to information (Greene 2001; Meijer 2002).

In the post-2005 period, e-Government research presented implementation experiences from selective examples as large as a country-wide implementation and as small as an organisation-wide implementation. Similarly, comparative studies have emerged to focus attention on convergent and divergent trends in the adoption of e-Government mainly from the end user perspective (i.e. constituents), and with less focus on the supply perspective (i.e. government). In this context, researchers borrowed theoretical themes from social, organisational, political, and management sciences to explore and explain the phenomenon of e-Government through the lens of such established theories. These theories include structuration theory (Douligeris 2008; Gil-García & Hassan 2007; Harrison et al. 2007; Lee 2006; Parvez 2006a, 2006b; Senyucel 2007) to explain the structurational consequences of technology integration in organisation processes. Institutional theory was also among theories used to explicate the institutionally-induced change resulting from the adoption of ICTs in the public sector (Anstead & Chadwick 2009; Contini 2009; Criado 2009; Kouzmin & Kakabadse 2000; Xakaza-Kumalo 2010). There were also some studies that examined the impact of organisation actions related to e-Government adoption and collaboration between government organisations (G2G e-Government) as well as citizen’s adoption and expectations of e-Government services (Axelsson, Melin & Lindgren 2009; Elliman & Taylor 2008; Fedorowicz 2010; Kamal & Weerakkody 2009; Molinari 2011).

Many of the publications have produced both general and specific guidelines for future implementation initiatives. Moreover, some studies have presented evaluative frameworks to measure the tangible outcomes of e-Government and to mitigate risk factors of e-Government implementation. However, the overall theme of focus has been geared towards citizens’
adoption of e-Services as recipients and adoption of e-participation, e-voting, and e-democracy as participants of these different domains of e-Government.

Substantially, the research output within this library has developed in parallel with the stages of development of e-Government. Early publications have dealt with issues related to technical aspects of publishing government information online and later publications have progressed into dealing with and proposing solutions to issues related to vertical and horizontal integration within the government sphere. The research effort has grown in parallel to the growth and sophistication of the phenomenon itself. Current research is becoming to be concerned with the “government” dimension of e-Government which is the focus of this study.

In summary, the concept of e-Government has deeply influenced how public officials think about public services reform and the roles of technology in public administration, which led e-Government to become a public administration reform strategy (Fountain 2001; Heeks 1999; Moon 2002). In fact, Brown (2005) defined e-Government as encompassing all roles and activities of government fashioned by the capabilities of Information and Communication Technologies. Brown contended that e-Government has introduced four permanent aspects to public administration, namely: citizen-centred service, information as a public resource, new skills and working relationships, and accountability and management models.

Yildiz (2007) and Heeks and Bailur (2007) have brought forward insightful recommendations and future directions for solidifying the research field of e-Government. On an epistemological level, Heeks and Bailur (2007) contended that the research in e-Government was dominated by a positivist view with pre-set assumptions about reality. The authors argued that a better understanding of the phenomenon of e-Government could be attained by employing a social constructionist and interpretivist approach that enables the researcher to extract evidence about the contextual factors influencing the adoption of e-Government. The authors inferred the absence of a clear statement of philosophical positions in the then reviewed e-Government research and invited researchers in the field to clearly state their philosophical positions in accordance with their research objectives. They argued that the recognition of underpinning philosophical positions was imperative to the enhancement of academic credibility of the research field.

Yildiz (2007) preferred to employ an interpretive social constructionist paradigm to examine the process of agenda setting and policy formulation of e-Government projects. He reflected
on the merit of utilising theories from the Public Administration field, such as institutional theory and other theoretical frameworks concerning policy formulation. However, Yildiz opposed the single utilisation of theoretical frameworks formulated around technology as the central component of organisational change. In terms of methodology and methods, both reviews (Heeks & Bailur 2007; Yildiz 2007) highlighted the lack of systematic use of research methods and theoretical frameworks due to the fact that the e-Government research field lacks substantive theory. Therefore, researchers recommended the use of theoretical frameworks from related fields such as Political Science and Public Administration with a focus on the complex process of e-Government development and related contextual, institutional, and environment factors rather than descriptive focus on the outcomes of e-Government. These reviews informed the choice of philosophical, theoretical, and methodological underpinnings of this study explained in chapter 4.

2.5 Origins of E-Government and Public Administration Reform

In an assessment of the National Performance Review (NPR) launched in 1993 and considered as the seed of e-Government initiative in the United States, Thompson (2000) identified the main objectives of the review as: downsizing, reducing administrative costs, reforming administrative systems, decentralization of authority within agencies, empowerment of front-line workers, cultural change, quality of service improvement, and efficiency of agency work practices. The assessment concluded that some of the NPR objectives, such as authority decentralization and cultural changes, were difficult to put into effect. In a literature review aimed at identifying the possible causes for the slowdown in the development of e-Government projects, Grönlund (2004) reported, among the causes, (i) lack of economic incentives to invest in e-Government, (ii) lack of the sense of crisis requiring e-Government investment in the agencies where it is supposed to be implemented, and (iii) that agencies have conflicting goals which sometimes are prioritised over government efficiency. Grönlund (2005) concluded that the lack of e-Government achievements was a result of conflicting goals and failure to manage priorities.

Applications of e-Government in the public sector are emerging and are not always strategy-based (Gil-Garcia & Martinez-Moyano 2005; Grönlund 2002; Norris 1999). This is so because public organisations are information-intensive which makes advances in Information Technology easily viable for administration practices in public sector (Bretschneider & Wittmer 1993). A second reason is the citizen-focus of e-Government projects. That is, e-
Government is sensitive to the changing needs of citizens and requirements of the political, economic, societal, and technological environments (Liu & Lai 2004; Peristeras & Tarabanis 2000). In general, e-Government is seen as a tool to improve the relationship between government and citizens (G2C), between government and businesses (G2B), between government and employees (G2E), and between different government agencies (G2G). These four application areas of e-Government require internal interaction with individuals and institutions (G2E and G2G) and external interaction with individuals and institutions (G2C and G2B) (Siau & Long 2005). It is believed that e-Government is a transformational and evolutionary phenomenon that affects all aspects of governance and that it should be implemented in a phenomenal way (Grant & Chau 2005; Layne & Lee 2001; Lee, Tan & Trimi 2005).

Lenk and Traunmüller (2000) developed a framework that offers a general understanding of e-Government projects based on five perspectives. First, is the e-business perspective which is concerned with improving the efficiency of government transactions using advanced information and telecommunication technologies (Csetenyi 2000). This is analogous to the claim discussed above regarding assimilation of e-commerce/e-business functionalities in the public sector to facilitate a transformation of government to e-Government (Wimmer, Traunmüller & Lenk 2001). The second perspective is the citizen perspective which deals with the requirements of the end user of e-Government services to ensure the delivery of quality and satisfying services to all citizens using electronic channels. The third perspective is the knowledge perspective which points out the importance of involving employees in the redesign of public services and benefiting from their previous knowledge in service delivery prior to shifting to the virtual workspace. The fourth perspective is the process perspective. This perspective is about the re-engineering of public service processes to utilise the full potential of ICTs (Lenk & Traummüller 2000). Moreover, this perspective relates to the redesign of means of interaction between government departments and constituents. The fifth perspective is the tele-cooperation perspective which relates to enabling cooperation between government departments and business partners to deploy seamless public services. This perspective equates to the establishment of a common government network that enables comprehensive and seamless collaboration between government departments. This collaboration results in enhanced efficiency and performance of government departments (Rocheleau 2000). Lenk and Traunmüller’s framework offers a clear analysis of the building blocks of an e-Government initiative. It is also relative to the e-Government definition
provided by Bekkers and Homburg (2005) because it encompasses both the technology and process perspectives of e-Government. It also specifies the various stakeholders of e-Government and emphasises the important role of collaboration between government departments as a basis for successful implementation of e-Government.

Grant and Chau (2005) argued that the lack of a clear definition and conceptualisation of e-Government resulted in uncoordinated and superficial implementation efforts. They contended that the key driving factor for e-Government achievements was clear visions which needed to be well developed prior to implementation. However, each vision is driven by a set of social, political, and economic factors unique to the country in which e-Government is implemented. To further illustrate this claim, Grant and Chau reported that the main focus of the United States e-Government initiative was on online service delivery and public sector reform whereas the South African e-Government program was predominantly focused on service delivery. On the other hand, the United Kingdom’s program was inclined towards having a balance between both objectives (Grant & Chau 2005). In Bekkers and Homburg’s (2005) definition of e-Government, relevant stakeholders of e-Government included citizens, companies, societal organisations, other government organisations, and civil servants. E-Government efforts must meet the various and - perhaps - conflicting needs of these stakeholders in the three modes of government operation: political, administrative, and civic.

Based on this assumption, Grönlund (2005, p. 7) attempted formulating a theoretical framework of e-Government in which he predicted that: ‘e-Gov Information Systems will only achieve long-term success when they sufficiently well implement interests and modes of operation of all three spheres of governance system: formal politics, administration and civil society’. This theoretical framework is the first form of theory in the field of e-Government as an independent field of research (Scholl 2009). Figure 2.1 shows Grönlund’s structurational model of technology in relation to e-Government development.
Grönlund’s (2005) proposition uses Structuration Theory (Giddens 1984) as well as other extensions made to the theory in the field of Information Systems (Orlikowski 1992; Orlikowski & Robey 1991; Roberts & Grabowski 1999). In e-Government, technology is viewed as an instrumental tool in shaping the structural properties of the relationship between citizens and the government (Heinze & Hu 2005). Similarly, in Grönlund’s view, technology was a mediator between the requisites of the three spheres of government: the political sphere, the administrative sphere, and the civil society sphere. Technology was considered as the backbone mechanism that triggers a continuous interaction between these spheres; a different and faster way from the traditional means of interaction.

Therefore, technology is able to shape the interaction between the government and citizens, constrain these interactions and could itself be constrained by the interaction between the government and citizens creating a recursive relationship between organisational structures (i.e. government) and the behaviours of its members (i.e. citizens and employees) (Heinze & Hu 2005). Heinze and Hu (2005) contended that the majority of research in e-Government portrayed it as a favourable change towards good and as a utopian deterministic force of the future. In this context, this thesis does not favour the deterministic view of Information Technology in the public sector. That is, IT alone is not capable of public sector reform. Rather, this discussion highlights the importance of considering the contextual factors and the pressures excreted from the institutional environment in producing a better understanding of e-Government adoption and implementation.
The five perspectives of e-Government (Lenk & Traunmüller 2000) fall within the same scope of viewing technology as an integral element of the three spheres of government (Grönlund 2005) as discussed above. In particular, the fourth and fifth (Process and Tele-Cooperation) perspectives are closely interrelated and they both facilitate the efficient delivery of public services. In this perspective, e-Government is viewed as a service-oriented and quality-driven information system (Viscusi, Batini & Mecella 2010) that results from cooperation between government departments to create a basis for easy and democratic delivery of complex public services to citizens and commercial firms alike (Devadoss, Pan & Huang 2002). In organisational settings, fulfilling the needs of constituents is the primary objective. Since the provision and delivery of e-Government services is technology-based, the organisational structure and social structure will be affected by the ever-changing technology. The technology itself will be reshaped by demands from human agents for better and more convenient services, hence, the concept of duality of technology (Orlikowski 1992). However, quality should become the safeguard of this process, as it was associated with building and sustaining relationships with the organisation’s constituents (Winder 1993) through fulfilling their requirements in a satisfying manner.

In this sense, users of the technology become the interaction mediators between the organisation’s structure and the technology. The technology is shaped and it shapes the structure of organisations based on the needs of the constituents. Therefore, in this thesis, the researcher proposes that quality of service becomes the governing standard of the complex system of dual interaction between the spheres of government which are interlinked by means of tele-cooperation (Lenk & Traunmüller 2000) between various government departments.

Notwithstanding, public organisations are affected by exogenous factors that may alter the effects of interaction between internal organisation structures and the technology. The impetus to develop and shape internal structures is significantly influenced by external institutions (Heeks & Bailur 2007; Yildiz 2007). Failure to realise the full potential of IT in the public sector could usually be attributed to constraints imposed by the institutional environment (Gore 1993). Frameworks related to the structuration theory used by scholars (Barley 1986; Orlikowski 1991, 1992) - to highlight the effects of technology on the internal organisational structures – were insubstantial to apply in the context of the public sector. Public agencies commissioned by government authority were less receptive to market force (Thatcher et al. 2001). Therefore, the development of social and organisational structures within government agencies is prone to considerable pressures from external institutional
forces. Consequently, the researcher, in this study, proposes the use of institutional theory as a lens to better understand the influence of formal institutional forces on the process of e-Government adoption and implementation.

2.6 Adoption of Innovations in the Public Sector

The research on innovation in the public sector has existed for more than 30 years (Coursey & Norris 2008), especially in the field of public administration (see for example, Bretschneider 1990; Kraemer & Perry 1999; Kraemer & King 1987; Norris 1999; Northrop et al. 1990). However, Kraemer & King (2003) argued that since the 1990s there was a discontinuance of systematic research into the impact of IT innovation in governmental organisations. This made it difficult to offer an accurate assessment of the role that IT played in administrative reform in the public sector. Therefore, Kraemer and King concluded that IT, by itself, was not capable of revamping the structures of government organisations; rather the adoption of IT was no more than an adaptive measure to improve the performance and efficiency of the public sector. In relation to e-Government Kraemer & King (2003, p. 13) stated that for e-Government to succeed in bringing change to the ways of public service delivery and government interaction with constituents, ‘the leadership of government organizations must establish the broader goals of the reform efforts, develop new models of electronic governance and electronic service delivery, and then bring IT carefully into consideration.’

Similarly, King et al. (1994) argued the need for government intervention to ensure successful diffusion of IT innovations especially in the developing world. Among the forms of institutional interventions needed, the authors argued, was the innovation directive which takes many forms but most importantly the directive to organisations to change their structure and the way they operate so that the innovation diffuses consequently. This type of directive can be thought of as creating the necessary environment for the innovation to be successfully implemented. However, the authors argued that directives to innovate may fail if delivered as a top-down order. This was because individuals who made the orders at the top were not usually as familiar with the practicalities of implementing innovations as were individuals at the lower level. In relation to e-Government, this gap was also observed by (Heeks & Santos 2009, p. 19) who hypothesised that, ‘the greater the difference between the institutional systems of designers and adopters, the greater the risk the innovation will fail.’
In addition, King et al. (1994) argued that the characteristics of the innovation and the motivation of the institutions determined the appropriate type and degree of institutional intervention required for the innovation to succeed. For example, the authors contended, IT innovations were characterised as a networked innovation, therefore greater institutional intervention was required to establish a sound communication infrastructure to link disparate systems. Such intervention (or a lack of intervention) to build reliable physical infrastructure (King et al. 1994) could be directly associated with the success or failure of the implementation of IT innovations especially in the developing world (Gurbaxani et al. 1991).

From an institutional perspective, Frumkin and Galaskiewicz (2004) concluded that transformation of the structures of public organisations was dependent on coercive and normative pressures from the surrounding environment. The authors argued that structural change may occur if government organisations were subject to external oversight and periodic evaluations of performance. Similarly, they argued that the involvement of public managers in professional networks may also increase their ability to bring transformational change to their organisations. Drawing on extensive literature on institutional theory, Frumkin & Galaskiewicz (2004) argued that government organisations were more susceptible to institutional pressures than those organisations in the private or non-profit sector. This warranted the appropriateness of using institutional theory to better understand innovation diffusion in the public sector such as e-Government in this case.

2.7 E-Government Adoption and related theoretical elements


However, both TAM and DOI theories utilise constructs that focus on the individual level experience and omit the complexity of organisational determinants and process prospects.
Moreover, Roger’s theory treats adoption of innovations linearly and fails to accommodate for influences from the surrounding social system. Moon and Norris (2005) argued that there is no single model that fits all cases of e-Government implementation. Therefore, a content analysis of research and official documents pertinent to e-Government initiatives in different developing countries was performed as part of this literature review to distil factors that motivated these governments to adopt e-Government initiatives.

E-Government is an innovation in the public sector. To avoid confusion regarding the terms: innovation, adoption, and implementation, this study adopts the definition of innovation from Mohr (1969, p. 112) who, based on an analysis of the difference between innovativeness and inventiveness, defined innovation as ‘the successful introduction into an applied situation of means or ends that are new to that situation.’ Mohr (1969) argued that this definition avoided the often problematic distinction between innovativeness and inventiveness, which are driven and facilitated by different factors. For example, inventiveness or creativity is driven by capacities of individual members of an organisation who can produce new and creative ideas and by the flexibility of the organisation structure which allows for open communication and exchange of ideas. On the other hand, innovativeness, which is the ability of the organisation to successfully adopt new practices or policies different from its own practices, is mainly facilitated by the size and wealth of the organisation among other environmental factors (Mohr 1969, p. 112). This is consistent with the focus of the current study on both the factors that drive the initial adoption (i.e. “successful introduction”, to use Mohr’s term) of innovations and those factors that facilitate or inhibit the diffusion of the adoption. The use of the words ‘means’ and ‘ends’ in Mohr’s definition is especially interesting since this study investigates the possibility of institutional decoupling between the means and ends within the implementation process of e-Government in Oman.

In regards to e-Government, many adoption frameworks exist in the literature. However, a large number of these frameworks focus on the citizen’s aspect (G2C) of adoption (Al-Adawi, Yousafzai & Pallister 2005; AlAwadhi & Morris 2008; Bélanger & Carter 2008; Carter & Belanger 2004b; Carter & Weerakkody 2008; Horst, Kuttschreuter & Gutteling 2007; Warkentin et al. 2002; Weerakkody et al. 2009). On the other hand, there are fewer studies that focus on the adoption of e-Government from a government perspective (G2G) (see for example, Ebrahim, Irani & Alshawi 2004; Moon & Norris 2005; Norris & Moon 2005). Moreover, there is paucity of research on ‘why government organizations develop and adopt e-government’ and of those that exist ‘few are grounded either in actual e-government
research or in the prior literature on the adoption of information technology in governmental organizations’ (Coursey & Norris 2008, p. 523). The current study acknowledges the prior work on information technology adoption in the public sector and builds upon existing theorising efforts in the field of e-Government (Grönlund 2005). To avoid the single-sided focus on the technology aspect of adoption, the study uses institutional theory as a lens for understanding why the Omani Government adopted e-Government and also for searching for an explanation of why e-Government implementation stalled in Oman. This offers a comprehensive assessment of both the adoption and implementation stages of e-Government in Oman.

In the perspective of the above discussions, e-Government is characterised as a complex and networked diffusion of technology innovation within the public sector. It is inconsequent to compare e-Government implementation with deployment of technology in the private sector (Kraemer & King 2006). In a critique of the use of DOI theory, Lyytinen and Damsgaard (2001) concluded that careful attention should be directed at understanding the political and institutional properties in the surrounding environment of implementation. In the context of networked technology, the authors recommended: (i) the understanding of the properties of the local environment, (ii) the use and development of multi-layered theories of diffusion, (iii) the employment of multiple levels of analysis with dedicated focus on alternative theories such as political models and institutional models, and (iv) a special focus on the process features and locale properties. In the same vein, Hjort-Madsen (2007) presumed that more research was needed to explicate the role of internal and external institutions on the design and implementation of information systems in the public sector. He asserted the merit of using institutional theory to suggest a new interpretation of technology adoption in the alternate tradition of rational action. Similarly, such merit is manifested in the realm of e-Government as it interoperates within the social and organisational structures of the government. The complexity of these structures, together with the complexity and changing nature of the technology itself demonstrates the need to examine the process of e-Government adoption through the lens of institutional theory. Similarly, institutional isomorphic processes influence the organisation’s decision to adopt an innovation (DiMaggio & Powell 1983, Abrahamson 1991). Based on these recommendations, the following section describes the theoretical elements underpinning this study.
2.8 Theoretical elements of this research

The theoretical framework proposed in this thesis is primarily based on a literature review of the motivating factors for implementing e-Government in different developing countries from Asia, Africa, Europe, and South America. These countries were randomly selected with focus on Arab states to allow for a close comparison with the exemplary case of this study: Oman. The extracted factors were aggregated and categorised in a succinct framework through the lens of Structuration Theory (extended by Grönlund (2005) to fit in the context of e-Government), Institutional Theory, and models of Service Quality and Information Quality. The following sections present a brief introduction of the theoretical elements used in this research. Following this section, a discussion on the linkage between these elements is presented.

2.7.1 Structuration Theory

At the broadest generality, structuration theory, proposed by Giddens (1984) was an attempt to address the theoretical debate of whether social systems are objective, based on social structures, or subjective, based on human actions. Giddens argued that social systems were the result of interaction between human actions and social structures. Structuration theory posits that structuration is a social process in which human actions are constrained by social structures and that these social structures are also created and shaped by human actions. The theory defines three realms of social structures namely: the structure of signification, the structure of domination, and the structure of legitimisation. Similarly, there are three realms of human actions namely: meaning, power, and moral sanction.

The realms of social structures and human action structures are not conflicting elements, but they rather mutually coexist. The interaction between the realms of social structures and human actions constitutes the process of structuration (Giddens 1984). The theory specifies three modalities that link the realm of social structures and the realm of human actions namely: interpretive schemes, facilities, and norms. These three modalities mediate the interaction between the different dimensions of the social structure realms and human action realms. The interpretive schemes mediate the interaction between the structure of signification and the human action of meaning and communication and vice versa. The facilities mediate the interaction between the structure of dominations and the human exercise of power. The norms mediate the interaction between the structure of legitimisation and
human moral sanctions. In other words, these modalities are the tools through which structures are translated into actions. For example, the modality of interpretive scheme attaches appropriate meaning to actions; a person who carries a whistle in a football match is the spectator. The modality of facility is related to the degree of power facilitated by a certain structure of domination; a police badge or uniform empowers a person to fine a speeding driver. The modality of norms relates to societal norms and what is a socially-accepted action in a certain situation or environment; it is the norm to raise your cap/hat to greet someone in English societies.

Structuration theory has been used in the information systems literature to explain the relationship between organisation structures, employees, and technology (Orlikowski & Robey 1991; Robey & Boudreau 1999). Several studies of information systems (Barley 1986; Markus & Robey 1988; Orlikowski 1992; Roberts & Grabowski 1999) have extended the structuration theory to reflect on the role of technology as a trigger and mediator of interaction between organisation structure and members’ behaviour. In the specific field of e-Government, Devadoss, Pan and Huang (2002) utilised structuration theory to identify the factors affecting the transformation of traditional government to e-Government in the context of Singapore. Devadoss, Pan and Huang (2002) used Orlikowski and Robey’s (1991) model to trace these factors to their origin in relation to human actions or social structures. They developed an exploratory framework to assist in understanding future implementation efforts of e-Government. This framework was built on a structurational model with the government, systems developers, and users as the participating entities of the model.

Recently, Hossain et al. (2011) proposed a framework for e-Government systems assimilation based on structuration theory, which focuses on the organisational factors of adoption. The framework maps the factors of e-Government adoption with the organisation’s structures: signification, domination, and legitimisation. The framework explores the complex relationship between government, people, and technology based on sound theoretical perspectives of e-Government adoption from the government point of view.

However, Grönlund (2005) formalised the first theoretical perspective focussed on the context and complexities of a government system rather than assimilating experiences of information technology adoption in business organisations. Grönlund drew upon structuration theory and the perception of e-Government phenomenon as an interactive system affected by the relationship between its organisational structure and its members’ behaviour. The
organisational structure of Grönlund’s framework involved three interrelated entities: formal politics, administration sphere, and civil society which constitute the spheres of the e-Government domain. Grönlund contended that the introduction of information technology to this system will produce a recursive influence between these entities with information technology as the enabler of this interaction. As posited by structuration theory, these interactions will be enabled or constrained by the technology and, on the other hand, technology itself will be shaped by these interactions. The theoretical framework of e-Government adoption motives constructed in this thesis draws upon the extended work of Grönlund (2005) and utilises the resulting framework as a lens for classifying motives of e-Government adoption.

2.7.2 Institutional Isomorphism

In accordance with the cross-disciplinary nature of the e-Government research, which draws mainly from management, commerce, and organisation fields, this study used the concept of institutional isomorphism (DiMaggio & Powell 1983) as a lens to facilitate the categorisation of motives for implementing e-Government. DiMaggio and Powell (1983) posit that organisational structures are maintained through three mechanisms leading to isomorphism within and across organisations. These are: regulatory/coercive, cognitive/mimetic, and normative (DiMaggio & Powell 1983; Scott 2001). Organisational structures and activities become institutionalised when they are maintained and reproduced to become isomorphic of organisations of the same field. In other words, despite different backgrounds, organisations in the same field are subject to forces through which they become more homogeneous, adopting similar practices and behaviours over time. Institutionalisation of certain organisation activities could be driven by social, cultural and political goals and not by mere economic motivations (Meyer & Rowan 1977).

Coercive isomorphism is concerned with the order of power where an organisation is obligated to follow certain practices due to legislative or political influences from an organisation with higher levels of power and authority. Dependence on resources is one factor that obligates one organisation to follow orders received from another organisation in possession of such resources. Mimetic isomorphism operates in the context of uncertainty where an organisation chooses to adopt the practices of another organisation which is presumed to be successful in that context. Normative isomorphism is influenced by norms and practices taken for granted between organisations in one field. Normative pressures were
also associated with practices and socialisation between employees of one profession (DiMaggio & Powell 1983; Scott 2001) including the external normative influence brought by consultants (Irvine 2009). E-Government systems, in some cases, are influenced by a single or a group of these institutional motives.

### 2.7.3 Information Quality

Information quality (IQ) is an essential success factor of e-Government adoption and implementation (Cullen & Houghton 2000; Klischewski & Scholl 2008). This concept is an instrumental basis for sharing information internally within government boundaries and externally with constituents. It is a product of the perspective of tele-co-operation in e-Government (Lenk & Traunmüller 2000). Information quality was one of the dimensions of the information systems success model (DeLone & McLean 1992, 2003) and it represented a set of attributes such as accuracy, comprehensiveness, currency, and reliability (Taylor 1986) that gave value to information. Therefore, IQ is context-sensitive (Lillrank 2003) and is an outcome of emergent and changing needs between entities involved in negotiated information sharing (Klischewski & Scholl 2008). It is argued that IQ should become a standard of conformity for the process of collaboration and information sharing between government agencies (Klischewski & Scholl 2008). This thesis considers IQ as an enhancer of the process of interaction between the three government spheres (political, economic, and civil society). Likewise, the standards of IQ befit propositions of isomorphic normative pressures that influence the adoption of e-Government.

IQ was a section of the Taylor’s model of value-added process of information systems (Taylor 1986). Taylor’s model emphasised that the main focus of information system design should be meeting the user’s needs. According to Taylor, information systems’ processes added value to data to become information and finally information becomes knowledge. This incremental activity of adding value culminated to meet user’s needs in a constrained environment.

### 2.7.4 Service Quality

With service delivery and citizen satisfaction as the main theme used in the promotion of e-Government implementation efforts, linking these efforts with Service Quality models seemed as a promising research premise. Moreover, since e-Government is mainly concerned
with the provision of electronic services, the models of service quality are deemed applicable in eliciting the categories of implementation motives. E-Government research encompasses a cluster of approaches that examines the relationship between service quality and e-Government services. Papadomichelaki et al. (2006) identified 18 different approaches with objectives to developing quality models for e-Government services. As a result of the synthetic review of these approaches, the authors concluded that there are four main domains that affect the quality of e-Government services namely: content, organisation, system, and service. These domain areas resemble the basis of a holistic view of the service quality issues from both front office and back office perspectives. In accordance with this view, Surjadjaja, Ghosh and Antony (2003) contended that quality issues concerning e-Service was a complicated matter which should be addressed in a comprehensive approach with focus on the electronic delivery channel and the service itself. Recently and in an attempt to develop a multidisciplinary methodology for e-Government projects planning, Batini, Viscusi and Cherubini (2009) have proposed that issues related to service quality should become the central focus in the planning for e-Government projects.

Quality was broadly defined as ‘conforming to requirements’ (Crosby 1979). Although the literature on service quality is increasingly rich on measurements of service quality, researchers have agreed that service quality is ambiguous and hard to measure (Ho 2002; Parasuraman, Zeithaml & Berry 1985; Yong 2005). Contemporary studies such as (Im and Seo 2005) and (Cats-Baril and Thompson 1995) confirmed the difficulty of reaching a unified definition of service quality and a unified scale of measurement. However, service quality is simply defined as the gap between customer expectation – how they expect a service to be – and their perception of the quality of the service - how they perceive the service once acquired.

The most prevalent instrument of measuring service quality is SERVQUAL which is founded on the premises of the gap theory articulated in (Parasuraman, Zeithaml & Berry 1985) and later revised in (Parasuraman, Zeithaml & Berry 1988). It proposes five major dimensions to measure service quality. The first dimension is the tangibles dimension, which includes the physical elements of a firm such as buildings, equipments, and appearance of employees. Second, is the reliability dimension, which represents the firm’s ability to deliver services to customers accurately as promised. Third, is the responsiveness dimension, which means providing services to customers promptly. Fourth, is the assurance dimension, which represents the firm’s ability to convey to customers that the delivered products and goods are
worthy of their trust and confidence. Finally, the fifth dimension is empathy, which shows that the firm cares about its customers individual and specific needs. Grönroos (1988) also proposed a different model for measuring service quality through three abstract dimensions. The technical quality, which is concerned with ‘what’ the customer gets out of a service, hence, sometimes it is called the outcome dimension of a service. The functional quality is concerned with ‘how’ the customer receives the technical outcome of the service. The third dimension is the firm’s image which means how the customer views the firm when interacting with representatives of the firm in its premises.

Most of the proposed models for e-Government service quality (Alanezi, Kamil & Basri 2010; Candiello, Albarelli & Cortesi 2010; Magoutas, Halaris & Mentzas 2007; Sukasame 2004) are based on e-service quality models which approach quality on the basis of already functioning services in different countries, whereas, this thesis focuses on the explanation of the process that enables the provision of such services. Therefore, this thesis draws upon dimensions of SERVQUAL and dimensions of service quality proposed by Grönroos (1988) and is pursuant to the framework presented in (Batini, Viscusi & Cherubini 2009) focused on the preliminary planning phase of e-Government initiatives based on cooperative government ICT architecture.

2.8 The linkage between the theoretical elements

The theoretical elements of this research are interlinked. There is an interrelation and interdependency relationship between these elements which enables each element to influence one another.

2.8.1 The linkage between the Structuration Theory and Institutional Theory

There is a linkage between Structuration Theory and Institutional Theory with Technology as an integral element in the dual interaction between the spheres of government. Structuration theory has been used extensively in Information Systems research to examine the interaction between technology and organisational structures with Orlikowski (1992) ‘duality of technology’ study as the most influential study that focuses on the relationship between technology and organisation (Hossain et al. 2011). Orlikowski (1992) has demonstrated that the modalities of structuration are encapsulated within the cultural, historical and organisational contexts. These contexts, in turn, have significant influence on the design,
usage, and institutionalisation of information technology within an organisation. Orlikowski (1992) called for the need to frame IT studies within the structuration framework. Orlikowski et al. (1995) maintained that these institutional structures are utilised by human actors to conceptualise the potential of technology, inspire its use in work process, and bring in the resources and power to support its implementation. These internal institutions coupled with external institutions such as regulatory pressures, professional values, and mimetic pressures surrounding uncertainty significantly influence the structuration of technology within public organisations (Thatcher et al. 2001). In summary, the introduction of technology to processes within government agencies will alter the relationship between the government and its constituents. As a mediator of this change, technology will also be shaped by institutional forces to maintain a sustainable relationship between government agencies and their constituents.

2.8.2 The linkage between Service Quality and Institutional Theory

Service quality is a set of standards that frame and guide the organisations’ efforts towards customer satisfaction and fulfilment of explicit and implicit needs. Within the realm of mutual influence between technology and social structures, technology is changing rapidly as well as the needs of citizens. This constant transformation instigates internal pressures on government towards conforming to standards to avoid uncertainty and maintain its local and international legitimacy (DiMaggio & Powell 1983). Moreover, the change in needs of citizens and potential of technology creates mounting pressure on organisations (i.e. government agencies in this case) to embrace a widely accepted and well-defined regulatory framework of standards to avoid damage of reputation from conflicting with external standards (Meyer & Rowan 1977). This thesis proposes that the infusion of service quality dimensions as a governing framework of the interaction between technology and social structures will be favourable for meeting citizens’ interests and maintaining the legitimacy and image of the organisations providing public services. In other words, service quality dimensions should be used as a basis for public service delivery. This will, then, strengthen the technical environment of e-Government implementation and, by extension, facilitate more institutionalisation of e-Government in the practices of government departments.

Secondly, in a drive for legitimacy in the eyes of constituents, organisations might subdue their dominant concern over efficiency (Meyer & Zucker 1989). This insight from institutional theory warns against the possible negative consequences of the interplay
between the conflicting realities of changing technology and changing constituents’ needs concerning public service delivery. In this context, organisations tend to adopt structural attributes from other organisations that are dominant in the field and viewed as successful adopters. In the case of e-Government, standards of service quality are adopted by government agencies from successful adopters of e-commerce in the private sector. Service quality can become, then, as a rule-like form of institutionalisation of e-Government.

2.8.3 The linkage between Information Quality and Institutional Theory

In the context of e-Government, information quality is the basic standard for integration between government agencies. It is argued that successful interoperation between government agencies is predominantly dependant on achieving shared information quality at all ends (Klischewski & Scholl 2008). Integration between government agencies creates a competitive institutional pressure between the various agencies to conform to standards in order to maintain a legitimate image, at least internally. Information sharing is a central activity in an e-Government implementation. Less dominant government units are circumscribed by power of more dominant governing bodies to conform to standards of information quality when sharing information with other agencies. This network creates impetus for government agencies to passively accept standards of information quality as they become institutionalised in the network in order to become compatible with the prevailing logic. Similar to service quality, information quality can become as a rule-like form of institutionalisation of e-Government.

2.8.4 The linkage between Country-specific factors and Institutional Theory

As e-Government became a wave of change in government business in the whole world and a UN-adopted strategy to leverage poverty and reduce corruption (Islam 2007), countries around the world were driven by external pressure to adopt e-Government. The global movement towards adopting e-Government has created normative and mimetic pressures on the country to implement e-Government. Similarly, the UN annual e-Government Survey and the E-Government Development Index, which annually ranks member states, influenced the Government of Oman to adopt e-Government.

However, the adoption process can also be country-specific (Roy 2003) as influenced by pressures of the characteristics of the country’s history, culture, demographic, geographic,
and economic circumstances. In Oman, the economy is heavily dependent on revenue from crude oil exports. Due to the sharp fall of oil prices in 1998 and strong predictions of depletion of the oil reserve by the year 2020, the Government of Oman sought consultancy from Gartner to devise a strategy of shifting to a knowledge economy. Garner consultants have reviewed the situation of Oman and compared it to that of Ireland in the early 1990s. Gartner has advised the government to embark on a strategy of implementing e-Government projects. The underpinning of this strategy was aimed at creating a knowledge industry to produce IT solutions for the government by local small to medium IT enterprises. Circumstance related to the economic situation has created pressure on the government to adopt an e-Government strategy.

The country’s demographic characteristics have also influenced the process of adoption. Around the year 2000, 70% of the citizens were school age (Ministry of National Economy 1996). The pinpoint for Oman was to create a knowledge industry based on e-Government. Omani e-Government projects were expected to be supplied by a local knowledge industry which, by extension, will create employment opportunities for the large number of graduating students.

The country’s geographic characteristics have created internal pressures on the government to adopt cost-effective and easily penetrative service delivery channels to overcome geographic obstacles. Oman is a large country with low-density populated mountain and desert areas. The UN discourse related to e-Government designates the use of electronic channels as a solution for delivering equal services to all citizens. The geographic nature of Oman creates obstacles for delivering equal services to citizens scattered in mountainous and desert areas. Therefore, adopting e-Government was a conformation to global standards as well as a mitigation of an existing problem in the country. The following section offers a meta-analysis of extant research of e-Government in relation to Oman.

2.9 E-Government Research about Oman

Based on a general search of “Oman e-Government” in Scopus, Web of Science, and Google Scholar, the amount of e-Government research in Oman is rather minute. The search resulted in only 20 research documents including journal papers, conference proceedings, and unpublished theses. Some of these research artefacts were descriptive (Al-Gharbi & Al-Kindi 2010) or comparative and highlighted challenges of implementing e-Government initiatives.
in Oman (Abanumy, Al-Badi & Mayhew 2005; Al-Busaidy & Weerakkody 2009b; Al-Busaidy & Weerakkody 2011a; Deakins, Dillon & Al Namani 2008) and also discussed factors of adoption at organisation level (Al-Azri, Al-Salti & Al-Karaghouli 2010; Al-Busaidy & Weerakkody 2010). Other research papers tackled the issue of proposing adoption models from the citizens’ perspective (Al-Adawi, Yousafzai & Pallister 2005; Al Abri 2009) and from the government employees’ perspective (Al-Busaidy & Weerakkody 2011b). These studies mainly used theoretical constructs from TAM, DOI, and UTAUT to test the perceptions of citizens and government employees in regards to the introduction of e-Government systems and services. Other studies used exploratory approaches to identify critical success factors that affect the adoption process and suggested normative frameworks to facilitate successful development and adoption of e-Government in Oman (Al-Ruzaiqi 2003; AlShihi, H. 2005) or to establish an association between knowledge management and e-Government design (Espinosa & Al-Maimani 2009). Only one study: (Al-Busaidy & El-Haddadeh 2011) employed the institutional theory as a lens to evaluate the implementation of e-Government in a single government department. In contrast, the current study specifically relates to institutional isomorphism forces of coercion, mimicking, and normative with a broad investigative base encompassing nine different Omani government departments. It also endeavours to establish links between institutional motives and those related to democratising service delivery and internal efficiency through the enforcement of service and information quality dimensions.

2.10 Motivations for E-Government Adoption – Evidence from developing countries

According to the theoretical perspectives presented in (Gil-Garcia & Martinez-Moyano 2005), e-Government will continue to evolve and produce more sophisticated standards due to two conflicting demands: public managers’ demands for solutions to internal problems and constituents’ demands for better services and more accountable and transparent government. Continuous pressure will be produced to create new and sophisticated definitions and requirements of e-Government. The authors argued that such conflicting demands would eventually meet at a middle-point to create an effective and responsive government. It becomes important, then, to understand the factors that drive the adoption, evolution, and development of e-Government in different contexts. This study is concerned with the experience of e-Government development in developing countries.
The following discussion presents evidence from e-Government initiatives in different developing countries to identify the motives for adoption and implementation of e-Government (see Appendix C for more details). These motives were extracted from research and official documents published online. Research documents included published journal papers and conference proceedings from 19 research publishing venues. These included: The International Conference on Theory and Practice of Electronic Governance, the European Conference on e-Government, Electronic Government, an International Journal, Government Information Quarterly Journal, the International Review of Law, Computers & Technology, the International Conference on Electronic Commerce, the Public Organisation Review, the Electronic Journal of Information Systems in Developing Countries, the Hawaii Conference on System Sciences, the Journal of E-government diffusion, policy, and impact: advanced issues and practices, the International Journal of Information Management, the International Conference on e-Government, the Journal of Internet Commerce, the Journal of Information, Communication and Ethics in Society, the International Information & Library Review, the Journal of Government Information, the Journal of Information Technology & People, the National Conference on Digital Government, and the Journal of Computer-Mediated Communication.

Factors that motivated the initiation and adoption of e-Government within this review were related to improving the three spheres of governance: the political sphere, the economic sphere, and the civil society sphere. Other factors were related to institutional isomorphism pressures such as coercive pressure, mimetic pressure, and normative pressure. Details of these motives are provided in the following subsections.

- **Political Motives**
  The social legitimacy of a political system could be measured by the amount of society interests it represents (Grönlund 2005). Increased trust in the government by citizens comes with more participation in government decisions and public consultation which, in turn, increases the stability of the political system (West 2004). For example, in Pakistan, the government developed websites to list the names of government officials involved in corruption; other websites were also launched to enable citizens to participate in the formulation of public legislations (Stoltzfus 2005). Similarly, in Namibia citizens were enabled to offer comments on pending legislations through parliamentary websites (Stoltzfus 2005). The government of
Kenya has developed a website that enables citizens to report corruption anonymously (Schuppan 2009). The Slovenian initiative focused on increasing the participation of citizens in the decision making process (Kunstelj & De man 2005). Increased participation in government activities and promotion of democracy was among the main objectives of the Korean e-Government initiative (Lee & Lee 2009) as well as increasing citizens’ trust in the government (Kim, Pan & Pan 2007). In Uganda, citizen participation through e-Government projects was seen as a tool of strengthening the parliamentary functions (Heeks 2001). In Tanzania, e-Government was regarded as a support tool for the exchange of information between citizens and the government (Schuppan 2009).

China started digitalizing the services offered by national and local governments to convey a favourable and positive image of the political systems as being receptive and responsive to citizens’ needs (Stoltzfus 2005). Zheng (2007) reported that the Chinese e-Government initiative was directed at increasing citizens’ trust in the government. Similarly, the Mongolian e-Government initiative focused on increasing citizens’ trust in the government (Naranmandakh 2009) and increasing their participation in the decision-making process (Sambuu, TudevDagva & Erdene 2008). In Jordan, e-Government aimed to increase the responsiveness of the government to citizens’ needs and to create a new mode of communication between the citizens and the government (Basu 2004; Blakemore & Dutton 2003). South Africa and Korea used the e-Government projects to enable direct two-way communication between the citizens and the government (Heeks 2001).

Similarly, reaching to citizens and involving them in decision-making was the main objective of the e-Government project in Zambia (Bwalya 2009). One of the main objectives of the Kenyan e-Government initiative was to provide a forum for citizens to participate in government activities (Ochara 2009). The e-Government project in Indonesia aimed to decentralize the decision-making process (Furuholt & Wahid 2008) and to promote good governance (Rose 2004). Promotion of good governance was also observed as a main motive in the case of Senegal (Owei, Bada & Aniebonam 2006), in the Tanzanian case (Kaaya 2004), and the Moroccan case (Kettani et al. 2008b).
The e-Government project in Thailand aimed to increase public access to government agencies’ information in order to enable citizens to participate in measuring the performance of government agencies (Phusavat & Anussornnitisarn 2008). Also, in Turkey, citizens’ inclusion was a major factor in implementing e-Government projects (Balci et al. 2008). The Egyptian e-Government initiative focused on responding to citizens needs and on creating a participative community where citizens’ demands were analysed and acted upon (Klischewski & Abubakr 2010). The goal of the Tunisian e-Government project was to ensure that government services were accessible to all citizens through channels provided by ICTs (Ouerghi 2007) and to improve the relationship between the citizens and the government (Tunisia 2010). The Moroccan initiative responded to the needs of local communities to make government information and services available to as many citizens as possible (Kettani et al. 2008a). In Sudan, the e-Government project was directed at making government information available to all citizens (Abusin 2007).

- **Administrative Motives**

Administrative reform, improvement of performance, and efficiency of government agencies are some of the benefits of e-Government. They can also be categorised under the economic rationale of administrative motives. These motives account for the largest portion of motives extracted in the current literature review.

- **Economic Rationale - Administrative Motives**

The economic rationale of administrative motives is related to utilising e-Government to reduce the cost of public services and government functions and to facilitate effective and seamless collaboration between government departments. For example, in Turkey, the e-Government project sought to offer a platform for controlling government expenditure (Yildiz 2004). Similarly, in Brazil e-Government endeavoured to reduce the cost of government procurement by stimulating competition between vendors (Joia 2004). The Dubai government also cut costs in government operations by developing a more efficient procurement system similar to the procurement systems in the private sector (Mahmood 2007). In Egypt, the e-Government initiative was designed to reduce the cost of government operations (Heeks 2001). Similarly, the Libyan initiative of e-Government was designed to cut the cost, time, and effort in dealing with government constituents (Eldresi, Adams &

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Jordan’s initiative also aimed to save time, cost, and other resources for both the government and citizens (Blakemore & Dutton 2003) in relation to the provision of public services. In Korea, e-Government projects sought to effectively manage resources (Kim, Pan & Pan 2007). The Egyptian initiative was directed at efficient allocation of resources and cost cutting of government operations (Klischewski, Ralf & Abubakr 2010). In Tanzania, the aim of the e-Government initiative was to enable government agencies to produce timely and accurate data to create effective strategic plans (Kaaya 2009) and to manage the performance of internal processes (Heeks 2001).

Improving government bureaucracies was one of the main goals of the Chinese e-Government initiative (Zheng 2007) as well as the Ghanaian initiative (Schuppan 2009). Sharifi and Zarei (2004) also reported that e-Government in Iran was initiated by a formal order from the office of the president in order to streamline government operations and to facilitate seamless exchange of information between different government departments. The same could be observed from the Bulgarian initiative where e-Government projects facilitated information flow between government agencies (Doychinov 2002) and sought to reform the public sector in the country. According to Furuholt and Wahid (2008), the Indonesian government wanted to improve the accountability and transparency of the government through facilitating effective communication between central and local governments. In Nepal, one of the motives for the e-Government implementation was to increase information sharing between government agencies (Adhikari 2009). Similarly, the Malaysian initiative aimed to facilitate the flow of information between government agencies (Kaliannan, Awang & Raman 2007).

Heeks (2001) reported that the Chinese e-Government projects were influenced by the need to enable strategic connections between government agencies through information sharing. Collaboration between government agencies was considered as a tool for improving the government performance in Uganda (Kaaya 2004). In India, the use of the Internet was seen as a tool to ensure seamless transfer of information between government departments (Kumar 2003) and to streamline government business operations (Gupta & Jana 2003). In Qatar, the objective of the e-Government initiative was to integrate all government agencies to deliver government transactions over the Internet (Al-Shafi & Weerakkody 2007).
The Government of Mozambique initiated an e-Government project to accomplish administrative reform (Macueve 2006). In the case of Saudi Arabia, public sector reform was also seen as a main factor in the implementation of e-Government (Al-Shehry et al. 2006). Public reform and enhancing the performance of government departments were also among the goals of the Thai e-Government initiative (Phusavat & Anusorritisarn 2008). China also undertook e-Government projects for the purpose of administrative reform (Gil-Garcia & Martinez-Moyano 2005). In Egypt, administrative reform was sought through the introduction of business process re-engineering of government activities (Abdelsalam & ElKadi 2007) and the introduction of enterprise resource planning to government agencies (Darwish 2008).

In Jamaica, the Philippines, and Guatemala, the e-Government projects enhanced the tax administration efforts (Ndou 2004) and in Tanzania, e-Government was used to increase the efficiency of the tax system through online filing of taxes (Schuppan 2009). In Brazil, an e-Government project was concerned with increasing the efficiency and productivity of the tax system and with stimulating voluntary tax compliance (de Vasconcellos & das Graças Rua 2005).

The Egyptian e-Government initiative was expected to offer an efficient decision support system (ElKadi & Alabdlsalam 2007) and in Nepal, one of the objectives of the e-Government initiative was to encourage the move towards a knowledge-based society (Bhattarai & Gupta 2008) as well as in Chile (Silva & Figueroa 2002). In Nigeria, e-Government aimed at improving the public service efficiency (Faniran & Olaniyan 2009) and in Kenya, one goal of the e-Government project was to promote productivity among public servants (Waema & Mitullah 2007). Enhancement of government efficiency, productivity, and effectiveness was one objective of the Singaporean e-Government initiative (Chan, Lau & Pan 2008; Saha 2009) as well as in Kazakhstan (Bhuiyan 2009), Mongolia (Sambuu, Tudevdagva & Erdene 2008), Turkey (Çayhan 2008), and Jordan (Al Nagi & Hamdan 2009).

Supporting economic growth is a motive of the administrative sphere of government. E-Government initiatives, in some cases, fall within this motive. For example, the Senegal initiative was to promote economic growth (Owei, Bada & Aniebonam 2006). Enhancing the country’s development was one of the objectives of the Zambian e-Government initiative (Weerakkody et al. 2007). In India, e-Government
projects were expected to stimulate the generation of more national income (Gupta & Jana 2003). In Saudi Arabia, e-Government projects were launched with a motive to increase the return on investment (Al-Shehry et al. 2006). The Jordanian initiative was considered as a stimulus for economic growth (Al Nagi & Hamdan 2009). In Kenya, empowering and educating the citizens as part of the e-Government projects was also a job creation strategy (Waema & Mitullah 2007). In Sudan, e-Government projects were sought to increase the rate of employment (Gasmelseid 2007) through creating jobs for young IT-skilled citizens. In Nepal, the e-Government initiative objective was to improve the economic conditions of the rural communities (Adhikari 2009). This was also the case in India (Heeks 2001). In the Philippines, e-Government projects were implemented to facilitate better communication and interaction between the public sector and businesses (Heeks 2001). In China, one of the objectives of e-Government was to promote economic growth (Gil-Garcia & Martinez-Moyano 2005).

- **Inspectability - Administrative Motives**
  Inspectability is related to accountability and transparency of the dealings of the public sector. E-Government projects can facilitate improved accountability and transparency in the public sector. For example, enhancement of government transparency and accountability was one of the main objectives of e-Government as reported in the Kenyan initiative (Kaaya 2004). The Mongolian e-Government initiative also aimed to ensure transparency, accountability, and government openness (Naranmandakh 2009). Lee and Lee (2009) and Kim, Kim and Lee (2009) reported that one of the objectives of the Korean e-Government project was to increase transparency in government operations. Among other objectives of consistency and inclusiveness, the Sudanese e-Government initiative was envisaged to increase the transparency and accountability of the public sector (Abusin 2007). The Thai initiative also sought for increased accountability of the public sector (Phusavat & Anussornnitisarn 2008), similar to the Chinese initiative as reported in (Zheng 2007).

- **Legal Rationale – Administrative Motives**
  Corruption control and preventing misuse of government resources is another objective of e-Government. This motive falls under the legal rationale of the administrative motives category. In Turkey, curbing corruption was an objective of e-
Government (Yildiz 2004) and in Iran e-Government was used to increase control over the activities government agencies (Sharifi & Zarei 2004). In the Philippines, Argentina, and Chile, e-Government aimed to control corruption (Ndou 2004) as well as in Korea (Kim, Kim & Lee 2009). Some e-Government projects in Egypt were created due to external political pressure to combat corruption (Klischewski & Abubakr 2010). In Greece, the Ministry of Finance initiated an e-Government project to control tax fraud (Terpsiadou & Economides 2009) and in Nigeria, the e-Government initiative was used to control passport fraud (Faniran & Olaniyan 2009). The Indian initiative was designed to control public revenue leakage and bribery (Jenkins 2002). Similarly, in Saudi Arabia, the e-Government initiative was partly designed to control corruption (Al-Shehry et al. 2006), as well as in Kenya (Schuppan 2009), and Kazakhstan (Bhuiyan 2009).

- Civil Society Motives

The use of technology to serve civil society was one of the main objectives of e-Government as well as promoting equality among individuals in the society to achieve scale advantage of this phenomenon. Heeks (2001) reported that the aim of the e-Government initiative in Honduras was to strengthen the relationship between the government and the citizens. Ndou (2004) reported that one of the objectives of the e-Government projects in India, Brazil, and China was to enhance service delivery to citizens and businesses. It was also reported in other studies that the e-Government initiative in India aimed at providing quality and reliable services to citizens (Gupta & Jana 2003). In Egypt, e-Government projects were expected to improve service delivery (Darwish 2008) and provide citizens with services through new and easy channels (Abdelsalam & ElKadi 2007) and in Greece, e-Government projects were utilised to serve citizens effectively (Terpsiadou & Economides 2009). In Turkey, one of the objectives of the e-Government initiative was to provide citizens and businesses with better and faster services (Çayhan 2008), similar to Kazakhstan (Bhuiyan 2009), Chile (Heeks 2001), and Qatar (Al-Shafi & Weerakkody 2007). In Kenya, as reported in (Kaaya 2004; Waema & Mitullah 2007), Nigeria, as reported in (Faniran & Olaniyan 2009), and Nepal as reported in (Adhikari 2009), e-Government was concerned with efficient delivery of better government services. In India, the e-Government project endeavoured to provide all government services through a single one-stop-shop website (Kumar 2003).
In Zambia, one of the main objectives of e-Government was to alleviate poverty (Weerakkody et al. 2007) and in Kazakhstan, e-Government was expected to combat poverty through income generation for citizens (Bhuiyan 2009). In Jordan, e-Government contributed to the social development in the country (Al Nagi & Hamdan 2009) and in Slovenia, e-Government sought to increase community development (Kunstelj & De man 2005). In Brazil, e-Government was considered as a tool to reduce the initiative and effort undertaken by citizens in their quest for public services (de Vasconcellos & das Graças Rua 2005) and in Saudi Arabia, e-Government was designed to meet citizen’s needs (Al-Shehry et al. 2006).

In Columbia as reported in (Ndou 2004), Tanzania as reported in (Kaaya 2009), South Africa as reported in (Heeks 2001), and in Kenya as reported in (Waema & Mitullah 2007), e-Government projects had the objective of empowering ordinary citizens.

- **Institutional Motives**

Nations often feel obligated to follow certain practices through legislative or political influences from multilateral organisations such as the UN or economic co-operation zone agreements. Dependence on resources is one factor that obligates one organisation to follow orders received from another organisation in possession of such resources. For example, in Tunisia, the e-Government initiative was directed to improve Tunisian enterprise competitiveness (Tunisia 2010). In Kenya, the e-Government project sought to increase the competitiveness of the Kenyan economy (Ochara 2009). Sharifi and Zarei (2004) reported that the Iranian e-Government initiative was to build a competitive advantage for the country. In Mongolia, one of the objectives of the e-Government initiative was to enhance the competitiveness of the national economy (Sambuu, Tudevdagva & Erdene 2008) and the same case could be observed in the Indian initiative (Gupta & Jana 2003). Kostopoulos (2004) claimed that governments of the Arabian Gulf embarked on e-Government projects to attract foreign investments by presenting the transparency and accountability of their government agencies. Similarly, by implementing e-Government projects, Jordan wanted to become the IT hub of the Middle East (Mofleh 2008). In Singapore as reported in (Chan & Pan 2008) and in Korea as reported in (Lee & Lee 2009), the e-Government initiatives were to increase the competitiveness of these countries in the digital world and become the IT Hub of Asia.
Gupta and Jana (2003) reported that one of the motives for the Indian e-Government initiative sought legitimacy between world governments. In Turkey, the e-Government initiative was expected to increase the legitimacy of the Turkish government organisations within and across Turkey (Yildiz 2004). The Nigerian e-Government immigration project came into being because of external pressure from the international community to combat passport fraud (Faniran & Olaniyan 2009). In Mozambique, the government was pressured by foreign donors to implement e-Government projects (Macueve 2006). The Turkish initiative was seen as an effort to join the European Union (Balci et al. 2008). Similarly, it was a form of conformance to the European Union standards set by the Lisbon Strategy (Çayhan 2008) and the same can also be inferred from the Slovenian initiative (Kunstelj & De man 2005).

- **Country Specific Motives**

Each country that has embarked on e-Government projects had reasons for adoption peculiar to its own environment and implementation context. A study conducted in Turkey has shown that vendor push, among other factors, was a driving motive for the implementation of e-Government in public sector organisations. Public sector management was solicited by private sector organisations operating in the field of IT to offer software solutions to improve the efficiency and productivity of public organisations (Yildiz 2004). Yildiz contended that the vendor push mechanism promoted mimetic isomorphism between government agencies. He also claimed that e-Government projects in Turkey were used as symbolic actions where public agencies strived to be categorised as being on the cutting edge and keeping up with other local and international organisations in the field.

In Saudi Arabia, geographical factors played a significant role in the adoption strategy of e-Government (Al-Shehry et al. 2006). A large country like Saudi Arabia would significantly benefit from connecting government agencies to the central command in the Capital City. This would also save costs on the citizens’ part, not having to travel long distances to acquire government services or enquire about government-related information. On the social and cultural aspects of adoption, Al-Shehry et al. (2006), emphasised that the unique religious settings in Saudi Arabia which prevents mixing between men and women in work places could be solved by computer networking and electronic communications. Saudi Arabia is the only Muslim country that receives
about two million Muslim pilgrims annually in a specific period of time: between 1st and 10th of the twelfth month of the Lunar Muslim Calendar. Al-Shehry et al., argued that the Saudi government was motivated by this fact to implement e-Government projects that served the pilgrims effectively. Furthermore, the tribal-based society of Saudi Arabia facilitated corruption in the way government officials offered special treatment to citizens of their tribe and sometimes granted them services and jobs they were not eligible for. The e-Government initiative was considered as a tool to provide equal and fair treatment for all citizens of the country. On the other hand, Al-Shehry et al., claimed that the demographic characteristics of the Saudi society were the motivation for the implementation of e-Government. With 60% of the Saudi population under the age of 25, this created a large user demand for technologically-enabled government services (Al-Shehry et al. 2006).

In Jordan, the King’s will and his interest in following technological advancements has been the major driving force for the implementation and evolution of e-Government in Jordan (Kanaan et al. 2008). Also, important in the implementation of e-Government was the competitive characteristic of the Jordanians, especially in computers and IT skills. It is reported that a street in the Jordanian city, Irbid, has the largest concentration of Internet cafes in the world (Kanaan 2009). This concentration has enabled this street to be listed in the Guinness Book of Records (Kanaan 2009). Kanaan claimed that Jordan has more national IT experts than neighbouring Arab countries which made e-Government implementation in Jordan more feasible.

In Thailand, the strong perception of the reliability of electronic tax revenue management system has motivated the introduction of an online tax payment system (e-Revenue) in the Thai Ministry of Finance (Chaijenkij & Corbitt 2008). The authors further explain that clear and supportive government policy promoted the successful implementation of e-Revenue together with a strong leadership that ensured continuous support to the development and maintenance of the system.

2.10.1 Framework of Motivating Factors

In conclusion, the motives for adopting e-Government at a national level, extracted from the extant literature, are depicted in the following diagram (Figure 2.1). This framework will be used to collect data for this study through interviews with decision makers in the Omani e-
Government initiative in order to identify motives that drove the adoption of e-Government in Oman.

Figure 2.2 Framework of e-Government implementation motives in developing countries.

2.11 Summary

A review of the extant literature is an imperative step in any research effort. It provides the researcher with better understanding of the phenomenon under research and informs the decision of theoretical and methodological selections based on wisdom from previous research. It is also helpful in identifying effective gaps in the research body. It was found that the main focus of current research is on descriptive case studies (Norris & Lloyd 2006) where success/motivating factors of adoption and implementation are identified, but structured theoretical models are missing (Coursey & Norris 2008; Grönlund 2010). It was also found, within this literature review, that there is a predominant focus on the technology aspect (rationalistic and deterministic roles of technology) (Yildiz 2007; Heinze & Hu 2005), however, the government aspect of e-Government is overlooked (Heeks & Bailur 2007; Scholl 2009, Grönlund 2010). Therefore, this study is positioned within the Government-to-
Government literature strand of e-Government with the objective to create a framework for the adoption and implementation of e-Government in developing countries using Oman as the exemplar case.

This chapter presented an attempt to synthesise the existent literature on e-Government. A discussion of the various definitions of e-Government has been presented in order to show the uniqueness of each implementation initiative and the relevance of this research study. The stages of e-Government evolution have been presented and it was observed that this evolution paradigm coincided with the evolution of the research body in e-Government.

A succinct profile of the research in e-Government has been presented through describing some existing research taxonomies in the field in addition to a meta-analysis of research artefacts compiled in the E-Government Research Library (Scholl 2012). The chapter concluded with a categorisation of motivating factors for implementing e-Government in different developing nations. Governments in the developing world were motivated by coercive, mimetic, and normative pressures to conform to world standards in implementing e-Government. Similarly, they were motivated to improve the effectiveness, fairness, and efficiency of the governing system through the improvement of public service delivery, the enhancement of citizen participatory channels and the increase of integration between government departments.

These factors were grouped in a single framework based on theoretical elements chosen earlier for this research. This framework will be used within the empirical phase, based on a qualitative case study approach, of this study to identify the motivating factors for implementing e-Government in Oman. Similarly, the obstacles of implementation will be investigated in Chapter 6. Taken together, this investigation will help explain the slow progress of e-Government implementation in Oman since its official launch in 2003 to date.

As this review has shown that context in e-Government implementation plays a significant role, the next chapter offers a description of the Omani context.
Chapter 3 - Case Study Background - Oman

3.1 Introduction

This chapter provides background information about the case study country in this research. Oman was chosen to be the exemplar case because its implementation of e-Government was still at an early stage and was believed to have stalled following its official launch in 2003, and because of personal interest as the researcher is an Omani citizen. Moreover, the extant literature on e-Government adoption from a strategic government-wide level does not include any specific study about Oman. This chapter provides details about the geographic nature and the demographic characteristics of Oman and links these country-specific attributes to the political, economic and administrative, and the civil society spheres of government. Details are also provided about development in the ICT sector in Oman and the e-Government initiative.

3.2 Geography and Regions

Oman, officially The Sultanate of Oman, is an Arab country located in the south-eastern part of the Arabian Peninsula with a total area of 309,500 square kilometres. It is bordered by Saudi Arabia and the United Arab Emirates from the west, and Yemen from the south. The country’s landmass is composed of 82 per cent desert and dry riverbeds, 15 per cent mountain ranges, and three per cent of coastal plain (Ministry of National Economy 2009). Cultivable land accounts for a scarce seven per cent. The climate of Oman is hot and dry with little rainfall during winter and spring seasons. Oman gets its strategic location by being fully open to the Arabian Sea and the Indian Ocean in the east and to the Gulf of Oman in the north. Moreover, it shares control, with Iran in the north, of one of the most strategic water straits in the world namely the Strait of Hormuz through which passes most of the world’s oil. The total length of Oman coastline is 3165 kilometres with strategic port cities such as Sohar, Mattrah, Sur, and Salalah which were viable in establishing Oman as an important maritime station connecting ancient trade routes between the East and the West (see Figure 3.1 below). However, on land, the topographic features impede the provision of country-wide wired network infrastructure. Notwithstanding, the government has funded an expansion of latest-technology mobile network infrastructure to rural and under-populated areas which were not
economically feasible for commercial telecommunication companies - operating in the country – to extend services to.

![Oman Map](image)

**Figure 3.1 Oman Map – Source (Ministry of National Economy 2009)**

### 3.3 Population

According to the latest National Census of 2010, the total population of Oman is 2,773,479 million people with a population density of nine people per square kilometre (Ministry of National Economy 2010a). The census results provided comprehensive statistical data on the
composition and distribution of population and households which is essential for the planning and development of social and economic policies. The census of 2010 was the country’s third experience with collecting data on population, residential accommodations, and commercial establishments after the 2003 and 1993 censuses. Following the International Conference on Population and Development (ICPD) coordinated by the United Nations in 1994 (United Nations 1995), the administration of national censuses has gained significant consideration from governments around the world. The conference resulted in a program of action which, today, underpins the mission of the United Nations Population Fund (UNFPA). The program linked population statistics with development and supporting governments to utilise data about population trends in devising service provision and delivery policies in different sectors such as health, education, labour market, and information and communication technologies.

According to Al-Rahbi (2008), Oman’s population doubled twice between 1970 and 2004. Similarly, the World Bank estimated that the Omani population will reach 5 million people by 2023 (World Bank 1994). This is attributed to firstly, better health care and high living standards made possible by the oil discovery in the 1960s and the quadrupling of oil prices in 1973, which increased the national revenue. Secondly, the oil exporting economy required work skills that were not available domestically and led to an influx of foreign guest workers accounting for 29.4% of the total population (Ministry of National Economy 2010a). Another issue worth noting as a result of the rapid population growth in Oman is that in 1993, 51.6 per cent of the population were under 15 years of age, but this percentage declined to 40.6 per cent in 2003 and to 35.2 per cent in 2010. However, this decline led to a rise in the proportion of those of working age (15 - 64 years old) from 56.2 per cent in 2003 to 61.3 per cent in 2010 (Ministry of National Economy 2010). This has formed a burden on the government to create more jobs for its citizens.

### 3.4 Omani Government Structure

The Government structure in Oman is based on dividing the responsibilities of the welfare of the country as a whole and the citizens among different ministries, councils and authorities. His Majesty Sultan Qaboos is the Head of State and the symbol of national unity. His Majesty is also the Supreme Commander of the Armed Forces. His Majesty is the final authoritative power where general laws are approved by him, but ministers are given the authority to issue specifications to implement those laws. Figure 3.2 depicts a portion of the structure of the Government of Oman to show some of the interdependencies in functions.
between different ministries of the government in the delivery of public services relevant to this study. More details are provided in the next sections about other government institutions such as the Council of Ministers, the ‘Shurra’ Council, and the State Council.

Figure 3.2 Partial Government Structure that shows functional dependencies between various government units in relation to public service delivery

In the Education Sector, the Ministry of Education supplies information about high school graduates such as personal data and grades to the Ministry of Higher Education. The Ministry of Higher Education receives this information and feeds it into the Higher Education Admission Centre (HEAC). HEAC is an online system which calculates a competitive index for every high school graduate against the available opportunities in Higher Education Institutions in the country or overseas scholarships sponsored by the Ministry of Higher Education. Students interact with the HEAC system via mobile short messages (SMS) or through the online portal of the system (www.heac.gov.om) to apply for their preferred higher education subject majors based on their competitive index. Further details about HEAC are provided in Chapter 5.

In the Business Sector, the Ministry of Commerce and Industry has established the One Stop Shop which is concerned with the registration of new business ventures in the country. It takes input from the Ministry of Commerce and Industry, which is responsible for issuing commercial records, the Ministry of Regional Municipalities and Water Resources, which is
responsible for issuing municipal permits for opening business branches in different governorates of the country, the Ministry of Environment and Climate Affairs, which issues permits for business activities related to mining and the exploitation of natural resources or those that produce harmful wastes to the environment, the Ministry of Manpower, which keeps records of foreign and national employees of business firms operating in the country. Finally, this process also needs input from the Royal Oman Police, which is responsible for processing visa applications for foreign employees as well as issuing fire safety permissions for the premises of business firms. In the following sections, characteristics of the Omani political, economic and administrative, and civil society spheres are presented.

3.5 Political Sphere

Oman is an ancient country with a long history and a prominent cultural role in many stages of civil history. The current ruler of Oman is His Majesty Sultan Qaboos (the Sultan) who assumed power on 23rd of July 1970 when the country was struggling with poverty, illiteracy and poor health due to the absence of physical and administrative infrastructures. The Sultan promised his people to turn the country into a modern state from its then state of backwardness and impoverishment and to free the southern province of Dhofar from the communist-backed insurgency. For the last 42 years, under the leadership of His Majesty the Sultan, the Omani people have enjoyed a prosperous life with free access to education and health services in a modern welfare state built on legal and administrative institutions. Moreover, there is no tax levy on personal income for both Omani citizens and guest workers in Oman. The culmination of this effort has earned Oman a top position in the list of progress in human development, as stated in the United Nation’s 2010 Human Development Report (United Nations 2010). The report analysed the progress made towards improving individual economic wellbeing, education levels and life expectancy since 1970 covering 135 countries worldwide (United Nations 2010).

Oman is committed to a policy of neutrality and non-interference in the internal affairs of foreign countries. This stance stems from respect for basic international laws and legitimacy principles and from the country’s Islamic and Arab culture. However, it maintains friendly relations with the world in general through constructive participation in resolutions of disputes by dialogue and peaceful means. It inspires a general believe that world peace can be achieved through tolerance, building bridges between nations and respecting common interest. It is an active member of the Gulf Cooperation Council (GCC) and various other
regional and international organisations such as UNESCO, WHO, WTO, and the Non-Aligned Movement (Ministry of Information 2002a). Oman does not have any foreign disputes, and rather enjoys friendly diplomatic relations with the rest of the world. His Majesty Sultan Qaboos was presented with the International Peace Award by the National Council on US-Arab Relations in 1998 and with the Peace Prize of the Russian International Association in 2007 for his effort in the cause of global peace and cooperation (Ministry of Information 2006).

The Sultan is the state’s Prime Minister and he officially appoints cabinet members who report directly to him through the Council of Ministers (مجلس الوزراء) which aids the Sultan in formulating and implementing general state policies. The current government consists of 29 ministers including two female ministers. The Sultan chairs an annual meeting of the Council of Ministers in which he reviews the local, regional, and international developments and directs cabinet members accordingly. The Council also holds regular meetings to review the implementation of social and economic development plans and prepare proposals of general laws and reports for the Sultan (Ministry of Information 2002b). The Basic Statute of the state was issued by the Sultan in 1996 (Ministry of Legal Affairs 1996) as a constitutional document, which defines the rights of the citizens and the foundation for government policy and legislation development. The articles included in the document are based upon traditional Omani social and Islamic values, which grant the freedom of speech, freedom of religion, gender equality and impartial justice to all, the right to privacy and private ownership of property, and citizens’ rights to participate in decision-making.

The ‘Shurra’ Council (meaning consultation council – مجلس الشورى) is the parliamentary elected institution in Oman. All men and women above the age of 21 from all 61 ‘wilayats’ (states) of the country can freely and directly elect their representatives. A state with a population of 30,000 or more can elect two candidates or elect one candidate if it had a population of less than 30,000 people. The current council consists of 84 members including the president and two deputies elected by members of the council. Any sane male or female over the age of 30 years can run for elections for a term of four years provided they are not employed in the government (Oman Shurra Council 2010). Historically, the Council has evolved gradually. Initially a Consultative Council established in 1981 with an advisory role, members were appointed by the government to a freely elected parliamentary body in 2002 and in 2011 it was given more legislative freedom to suggest new laws and amendments to existing laws, which would be directly escalated for review by the Sultan. Moreover, the
Council has been given supervisory roles to be able to question cabinet members and review ministerial level legislations and regulations before they are ratified by the Council of Ministers (Oman Shurra Council 2010b).

The State Council (مجلس الدولة) is a government appointed council which consists of 83 members including 15 female members. It was established in 1997 by Royal Decree 86/97. Members of the Council are chosen from retired cabinet members, retired military officers, retired ambassadors, dignitaries, businessmen, university professors, and/or other citizens known for their competence and expertise in the fields of science, literature and culture. Members are appointed by a royal decree for a term of four years (Oman State Council 2012). Together with the ‘Shurra’ Council, the two Councils form the Council of Oman (مجلس عمان) with the objective of empowering citizens to participate in making national decisions and achieving democracy with specific consideration of Oman’s cultural and traditional heritage.

3.6 Economic and Administrative Sphere

The administrative division of the country is one of the distinctive features of the modern state, which enhances and facilitates comprehensive national development efforts. Based on Royal Decree 114/2011, Oman is administratively divided into 11 governorates: Muscat (with the Capital City Muscat), Dhofar, Musandam, Buraimi, Dakhliya, North Batinah, South Batinah, South Sharqiyya, North Sharqiyya, Dhahira, and Wusta (see Figure 3.3 below). Each of these governorates encompasses a number of ‘wilayats’ (states) totalling 61 states (Oman Observer 2011a). Except for the governorates of Muscat and Dhofar, all other governorates are administered by The Ministry of Interior, which appoints a ‘wali’ (ruler) for each state within the governorates. However, governors are appointed by the Sultan through a royal decree. Governors act as liaisons between the government institutions and the citizens. Development projects are distributed evenly between the different governorates through successive five-year plans and according to a national framework of priorities and needs of each governorate.
When the current Sultan assumed power in 1970, the country’s system was predominantly primitive in all aspects of life. The country lacked a basic infrastructure with no paved roads, only three primary schools in the whole country, and only one permanent health clinic in the
capital, Muscat. The drastically low rates of literate workforce and limited transportation means restricted Oman from participating in the international market. Subsistence agriculture, fisheries, and the barter of goods formed the basis of the Omani economy prior to 1970, as well as during the first four years of Sultan Qaboos reign (Al-Saqri 2010). In the early days, Oman suffered from political instability due to civil wars in the interior and a communist-backed uprising in the southern state of Oman. Another challenge was to establish an institutional modern government in a tribal country suffering from poverty, illiteracy, and disease. After putting down the uprising in the south and curbing the civil war in the north, the Omani economy entered the first phase of development with the start of oil exports in 1973. Immediately after experiencing the sudden wealth of oil money, the Council of Development was established in 1974 to develop specific strategies to use the oil revenue for sustainable economic and social development (Al-Saqri 2010). Thereafter, the decision was made to plan development and spending under a five-year plan with the first plan spanning 1976-1980 (Al-Saqri 2010). This was the first step towards modernising the economy as the Sultan said in his 1975’s National Day speech: ‘[The Economic Planning] is no longer dependent on improvised or individual diligence. Neither is it the passive commercial market which depends on a barter system or traditional craftsmanship. We are living the new era and we shall proceed according to its givens.’ (AlRasbi 2013)

The country witnessed a steady economic and social development based on increasing oil revenues due to heightening oil prices and increased oil production. The general development philosophy was to retain a portion of the oil revenue for future generations and as a backup to mitigate sudden collapses in international oil prices (Al-Saqri 2010). The State General Reserve Fund (SGRF) was established in 1981 to manage state investments in foreign assets and accumulate fiscal surplus of oil revenues (Fasano-Filho 2000). However, Oman’s economy was affected by two external economic shocks in 1986 when the oil prices collapsed to $USD 13 per barrel from $USD 27 in the previous year; the second shock was in 1998 when the price for crude oil plunged to under $USD 13 (King 1998) from $USD 25 per barrel in the previous year.

The shock in 1998 was more severe as the size and characteristics of the population were different than in 1986. Also, the confirmed expectations of oil run-out by 2020 (McBrierty & Al Zubair 2004) were much closer to becoming a reality. With a narrow base of non-renewable resources, Oman’s economy was vulnerable to fluctuations in international oil prices. In 1994 the government called upon the World Bank to perform an assessment of the
economic situation and recommend appropriate alterations to the country’s long term strategy of sustainable economic development (World Bank 1994). The World Bank suggested that the government should attempt to raise the contribution of the private sector in the development process to help lower public spending on employment and investment in infrastructure. Assistance with guidelines to overcome economic issues was also sought from the International Monetary Fund (IMF) (Looney 2009).

The government interpreted recommendations from both multilateral organisations as a forewarning to change the direction of economic planning and convened a national conference called *Oman Vision 2020* (Ministry of National Economy 1995). This conference yielded a national strategic vision with a clear and comprehensive framework for the management of new economic and social challenges of the next stage of development. The strategy commenced with a reflection on the previous long term economic and development plan (1970-1995) and acknowledged the success points of the plan in transforming the country from its primitive state in 1970 to a modern state. The new strategic plan was perceived as comprehensive and included economic as well as social development aspects with focus on human resources development through education, economic diversification following global trends in privatisation, and private sector development. In order to achieve global competitive advantage, the government introduced changes to the commercial law, taxing schemes, and foreign investment laws to encourage more foreign direct investment (Budhwar, Al–Yahmadi & Debrah 2002). In regard to human resources development, the government adopted global education curricula to instil the importance of teaching English as a second language in primary schools as well as acquiring computer-related skills. The plan included visions of gradually nationalising the labour market to move away from dependence on foreign labour and consultants, as envisaged by the Sultan in the early days of his reign, articulated in an interview in March 1971:

> There is no doubt that education is our number one problem in Oman because management and planning needs mangers and planners … it needs intellectual staff and we want those to come from our own population. This won’t happen unless education is widely spread. Foreign experts cost us dearly (Al-Zabal 1971, p. 82).

Therefore, the Government was keen on leveraging the capacities of Oman’s human resources in accordance with global economic and educational trends. As Ball (2008)
contended, globalisation facilitated the creation of global curricula devised to produce work-ready manpower.

3.7 Civil Society

Omani citizens can participate in decision making through the ‘Shurra’ Council. Moreover, His Majesty’s annual tour of the country’s interior is another communication channel between the government and the citizens. During these tours, the Sultan meets face-to-face with local citizens, listens to their concerns and deals with their requests through directions to his accompanying advisors and ministers. These meetings are casual in nature and could happen on the plain of the royal camp or off the road at frequent stops that the Sultan makes along the way. The royal tours, usually accompanied by seminars similar to the town hall meetings, discuss issues of common concern such as employment, economic diversifications and provision of public services. Conclusions and recommendations of such seminars are reported to the Sultan and directives are issued to implement them immediately bypassing the usual lengthy process of ratification from the Council of Oman and the Council of Ministers. Therefore, projects approved during the royal tours are budgeted outside the general state budget (Ministry of Information 2006). These tours usually take several weeks where the Sultan performs governing activities from temporary camps in the plains of the country. They are an important political activity of the Sultan in relation to democracy as he noted:

I must admit that I greatly enjoy these tours I make around the country ... I meet the people face to face and listen to their requests, while they listen to my views ... Checking on the state of one's subjects is not unusual in the history of Islam and is generally regarded as one of the duties of a leader. There are citizens whose situations do not allow them to knock on certain doors, so I come to them directly. (Ministry of Information 2006)

Further to this discussion, freedom of speech as well as freedom of religion, both granted by Omani law, were stressed by His Majesty the Sultan in his public speeches. In a televised speech to students, members of academia, and intellectuals at the Sultan Qaboos University, the first public university to be opened in the country, the Sultan said: ‘We will never allow anyone to suppress freedom of thought … ideas cannot be suppressed. Our religion stands for ideas and the intellect, not the suppression of thought.’ (Ministry of Foreign Affairs 2010a)
3.8 E-Government in Oman

In accordance with the strategy of *Oman Vision 2020*, economic diversification policies in Oman aimed to create a dynamic economic base which could exploit emerging economic opportunities, such as in the sector of Information and Telecommunication Technologies. In 2003, Oman adopted an ambitious project to transform its economy and society to enable participation in the new paradigm of knowledge economy. This project was named *Digital Oman* strategy. The objective of this strategy was to utilise information technology and human capacities to participate in economic activities that promote efficiency, cost saving, and the transfer of knowledge-based technologies and products (Information Technology Authority 2007b).

This goal has been planned for earlier with the formation of the National Information Technology Committee (NITC) in May 1998. This decision was made as a part of the preparation for the sixth five-year plan (2001-2005) which was to focus on the development of the information technology sector (Ministry of National Economy 2008). NITC was commissioned to (i) develop a national policy for information technology and an implementation strategy, (ii) encourage the engagement in the Information Technology industry by producing software solutions and set up networks for the country to keep up with modern information revolution, (iii) oversee the development of standards and criteria related to the adoption of information technology in the public sector, and (iv) the formation of technical and project teams to manage the implementation of national IT projects (Information Technology Authority 2007b). The compelling and somehow uncertain issues related to the Y2K phenomenon gave momentum and priority status to the activities of the NITC. In 1999, the NITC was directed to form the Information Technology Technical Secretariat (ITTS) and attach it to the one of the prominent ministry in the government: The Ministry of National Economy. The role of the ITTS was to provide the NITC with technical and strategic assistance in formulating the national IT strategy. In 2000, the NITC formed the Information Technology Task Force (ITTF) within the ITTS. The ITTF included senior IT specialists from different ministries in the government with the task of producing a task plan for moving the country towards knowledge-based economy and e-Government. The ITTF collaborated with a foreign contracted consulting firm, Gartner, to architect a strategic technology plan to (i) support the creation of small to medium IT enterprises by Omani youth, (ii) provide employment opportunities for young Omanis through the adoption of IT
projects that support the economy, and (iii) support initiatives towards privatisation in the field of Information Technology and reduce the dependence on government spending as the impetus of the national economy (Gartner Team 2002).

In order to implement the national strategy of Digital Oman and promote the IT sector, the Government identified specific strategy objectives that reflected the needs of the Omani society as a whole. E-Oman became the e-Government brand of the Digital Oman strategy with particular goals embodied in different initiatives, such as the National IT Training and Awareness programs, to deal with the digital divide, the National Data Centre (NDC), to provide subsidised data housing solutions for government entities, Oman Government Network (OGN), to provide a secured network to connect government entities with each other, National e-Payment Gateway (NeG), to provide a secure platform for online payment, Oman Computer Emergency Response Team (OCERT), to deal with mitigating security risks and defended against malicious breaches (Ministry of National Economy 2008). Other initiatives particularly related to the e-Governance aspect, such as the provision of The Telecom Act in 2002 (Ministry of Legal Affairs 2002), were followed by the establishment of the Telecommunication Regulatory Authority (TRA) in the same year. The TRA was commissioned in fulfilment of the World Trade Organisation (WTO) membership requirements to liberalise the telecommunication sector, in alignment with the government objectives of attracting foreign investment to support sustainable economic and social development (Telecommunication Regulatory Authority 2009a). Similarly, the e-Transaction Law issued in 2008 endorsed online commercial transactions and gave sustenance to the provision of public and private e-Services (Information Technology Authority 2008). The overall aim of the strategy was to improve efficiency, transparency, and effectiveness of government’s internal and external operations (Ministry of National Economy 2008).

The country’s seventh five-year development plan (2006-2010) emphasised the active role of ICT in achieving the goals of sustainable development. In 2006, the government established the Information Technology Authority (ITA) by Royal Decree 52/2006 as an independent government agency to oversee the implementation of e-Oman strategy and provide technical support to other government departments (Information Technology Authority 2012a). Thereafter, the ITTF was discontinued and a new management team was assigned to the ITA. As a result of this initiative, Oman climbed 18 places to the 64th position in the 2012 world e-Government development ranking from its 82nd ranking in 2010 (United Nations 2012).

![Oman Global E-Government Ranking](image)

**Figure 3.4 Oman Global E-Government Ranking**

It is important to note that the 2002 E-Government Readiness Index ranked only 144 UN member states. Also, in 2004, the rank of Oman had fallen to 127 because Oman’s national site [www.omanet.com](http://www.omanet.com) was not available during the survey period (United Nations 2004). Similarly, in 2005, although Oman climbed 15 positions in the global ranking, its rank was still low compared to earlier ranks in 2002 and 2003. This was because Oman did not have a national site that offers English content (United Nations 2005). Assessment of the availability of content in the English language was introduced in the 2004 readiness survey (United Nations 2004).

The E-Government Readiness Index is a composite index which is used by the United Nations’ Department of Economic and Social Affairs to rank e-Government implementations in countries worldwide (Potnis & Pardo 2008). It is a weighted average consisting of three measures: the web index, the telecommunication infrastructure index, and the human capital index (United Nations 2003). The web index is a measure of the sophistication of online public services based on the e-Government development stages: emerging, enhanced,
interactive, transactional, and networked. The telecommunication infrastructure index is a composite weighted average of the capacity of a country’s telecommunication infrastructure. It consists of 6 measures: PCs/1,000 persons; Internet users/1,000 persons; Telephone Lines/1,000 persons; On-line population/1,000 persons; Mobile phones/1,000 persons; and TVs/1,000 persons measure of the capacity (United Nations 2003). The human capital index is a weighted average of a composite of the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio (United Nations 2003). The different weights of these indices and subindices of the e-Government Readiness Index are summarised in Figure 3.5 below.

![Figure 3.5 Composition of the E-Government Readiness Index – Source (Nour, AbdelRahman & Fadlalla 2008)](image)

Whilst the E-Government Readiness Index offers a reflection of the progress of e-Government implementation, it is focused on quantitative rather than qualitative investigation of e-Government services. Therefore, it must be interpreted with care (Potnis & Pardo 2008).

It was believed that the implementation of e-Government in Oman had not met its original goals (Al-Busaidy & Weerakkody 2009b, 2010). At the time of writing this thesis (November 2012), the ITA had launched a new plan of transformation towards e-Government. The plan, approved by the Council of Ministers, was publicly launched during a symposium sponsored
by the ITA on October 21st 2012 (Information Technology Authority 2012b). The new plan was narrowly focused on the provision of government e-Services with an ultimatum date of full transformation set for December 2015. However, there was no reference to other goals related to economic and social development as outlined in the original strategy prepared by Gartner in 2003. More details of the original strategy are provided in chapter 5 as well as details about the new plan in chapter 6.

3.9 Chapter Summary

In this chapter, details about the geographic, demographic, and economic characteristics of Oman have been presented. It is important to understand this as it frames the context of the research which follows in Chapter 5 based on the research methodology established and justified in Chapter 4.
Chapter 4 - Research Methodology and Design

4.1 Introduction

This chapter discusses the process of formulating a research framework for meeting the objectives and purpose of this thesis in generating knowledge. Knowledge generation is an activity guided by principles and rules, which practising researchers abide by, either explicitly or implicitly (Cavana, Delahaye & Sekaran 2001). These rules and principles are referred to as a research paradigm or basic belief system that guides the researcher (Guba & Lincoln 1994) during the empirical investigation phase. However, the choice of a philosophical paradigm and associated research methods and techniques is an objective, rather than subjective, choice considering the research question of the study (Hindle 2004) and the maturity of the research area (Edmondson & McManus 2007). The nature of the research problem of this study, philosophically, positions it in the interpretive research paradigm with qualitative methodology as the best research methodology, given the nascent level of maturity of the research area in e-Government. A single case study approach best fitted the purpose of this research project being an exploration of what factors and issues influenced the adoption and implementation of e-Government at an institutional level and in a single country. The unit of analysis was the respondents’ focused worldview of what influenced the adoption and implementation of e-Government in Oman. Ultimately, the researcher attempted to distil a collective picture of those individuals’ understanding of what constructs a reality of the phenomenon of e-Government adoption and implementation in Oman.

The empirical investigation in this thesis used a qualitative methodology with semi-structured interviews as the main tool of data collection and hermeneutics as the data analysis technique. The empirical investigation was preceded by a content analysis of research and public official artefacts relating to motives of uptake of e-Government in many developing countries randomly selected for the purpose of this study. Distilled motives were incorporated in a single framework using Institutional Theory, Value-added process model, and Quality of Service Models as theoretical lenses to guide the empirical investigation. A total of 22 participants were selected to participate in face-to-face semi-structured interviews. A broad interview guide was designed containing 17 open-ended questions to help the researcher focus on the purpose of the interview and offer structure and control over the direction of
information flow (Kvale 1996). A mix of purposeful sampling strategies (maximum variant and snowball sampling) was utilised to assist in selecting the participants. The interviews were conducted with policy-level officials and implementation-level officials from nine different government departments to allow for triangulation and to increase the validity and reliability of the obtained data. Interviews were conducted between November 2010 and April 2011. They lasted an average of 50 minutes each and were tape-recorded with permission from the interviewees. After they were formally transcribed, interview transcripts were coded in Nvivo® 9 and analysed using the Interactive Data Analysis approach (Miles & Huberman 1994). Interview transcripts can be made available upon request.

This chapter starts with a discussion of philosophical, methodological, research approach, and techniques chosen for this study. Then, a detailed description of the research framework and data collection is presented. Finally, a detailed account of the data analysis techniques is presented along with a summary of the chapter.

4.2 Methodological Framework

This section provides a discussion of the philosophical and methodological choices made for the purpose of this study. It starts with a broad and general discussion of the dominant research philosophies and methods. Then, the researcher drills down to provide rationale for the philosophical and methodological preferences for this study. The selection process is guided by two frameworks: Hindle’s (2004) ‘canonical development approach’ which guided the selection of philosophy and Edmondson and McManus’s (2007) framework which guided the selection of research methodology and methods.

This research was a single case study of the public sector in Oman. It involved the collection of qualitative data from multiple government departments in relation to the adoption and implementation of the e-Government initiative in Oman. It was not a comparative study of the adoption and implementation across government departments; rather it was a collective exploration of the overall process within the public sector. The qualitative approach was employed in this study for three main reasons:

First, this was an exploratory study of what influenced the adoption and implementation of e-Government in Oman. Research in e-Government was at an initial stage with no solid theoretical foundation. Therefore, quantitative research was not applicable in this case where not much was known about the theoretical constructs that facilitate theory testing.
Second, this study focused on a series of historical events that influenced the adoption and implementation process. This could be achieved by using qualitative methods such as interviews with participants who were directly or indirectly involved in these events (Miles & Huberman 1994).

Third, e-Government is a complex phenomenon that is easily affected by contextual factors within the adoption and implementation environment. Therefore, an understanding of this complexity could be obtained through the analysis of the rich and thick data produced by qualitative research methods.

4.2.1 Selection of Research Philosophy

The literature on research philosophies is crowded with a plethora of paradigms and schools of thoughts that describe different ways of conducting social research and selecting the appropriate approaches, methodologies, and methods for collecting valid evidence. This categorisation of research philosophies and methodologies arises from diverse ontological and epistemological beliefs. These beliefs influence the researcher’s understanding of the nature of the phenomena under investigation and, thus, affect his or her selection of the methods of investigation. There is a consequential relationship between the research philosophy and methodology. The research philosophy answers the abstract question ‘why research?’, while the research methodology answers the abstract question ‘how to research?’ (Remenyi & Williams 1998). This suggests that research methods should be selected to fit the underlying philosophy about the phenomena under investigation. According to Burrell and Morgan (1979), a philosophical perspective stems from assumptions made by the researcher about the nature of society and the nature of science. Based on those two dimensions, Burrell and Morgan (1979) developed a comprehensive framework of research philosophies where the nature of society was viewed either as rational or radically changing. Accordingly, the rational view constituted the basis for modernism and the radical change was the basis for post-modernism (Burrell & Morgan 1979).

The nature of science dimension involves an objective or a subjective approach to research where the objective perspective is the basis of positivist paradigm and the subjective perspective is the basis of interpretive (Hughes & Sharrock 1997) and critical (Denzin &
Lincoln 2005) paradigms of research. The views in each realm of assumptions oppose and contrast to each other, thus creating divergent schools of thought of research philosophies. Each school of thought has produced its own distinct paradigm of research methodologies and data collection techniques. Arguments related to issues of theory and data of opposing paradigms have been mounted and described as a ‘Paradigm War’ (Punch 2005) and are expected to perpetuate (Easterby-Smith, Thorpe & Lowe 1991). However, there lay between the two extreme philosophical positions several taxonomies or paradigms crafted to create a middle ground and encourage researchers to select different components from different schools of thought to fit their underlying research philosophy to their research questions. Understating the nature of the underlying philosophy of research assists the researcher in adopting a reasoned and reflective approach from the diverse approaches to methodology and philosophical position (Easterby-Smith, Thorpe & Lowe 1991).

Therefore, a researcher is advised not to arbitrarily employ a single overarching paradigm or philosophical position, but to adapt their position to the attributes of the phenomena under investigation and borrow relevant components from different overarching paradigms (Patton 2002) in order to match the philosophy, methodology and the research problem. An ideal research design increases the confidence of the research results and, in fact, is a result of choosing the appropriate philosophical stance and research methodology for the problem at hand.

In Burrell and Morgan’s (1979) framework of research philosophies, philosophical approaches related to the dimension of the nature of science evolve around differing assumptions about ontology (reality), epistemology (knowledge), human nature (voluntary or deterministic), and – accordingly – the research methodology (tools and guidelines on how to go about research). A researcher’s core assumptions about reality are deterministic of the other assumptions, meaning that research philosophy and research methodology are intimately related. Extreme subjectivists view reality as a product of imagination of the human mind making everything else relative (Morgan & Smircich 1980). Hence, an epistemological stance of knowledge was that knowledge cannot be discovered outside one’s mind (Burrell & Morgan 1979). This makes the assumptions about human beings as voluntaristic in shaping the world ‘within the realm of their own immediate experience’ (Morgan & Smircich 1980, p. 494). This necessitates a methodology that captures a coherent picture of how human beings viewed the phenomena under investigation by interpreting words, documents, and notes from observations (Trauth & Jessup 2000).
On the other extreme are objectivists or realists who view reality as a concrete structure where knowledge can be precisely measured without being affected by the human actions, thus, being externally objective (Gill & Johnson 2002). Objectivists believe that the patterns of human social behaviour are governed by the causal laws of the world they live in (Easterby-Smith, Thorpe & Lowe 1991) which is aligned with the beliefs of natural scientists. Therefore, objectivists rely on natural science methods such as laboratory experiments, forecasting research, and large-scale surveys (Remenyi & Williams 1998) in order to ‘identify causal explanations and fundamental laws that explain regularities in human social behaviour’ (Easterby-Smith, Thorpe & Lowe 1991, p. 23). Objectivists are positivistic in nature; they believe in causality, meaning that ‘there are independent causes that lead to the observed effects’ (Remenyi & Williams 1998, p. 32). Reductionism is another feature of positivist research, that is, the problem is reduced to its smallest elements in order to enhance the overall comprehension of the phenomenon at hand. Positivists utilise quantitative means to operationalise the concepts of the research problem and test the causality effects among these concepts on a large sample to enable the generalisation of the research results.

Philosophical paradigms have been given different names and labels based on the two extreme dimensions of the nature of science developed by Burrell and Morgan (1979): objectivism and subjectivism. Easterby-Smith, Thorpe and Lowe (1991) labelled objectivism as positivism and subjectivism as phenomenology, whereas, objectivism was described as positivism and subjectivism as interpretive in (Hughes & Sharrock 1997). Other scholars ascribed different names to the philosophical paradigms under the two main philosophical bases: objectivism and subjectivism. For instance, Guba and Lincoln (1994) categorised research philosophies into four main categories: positivism, constructivism, critical theory and realism. Neuman (2000) also introduced four philosophical categories: positivism, interpretivism, critical theorists, and eclectics. Hussey and Hussey (1997) adopted categories from (Creswell 1994) and from (Morgan & Smircich 1980) and listed six categories under the objectivist domain: quantitative, positivist, scientific, experimentalist, traditionalist, and functionalist. Under the subjectivist domain, Hussey and Hussey (1997) listed four main categories: qualitative, phenomenological, humanistic, and interpretivist. Guba and Lincoln (1994) categorised social research paradigms into four main paradigms: positivists, interpretivist, critical theory, and realism.

Alternative paradigms were developed to create a middle ground and a meeting point between both extreme views and to overcome limitations inherent in any single overarching
paradigm. Hindle (2004) developed a framework called the canonical development approach (Figure 4.1). Hindle’s framework consists of three domains: the philosophical context domain, the methodological content domain, and the research question domain. Although, Hindle developed his framework in the area of entrepreneurship research, it addresses the issue of paradigm conflicts at an abstract level. Hindle argued that his framework offers a middle ground in the philosophical dichotomy and was consistent with the prevailing research wisdom of seeking that perfect fit between the research philosophy and methodology. Therefore, Hindle offered a minimal discussion about the conflicts of research philosophies and paradigms to liberate the novice researcher from the everlasting paradigm debate. Nevertheless, the use of any philosophical stance and therefore any methodology has to be justified in relation to the ontology underpinning the nature of the research problem.

In Figure 4.1, the research question is central to the framework and it vertically influences, and is influenced by, the philosophical context domain and the methodological content domain or, as Hindle (2004, p.590) states, the research question ‘has centrality and primacy and is the heart of the matter’.
Hindle categorised the philosophical positions based on Neuman’s (2000) categories into positivists, interpretivist, critical theorists, and eclectics. The philosophical content domain is portrayed in a spherical shape to give the impression that the researcher has the liberty to move around those philosophical positions and their different components. The choice of certain components from the philosophical domain also affects the researcher’s choice of components from the methodological domain since there is a vertical relationship between both domains mediated by the element of the research question domain. Similarly, the research question domain mediates the relationship between the ‘established research canon’ and the ‘new perspectives’, which is the relationship between what is already known about the phenomena under investigation and what the current research intends to discover. This framework is instrumental in assisting both novice and experienced researchers in determining the merits and limitations of various alternative paradigms and in selecting the
relevant approaches and the appropriate methods, which would add value and confidence in the results obtained from research.

The interpretive philosophical stance springs from a subjective view of the nature of science and is defined as ‘a direction in social science that focuses on human beings and their way of interpreting and making sense of reality’ (Holloway 1997, p. 93). Therefore, interpretivists rely on naturalistic methods such as interviewing, observations, and analysis of textual documents. Interpretivism is linked to the classical Greek philosopher Sophists and to post-renaissance scholars such as Wilhelm Dilthey, Marx Weber, Kant, Hegel, Marx, Freud, Polanyi and Kuhn (Mumford et al. 1985) who contended that natural science methodologies were inappropriate for studying social science phenomena (Walker 1985). On the other hand, positivists argued that causation was what governed all aspects of either a social or scientific phenomena through fixed rules and laws (Hughes 1976). Interpretivists advocate the importance of studying the phenomena in its environment and making the investigation of human experience of the phenomena key to interpretivist research.

In accordance with the interpretivists’ beliefs, this study takes a social constructionist approach, such that there are ‘local and specific co-constructed realities’ (Guba & Lincoln 2005, p. 195) about a specific phenomenon. The concept of social constructivism is the main difference, in worldview presumptions about knowledge, between the positivist school of thought and the interpretivist school of thought. Interpretivists believe that knowledge is socially constructed and that reality can only be fully understood by the subjective interpretation and intervention into reality (Stake 1995). Social actors’ perceptions of reality, beliefs, and the meanings they ascribe to phenomena must be the primary target of study in the interpretivist approach (Orlikowski & Baroudi 1991). Unlike positivists, who believe that there is a single reality, interpretivists acknowledge that reality is also affected by the researcher’s own perceptions and presumptions resulting in different interpretations, which can form new or complete knowledge of a phenomenon as described by Klein and Myers (1999, p. 69): ‘our knowledge of reality is gained only through social constructions such as language, consciousness, shared meanings, documents, tools, and other artifacts.’ Such interpretive research does not predefine dependent and independent variables, but focuses on the full capacity of human sense making as the situation emerges. This is clearly in line with the objectives of this research which investigates the influences of the implementation environment on the success or failure of e-Government implementation in the Omani public sector.
From another perspective, according to Mingers (2001), research in the field of Information Systems (IS) should be concerned with the human communications more than being a mere business computer-systems development discipline, because it draws from various research fields and disciplines such as psychology, economics, sociology, mathematics, and linguistics. Published IS research from 1983 to 1988 depended mostly on a single philosophical paradigm, namely, the positivist paradigm (Orlikowski & Baroudi 1991). The authors called for a more pluralistic approach to research in Information Systems but were careful not to claim that the positivist approach must be replaced by the critical or interpretivist approach. Other researchers (Bjørn-Andersen 1985; Kuhn 1996; Remenyi & Williams 1996) have also called for a pluralistic approach to Information Systems research since it dealt with people and the interoperation between people and technology. These views are also supported by the results of a review of 902 IS articles conducted by Alavi and Carlson (1992), in which they found that empirical investigation in IS research was dominated by the positivist paradigm. Similarly, Heeks and Bailur (2007) and Irani et al. (2012) found that previous studies of e-Government have predominantly utilised the positivist paradigm. This study follows recommendations from these authors to employ the interpretivist approach to produce better understanding of e-Government.

Positivists believe in isolating the research phenomenon and preventing any intervention from the researcher or the social actors in the environment where the phenomenon occurs. Positivists argue that reality can only be described objectively through the comprehension of the 'lawful reasonable stable relationships' (Huberman & Miles 1994, p. 428) between the constituent elements of the phenomenon. Positivists endeavour to test hypothesised and observed relationships between the various elements of the phenomena, usually operationalised as variables to reach a generalisable fact that can be repeated in similar research problems. Hypotheses are based on previously observed and explicated inter-relationships between realities. In this research, it was established that no previous similar research in the context of Oman existed in order to develop hypotheses for quantitative testing. Therefore, a positivist approach was not applicable for the purpose of this study.

Germane to this study are the facts that: (i) Information Systems, in general, was considered a social science rather than a natural science (Mumford et al. 1985) and (ii) e-Government, in particular, was a nebulous research area. The researcher acknowledges that reality is not discovered but, rather, is constructed through accessing the minds of the social actors and through interpretations of their stories about the phenomenon under investigation to arrive at
an accurate account of the realist tales (Van Der Blonk 2003). This study endeavoured to interpret the perceptions of 22 Omani officials about ‘what influenced the adoption and implementation of e-Government in Oman’ through careful inductive construction of reality from the language of their stories and details about their involvement with the e-Government project in Oman using open-ended questions.

A usual mistake in understanding research methods is equating the ontological basis of different paradigms with the methods normally ascribed to them. In some cases, confusion occurs in assuming that, since methods of a certain paradigm can be used under another paradigm, the underpinnings of both paradigms can be equated (Benbasat & Weber 1996; Cavaye 1996; Eisenhardt 1989; Landry & Banville 1992). Interpretivism usually stands for qualitative methods and positivism stands for quantitative methods. At the methodology and methods level, qualitative and quantitative approaches can converge in some cases. Nevertheless, this convergence does not hold true at the ontological level where the underpinning assumptions of the interpretivist paradigm and the positivist paradigm are mutually exclusive (Stahl 2007).

This research is a study of the factors that influenced the process of adoption and implementation of the e-Government initiative in Oman over the period 2000 - 2013. It involves the interpretation of what is perceived by Omani Government officials as the main motives that led the government to launch a national strategy of implementing e-Government in Oman. Moreover, the researcher endeavoured to categorise the motives discovered using multiple theoretical lenses in order to produce a framework of motives similar in its structure to the framework of motives distilled from the literature review in the first stage of the study. This study requires an intervention from the researcher into the natural environment of the phenomena because people’s perceptions are affected by their background, cultural and the environment (Corbitt et al. 2004; Hsiao 2003). Therefore, the nature of the research problem in this study requires the researcher to use the interpretivist qualitative approach.

4.2.2 Selection of Methodological Approach

The qualitative approach to research is an overarching umbrella paradigm that encompasses various research methods and techniques. However, rigorous research requires cohesiveness and justified selections of methods and techniques to reach a concrete fit between the culture of research and the methodology of research (Edmondson & McManus 2007).
methods in the qualitative approach include case studies, phenomenology, ethnography, and grounded theory. Qualitative research approach is a dependant of the interpretivist paradigm (Neuman 2011). Qualitative research provides rich information and allows the researcher to enter the social world of the research phenomenon and thoroughly investigate the contextual constructs through reciprocal interaction with people. Only through this interaction, shared meanings can gradually emerge and the mind maps of the participants are elicited to develop a coherent picture of the phenomenon through the voices of the participants (Trauth & Jessup 2000, p.54) and finally the social reality is constructed. Qualitative researchers believe that, due to possible bias that a researcher can introduce to the gathered data, different interpretations of a phenomenon may be generated. However, these interpretations are part of the overall knowledge about the phenomenon (Stake 1995; Yin 2003).

Qualitative inquiry has been practised in many research fields of social science. However, in a methodological examination of published empirical research in the field of Information Systems from 1983 to 1988 by Orlikowski and Baroudi (1991) and from 1991 to 2001 by Chen and Hirschheim (2004), the positivist paradigm (usually associated with quantitative methodology) was dominating the empirical research in Information Systems despite calls for a pluralistic approach. For this study, the selection of a qualitative approach fits well with the views of Edmondson and McManus (2007) who state: ‘Working within the nascent theory arena requires an intense learning orientation and adaptability to follow the data in inductively figuring out what is important’ (p.1163). As previously mentioned, the literature positions the arena of e-Government in the nascent stage where there is still an abundance of knowledge to be discovered. Therefore, this study employed a qualitative approach for the empirical investigation phase.

In congruence with the consensus among researchers, Creswell (1994) argued that the nature of the research phenomenon determines the research approach. According to Orlikowski and Baroudi (1991), the qualitative research approach is used when the purpose of research is to produce a description of the phenomenon and understand its nature from the perspective of the participants. Thus, knowledge about the phenomenon is made through constructive and participatory means (Creswell 2003; Neuman 2003). Similarly, social reality is constructed of shared meanings (Berger & Luckmann 1966), which are the results of social interactions between individuals. Individuals construct meanings about their social world within their own minds and these meanings are reconstructed internally with progress in time and externally by interactions with others (Berger & Luckmann 1966; Blumer 1969; Burrell & Morgan...
1979; Rosenwald 1988). Observation of social agents or interviewing them can assist the researcher in constructing social reality about a phenomenon or objectively describing a phenomenon (Van Der Blonk 2003). Therefore, semi-structured interviews were used as the data collection method within this study.

Qualitative data allows for an in-depth evaluation and detailed understanding of contextual factors affecting the adoption of e-Government. Therefore, interviewing people who were closely involved in the decision making and others who participated in the implementation of e-Government in Oman is an important step in the discovery of reality concerning the factors that influenced the adoption and implementation process. In qualitative research, the researcher plays a constructive role in encouraging participants to communicate their perceptions, feelings, and meanings associated to the phenomenon under study. The interaction between the researcher and the participants may introduce bias to the gathered data since the researcher’s perceptions of the social world of participants may be socially constructed through communication with participants (Burgess-Limerick & Burgess-Limerick 1998). However, during the interviews, the researcher was careful not to explicitly raise the factors extracted from the literature to avoid introducing bias to the results.

This study employed a qualitative approach in collecting the data with a case study in Oman (a developing country in the Middle East region). Scholl (2009) has identified only five prolific e-Government researchers who used purely qualitative research methods. According to Lips (2007), qualitative research is needed in the area of e-Government research to gain a broader and deeper understanding of the factors affecting the implementation of e-Government projects.

In light of the above discussion, this research embraced a qualitative interpretive paradigm for the following reasons: (i) this research does not seek to test any predefined assumptions or theories; (ii) it is concerned with constructing subjective realities from human data sources to understand their motivations for implementing expensive e-Government projects (Merriam 1998); and (iii) it is argued that qualitative research is more appropriate for research questions beginning with ‘what’ or ‘how’ Merriam (Merriam 1998). According to Yin (1994), qualitative research is more appropriate to study a complex phenomenon, such as e-Government - the public sector is a complex environment with various cultural, organisational, and social factors affecting the decision-making process within this sector; E-Government means different things to different people and interacts with many cultural and
technological aspects within its implementation environment, therefore it cannot be treated as a unique unit that can be researched outside its natural context using a positivist approach.

**Research Reasoning**

This study set out to discover the world view of the topic of factors that influenced the adoption and implementation of e-Government in the context of Oman. The researcher did not have any intention to confirm existing theories or hypothesis in the field. Therefore, the reasoning for this research project is inductive where theory is ‘developed from the observation of empirical reality; thus general inferences are induced from particular instances’ (Hussey & Hussey 1997, p. 13). The researcher aimed to engage with the participants in semi-structured interviews as means of discovering shared knowledge about the phenomenon. The open-ended conversation-like naturalistic communication engagement with participants has the potential to yield topic-focused and thick descriptions (Stake 1995) of human experiences, cultural contexts, and overall visions to enable the production of a better understanding of what affected the adoption and implementation of e-Government in Oman. In an inductive study, the researcher should be flexible to pursue any emergent themes to deepen the understanding of the context as the participants’ stories unfold and new paths of inquiry appear viable to discovering potentially novel aspects (Patton 2002). These views are reflected in the researcher’s choice of using semi-structured open-ended interviews as the main tool of data collection in the empirical stage of this study.

**Research Purpose**

According to Neuman (2003), the purpose of social research is categorised into three main categories: exploratory, explanatory, and descriptive. Usually, the purpose of research is connected to the maturity of the research area where research progresses from being exploratory to descriptive and finally explanatory research. Exploratory research is used when there is little known about the research area, which Edmondson and McManus (2007) describe as a nascent research area. Exploratory research focuses on ‘what’ questions rather than ‘why’ questions and is usually employed to uncover basic facts about the research area and to set the stage for future research. Exploratory research offers a significant insight into a given research area and can be utilised to generate hypotheses for future testing. The end product of an exploratory research often includes an exposition of directions for future research and well-formatted future research questions (Yin 1994; Zikmund 2000).
Descriptive research focuses on ‘how’ and ‘who’ questions (Neuman 2003). Descriptive research produces a vivid and detailed picture of the phenomenon under investigation. Often descriptive research is confused with exploratory research, but, in essence, a descriptive research follows inductive exploratory research to provide systematic descriptive details about variations among individual cases (Patton 2002). A descriptive study is further advanced than an exploratory study where it can provide an insight into the relationships between various variables of a phenomenon and perhaps appropriate methods of measuring those variables. The principal difference between a descriptive research and an exploratory research is that the latter is utilised in situations where there is little research done in the area, definitive hypotheses are absent, and the level of knowledge concerning the nature of the phenomenon is not mature (Patton 2002). On the other hand, a descriptive study commences with focused research questions and a clear objective of research. Usually descriptive research builds on knowledge produced by an exploratory study.

Explanatory research focuses on ‘why’ questions to investigate the causal relationships between well-defined constructs of a specific research problem (Neuman 2003). Explanatory research builds on descriptive and exploratory research and is concerned with theory testing. Explanatory studies are conducted in mature research areas where theory is well established (Neuman 2003).

Although a research study can have multiple purposes, there is often one predominant purpose (Neuman 2003). The purpose of the current research is exploratory. The field of e-Government research is nebulous especially in the area of adoption and implementation motives in the context of Oman. Since the research in the field of e-Government, especially about Oman, is nascent, it is recommended that research in the area consider an exploratory stance to contribute to the development of knowledge about the phenomenon and to assess the feasibility of future research (Cavana, Delahaye & Sekaran 2001). This study is a post-hoc longitudinal (Yin & Quick 1979) study where the histories of the adoption are constructed from artefacts, documents, and stories of respondents (Kimberly 1976). In congruence, Lyytinen & Damsgaard (2001) argued that it is essential to trace the histories of adoption when studying inter-organisational systems, which e-Government is one.
4.2.3 Research Method

This section explains the rationale behind choosing case study as the research method for this study. A research method is defined as ‘a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically’ (Kothari 1985, p. 8). Guided by the framework developed in (Edmondson & McManus 2007), this study has adopted a qualitative research culture; however, due to the variety of methods available within the qualitative culture of inquiry, the choice of a valid methodology becomes a complicated task. Due to previous choices made in this study based on the research question and maturity of the research area, the researcher decided that a case study methodology would best fit the nature of this study being a qualitative inductive exploratory study. Case study methodology offers detailed and thick data about participants’ perceptions, motives, attitudes, and behaviour (Foddy 1993). Data obtained from a case study is not applicable for generalisation to other cases, but can be used to generate focused questions for future research to expand theory (Yin 1994).

A number of scholars have studied the use of case study methodology in both interpretivist and positivist research (Cavaye 1996; Darke, Shanks & Broadbent 1998; Eisenhardt 1989; Gillham 2000; Merriam 1998; Stake 1995; Yin 2003). Creswell (1998) included case study methodology among the ‘five traditions of inquiry’ along with phenomenology, ethnography, biography, and grounded theory. A case study is defined by Yin (2003) as ‘an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident’. The research problem in this study is correlated with the previous definition where the researcher seeks to develop a deep contextual understanding of a nebulous phenomenon occurring in a unique context with little existent knowledge of the events, relationships, perceptions, and experiences pertinent to the various characteristics of that phenomenon. These research complications are the results of implementing an Information Systems (e-Government) product, originally developed in the Western developed world, in the public sector of a less developed and culturally different country: Oman. Case study research in the field of Information Systems has been heavily used since research in the field had shifted its focus towards organisational and people-related issues rather than technical computer system-related issues (Benbasat, Goldstein & Mead 1987; Irani et al. 1999; Orlikowski & Baroudi 1991). Dubé and Paré (2003) reported that 80 per cent of studies in Information Systems were
positivist case studies. Moreover, Markus (1983) showed the significance and applicability of using case study research in identifying the effects of interplaying organisational and contextual factors in the implementation of information systems. In the same vein, Lee (1989) used the work by Markus as an exemplar to confirm the applicability of the single case study in information systems research and to defend against critics of single case study use. He emphasised the strength of the tradition of case study methodology in the field of Information Systems.

Yin (2003) provided three criteria for a research study to qualify to use the case study methodology. First, the case study methodology fitted well with the ‘what’, ‘why’, and ‘when’ research questions. The second condition was related to the ability of the researcher to control the behavioural events within the phenomenon. Case study methodology is desired in research studies where the researcher does not have control over those events. The third condition maintains that case study methodology became the appropriate research methodology for research studies that focus on contemporary events. Correspondingly, case study was deemed appropriate when investigating a complex social phenomenon like e-Government because it ‘allows investigators to retain holistic and meaningful characteristics of real-life events’ (Yin 2003, p.2) and intentionally cover contextual factors that may be otherwise hidden to quantitative surveys.

Stake (1995) also presented three types of case studies based upon the motives of the researcher: intrinsic, instrumental, and collective case studies. Intrinsic case studies are undertaken because of their uniqueness in a particular setting. Instrumental case studies are used as ‘instruments’ to gain understanding of another situation where the case study itself becomes secondary to the intended case of investigation. A collective case study is part of a group of case studies crafted in order to gain insight into and produce better understanding of a complex phenomenon (Stake 1995). Yin (2003) described three types of case studies: single holistic case study, single case study with embedded units of analysis, and multiple-case studies.

This study utilises a single case study within the boundaries of the Oman Government. A total of nine government agencies were selected for this study with a total of 22 participants. These government agencies adhere to the 1975, 1980, and the following amendments in 2004 Oman Civil Service Acts (Ministry of Civil Services 2004) which are legislative/administrative acts that outline the structure and responsibilities of government
agencies in the Government of Oman. Cavaye (1996) pointed out the validity of using a single case study stating ‘study of a single case enables the researcher to investigate a phenomenon in depth…enabling a rich description and revealing its deep structure’ (p. 236).

Yin (2003) articulated that it was important to define the unit of analysis in a case study. He argued, units of analysis and their subunits could aid in the ‘extensive analysis’ of data and enhance the intended insight gained in a single case. For the purpose of this study, the unit of analysis is the ‘world view’ of each one of the participants of the study of what they considered the salient factors that influenced the adoption and implementation of e-Government in Oman.

There is a disagreement between scholars on the importance of conducting a literature review prior to data collection in a case study methodology (Creswell 1994; Merriam 1998). However, Yin (2003) emphasised that it was essential to establish a clear link between pre-set propositions and the nature of data to be collected to formulate a clear strategy for data interpretation in the data analysis stage. In concurrence, Miles and Huberman (1994) suggested that an extensive literature review should be performed and a conceptual framework should be developed prior to the commencement of data collection. A careful review of the existent literature elucidates the context of the case study and enables comparisons with similar cases investigated in the field of study and helps the researcher in identifying limitations of the results (Miles and Huberman 1994). This is in line with the main character of case study methodology as being context-based. This study conformed to the suggestion presented by Miles and Huberman (1994) and a conceptual framework was developed prior to the commencement of data collection. This conceptual framework served as a guide in developing the tentative interview schedule, including which questions to ask during an interview with a participant. However, the researcher reserved a degree of flexibility to allow participants to drift outside the loose boundaries of the conceptual framework and pursue emergent themes and areas of interest.

There is no clear-cut border between case study and other qualitative research methods such as action research, grounded theory, and ethnography. However, some profound aspects pertinent to each methodology prevent a researcher from entering into the zone of one methodology and making an informed choice to use other alternatives. This study cannot be an ethnography study because it is not the objective of the study to describe the cultural context of participants in the phenomenon and the effects cultural artefacts inflict on the
nature of phenomenon. The purpose of ethnographic studies is to place a phenomenon in a particular social and cultural context where the researchers immerse themselves in the lives of the people (Creswell 1998; Silverman 2006). Similarly, in this study, the researcher was not part of the implementation process of e-Government and had neither the liberty in extending the length of the study to become either a participant or a non-participatory observer of the implementation process. Therefore, this study does not qualify as action research. This study is not suitable for a grounded theory methodology because the researcher does not seek to develop a novel theory in the field, but to use theories from other fields as a lens to describe and categorise motivating factors for implementing e-Government in the context of Oman and why the implementation has stalled.

A frequent and main criticism of the use of case study research is the issue of generalisability of results to other situations or contexts. Proponents of case study methodology (Lee 1989; Yin 2003) have refuted this criticism by referring to the actual underpinning of generalisability which is the product of testing a proposition many times in many contexts with similar results. In the case of a single case study methodology, it is essential to use some sort of theory or a rigorously developed conceptual framework against which the results of data analysis is compared, as Yin (2003) eloquently puts it ‘in analytic generalisation, previously developed theory is used as a template against which to compare the empirical results of the case study’ (p. 32). Another criticism of case study is that it is time-consuming as compared to survey-based methodology. Also, the issue of bias that a researcher can introduce to the collected or analysed data is another criticism of case study methodology (Lee 1989; Yin 2003). In this study, researcher’s bias has been kept to a minimum by avoiding presenting the conceptual framework to participants before conducting the interviews and by avoiding loaded questions and prompts.

In summary, the choice of a philosophical paradigm and associated research methods and techniques can become more of an objective rather than subjective choice considering the research question of the study (Hindle 2004) and the maturity of the research area (Edmondson & McManus 2007). This general recommendation has been carefully followed when choosing the philosophical stance and methods for the current study.

In the following section, a detailed outline of research activities carried out within this research is presented. At the end of the section, these activities are organised in a single diagram representing the research design.
4.3 Research Design

This study consisted of six main activities. First, the researcher engaged in a conceptual study relating to e-Government implementation strategies in developing countries. An extensive review of the literature on e-Government adoption and content analysis of research documents, e-Government portals, and official reports of implementation efforts in many developing countries and a few developed countries was carried out. Then, the extracted motives were cross-checked for pattern matching to enable classification and categorisation into common themes. The final product of this research activity was the grouping of motivating factors into a framework that utilised the proposition about e-Government in (Grönlund 2005) and the institutional isomorphism (DiMaggio & Powell 1983), value-added processes of information systems (Taylor 1986), and service quality models (Grönroos 1988; Parasuraman, Zeithaml & Berry 1988) as theoretical lenses. Other motives were regarded as specific to the various reviewed contexts. Other country-specific motives were subcategorised into economic, cultural, geographic, and demographic motives.

The second research activity involved the design of the empirical study to identify the most appropriate research methodology, data collections tools, and data analysis techniques. As outlined in the previous sections, the researcher determined that a single qualitative case study would best fit the purpose and reasoning of this study and that semi-structured open-ended interviews would be the most appropriate tool to collect qualitative data about the factors that influenced the adoption and implementation of e-Government in Oman from the viewpoint of different stakeholders in the government. Also hermeneutics and especially the hermeneutics circle (Heidegger 1962) was used for data analysis to draw conclusions from the interpreted data.

The third research activity involved performing the tasks of data collection and administering 22 semi-structured interviews with 21 Omani officials affiliated with nine different government agencies and one Omani e-Government researcher. Also, the researcher performed content analysis of official documents related to the overall national strategy of e-Government in Oman. Specific details about the process of selecting participants and interviewing will be presented in following sections.

The fourth research activity involved tasks related to data analysis such as transcription of interview audios, preparing the raw data for coding using the Nvivo© 9 software package.
The first stage of data analysis was performed manually through memoing and incorporation of field notes from the reflexive journals in attempting to make general sense of the stories told by different participants. Later, the data was loaded into Nvivo© 9 for cross analysis and identification of recurring themes and common patterns.

The fifth research activity involved the confirmation of results where the researcher presented the results to his PhD supervisors and to five key participants of the empirical study. The purpose of this activity was to obtain confirmation from participants of the credibility and reliability of results and to allow for any possible insightful recommendations or feedback on aspects that might have been overlooked by the researcher.

The sixth and final activity involved the write-up and dissemination of the research results in the form of publications and conference papers and the generation of the thesis text volume. The following diagram shows the various steps undertaken during this research project.
4.4 Collection and Analysis of Empirical Evidence

This section presents the data collection process and the data analysis techniques used in the empirical stage of this study. Properties of the data collection process are introduced first followed by details on the data analysis procedure. The main data collection instrument used in this study was open-ended, informal, semi-structured interviews with 21 Omani senior and middle level managers who were involved with decision making and implementation of e-Government in Oman from nine different government units and one university research department. Details on the screening process of the study participants, development of the interview guide and interview techniques are also provided in the following subsections.
4.4.1 Data collection

Semi-structured interviews were the main instrument of collecting empirical data for this study, a process consisting of six successive steps: defining the study context within a developing nation; developing a tentative interview guide; validating the interview guide by presenting it to a panel of experts; obtaining university research ethical approval; selecting potential respondents; and piloting two interviews. The actual data collection, through interviewing 22 government officials, commenced after those steps were fully completed. Details of each step are presented in the following subsections.

Interview guide

An interview guide is an important tool in semi-structured interviews. It helps the researcher focus on the purpose of the interview and offer structure and control over the direction of information flow (Kvale 1996). On the same course, the interview guide helps the researcher appear competent and well prepared during the interview (Bernard 2006).

Guided by the research framework developed at the end of this research’s literature review, an interview guide of 17 open-ended questions was developed (see Appendix D). Most of the questions evolved around the main research question of the study. The questions were developed in Arabic being the mother tongue of all respondents which gave respondents the chance to express their views freely and easily without having to worry about selecting the best English vocabulary or expressions. However, some respondents preferred the interview to be conducted in English, so the researcher agreed on that.

Extra questions were used when new concepts and areas of potentially valuable data emerged from respondent responses. The order in which questions were used also depended on the respondent’s response to preceding questions. For example, the researcher was flexible to introduce question seven after question two when the respondent’s response to question two was related to the issue that question seven was set to investigate. Other unplanned open-ended questions such as probing questions were used when relevant issues were raised by the respondents. Probing questions included questions like ’could you tell me more about that? Could you give me an example of what you mean? Can you explain more?’ Clarifying questions were used to remove ambiguity and obtain more details of new concepts and issues raised by the respondents. Such questions helped in capturing a comprehensive and clear mental picture of reality from the respondent responses. Overall, the flexibility of the
The interview guide reflected the essence of a semi-structured interview which allowed for comparability between respondents’ answers through using standardised questions for all respondents. At the same time it allowed the researcher to acquire further information on leads and explore novel perceptions of individual respondents (Bernard 2006, p. 212).

**Validating the interview guide**

Once the interview guide was completed, it was forwarded to a panel of experts to ensure that the questions to be asked were relevant to the research framework. The panel of experts consisted of three Omani PhD holders and one PhD candidate at the writing stage. Table 4-1 illustrates the characteristics of the members of the panel of experts:

<table>
<thead>
<tr>
<th>Member</th>
<th>Position/Education Level</th>
<th>Data collection methods</th>
<th>Mother language</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXP1</td>
<td>Assistant Professor/PhD</td>
<td>Mixed (Quantitative &amp; Qualitative)</td>
<td>Native Omani Arabic Speaker</td>
</tr>
<tr>
<td>EXP2</td>
<td>Assistant Professor/PhD</td>
<td>Mixed (Quantitative &amp; Qualitative)</td>
<td>Native Omani Arabic Speaker</td>
</tr>
<tr>
<td>EXP3</td>
<td>Assistant Professor/PhD</td>
<td>Mixed (Quantitative &amp; Qualitative)</td>
<td>Native Omani Arabic Speaker</td>
</tr>
<tr>
<td>EXP4</td>
<td>PhD Candidate</td>
<td>Qualitative</td>
<td>Native Omani Arabic Speaker</td>
</tr>
</tbody>
</table>

Table 4-1 Characteristics of member of the panel of experts

These members were purposefully selected because of their involvement in research within the Omani context and also for being native speakers of the Arabic Language in which the interviews were conducted. The interview guide and a diagram of the research framework were forwarded by email to the four members separately. The researcher requested the members to comment on the relevancy and fit of the interview questions to the research framework and to highlight any ambiguities or weaknesses in the questions as a whole or in any particular words. They were also asked to identify any potentially leading questions. Comments from the panel of experts were later consolidated and carefully considered when developing the final version of the interview guide.
Obtaining ethical approval

Research policies at the Royal Melbourne Institute of Technology (RMIT) require that research involving human respondents undergo an ethical approval process prior to its commencement. The researcher applied for ethical approval from the Human Research Ethics Committee at RMIT. A copy of the tentative interview guide was forwarded along with the application forms to the committee. Ethical approval was obtained prior to the commencement of any of the 22 semi-structured interviews conducted within this study. Prior to conducting interviews, the respondents were also informed, in writing, that this research has obtained ethical approval from the university along with details on how to report any misconduct related to research ethics (see Appendices A & B).

Selecting potential respondents

The issue of sampling in either quantitative or qualitative research is a cornerstone issue. In quantitative research, population sampling is guided by entities of theory/hypothesis under test where random sampling is deemed appropriate and in some cases is considered essential in order to produce evidence that enables generalisation of findings within the population. Moreover, quantitative research is about quantifying the data and representing findings in statistically relative frequencies (Eisenhardt 2002). Population sampling refers to the process of selecting a subset of an entire set of people/cases that the researcher intends to study. The selected sample must fit the criteria set forth by the researcher in order to be representative of the entire population. On the other hand, qualitative research, in most cases, depends on purposeful sampling (Minichiello et al. 1995) where respondents are selected based on their experience of the phenomenon under study and, thus, their ability to contribute to building theory. This sampling process is called theory based sampling or theoretical sampling in the terms of grounded theory (Creswell 1998) where respondents or cases are chosen to ‘replicate previous case or extend emergent theory, or they may be chosen to fill theoretical categories and provide examples of polar types.’ (Eisenhardt 1989, p. 537)

The second popular type of sampling in qualitative research is snowball sampling where the researcher obtains lists of potential respondents from a participant of the study. The researcher then contacts the potential respondents and persuades them to participate in the study and, in turn, provide the researcher with contact details of other potential respondents who fit the researcher’s criteria of selection. This process is repeated until saturation is reached, thus the name snowball sampling. Saturation is a term which describes a process that
makes qualitative research systematic by setting limits to the sample size. Data saturation is reached when the new data obtained does not add to the theory under development or exploration (Minichiello et al. 1995). In a nutshell, population sampling in qualitative research is guided by the research question and limited in size by saturation which can be discovered amidst data analysis. Therefore, methodologists (Burgess 1984; Miles & Huberman 1984; Minichiello et al. 1995) advocated for analysing data while in the field collecting more data. This approach allows the researcher to refine their questions, follow up emergent themes, improve their overall interviewing skills, and most importantly to assist in selecting information-rich cases that better fit the sampling strategy.

Miles and Huberman (1984) offered 16 different types of sampling strategies. These strategies were clearly defined and the rationale for choosing any type was also described. These same strategies were also listed and explained in (Patton 2002) with minimal variations in naming. Creswell (1998) contended that any of these strategies is applicable for a case study research (which the current study is), but preferred to use the ‘maximum variations’ strategy which allows for capturing extreme variations and enables access to multiple perspectives of the cases. This view is concurrent to the views of Eisenhardt (1989) who described variant cases as polar types.

This study employed a mix of purposeful sampling strategies to assist in selecting the respondents. At the beginning of the empirical study, theory based sampling was used to identify potential respondents who were believed to have information about ‘the factors that influenced the adoption and implementation of e-Government in Oman’. According to Patton (2002), it is relatively easy to determine the population of interest of a study that focuses on people, programs, or communities. Certainly, the researcher determined that the management of the Information Technology Authority (ITA) which oversees the Omani e-Government project would be the people who possessed the required information. Four of the 22 respondents were affiliates of the ITA whose characteristics will be described below.

The researcher also used information disseminated through the Omani e-Government portal (www.oman.om) to determine the most successful e-Government projects in government departments as well as departments with the least progress towards e-Government. This choice was in line with the maximum variations sampling strategy which is considered very useful in ‘capturing and describing the central themes that cuts across a great deal of variation ... [which are] of particular interest and value in capturing core experiences and central,
shared dimensions of a setting or phenomenon’ (Patton 2002, pp. 234-5). Information about the motivating factors for implementing e-Government are best described by managers of IT departments in each government unit as well as top level management of these units because of their involvement in the decision making process of implementing e-Government. These two types of managers were identified as the target of selection.

Through interviews with respondents from the ITA, it was discovered that the people who originally participated in developing Oman e-Government strategy were then affiliated with other government departments. At this stage, snowball sampling strategy was employed to identify the original founders of the e-Government strategy. Snowball sampling was also used to identify other individuals who were involved in specific e-Government projects implementation and had moved to other departments or positions within the same government unit. These strategies were combined to assist in overcoming the difficulty imposed by the fact that little is known about the population of this study and about the different layers of contextual motivations that supported the implementation of e-Government in Oman. Theory based sampling was guided by the research framework developed from the literature review and augmented by the maximum variations strategy to attempt to identify patterns and themes across different cases. Snowball sampling was used to compliment theory based strategy (Bryman 2004).

According to Marshall and Rossman (1995, p. 83), ‘elite individuals are considered to be influential, the prominent, and the well-informed people in an organization or a community and are selected for interviews on the basis of their experience in areas relevant to the research.’ Both senior and superior management level respondents were included in the study sample in accordance with the aforementioned recommendation by Marshall and Rossman. Individual respondents were selected on basis of their experiences that fitted one or more of the following specific criteria: (i) they held a top level management position in an Omani government department such as a Minister, (ii) an Undersecretary, or a Director General of planning and development; (iii) they held an IT middle management level position in an Omani government department such as a Department Head, a Deputy Department Head, or a Section Head; (iv) they were a member of the Oman Information Technology Task Force and participated in developing the national e-Government strategy; or (v) they had to be acquainted with the e-Government strategy through academic research.
Guided by the maximum variation sampling strategy, all individuals, except for one university professor, were affiliated with nine different government departments that were selected on the basis of the level of progress accomplished towards full implementation of e-Government on either ends of the progress continuum. Moreover, the selection criteria took into account the size of government departments and the size of beneficiaries of the services encompassing both relatively large and small sizes in the study sample. It is important to note that neither the individuals nor their affiliated government departments were the unit of analysis of this research, instead their mental pictures and mind maps of what influenced the adoption and implementation of e-Government in Oman was the unit of analysis.

The initial list of potential respondents included 25 individuals in top level management positions including 5 ministers, 6 undersecretaries, 5 director generals, 2 chief executive officers, and 1 Omani e-Government researcher, and 6 heads of department. The researcher made visits to the offices of ministers and other participants to deliver written requests to these individuals to participate in the study. A copy of the plain language statement and a copy of the consent form, all written in Arabic (see Appendices A & B), were placed in an A4-size sealed envelope and handed to secretaries in these offices. The plain language statement described the purpose of the study and the reasons for approaching those individuals to participate in the study. Contact information of the researcher and his supervisors were also provided including email and phone numbers. Other respondents were contacted through their secretaries by phone and the invitation documents were forwarded either by email or fax. Unfortunately, the researcher was not able to secure face-to-face interviews with any of the ministers due to their busy schedules. However, the researcher was able to interview three undersecretaries.

Two potential respondents declined the invitation to participate due to health problems. Snowball sampling accounted for the recruitment of 12 respondents. The saturation point was reached after interviewing the 21st respondent where the researcher believed that the new data obtained was starting to become redundant with data obtained previously and there was no promise of discovering new findings. The researcher interviewed the 22nd respondent and confirmed that new data is redundant. Table 4-2 illustrates the respondents’ profiles.
Table 4-2 Characteristics of Respondents

Overall, this study involved 21 respondents from different levels of management and from nine different government departments listed in Table 4-3 along with one e-Government researcher.

<table>
<thead>
<tr>
<th>Respondent Number</th>
<th>Respondent codename</th>
<th>Respondent Gender</th>
<th>Respondent position</th>
<th>Management Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RC1</td>
<td>M</td>
<td>Director</td>
<td>Superior</td>
</tr>
<tr>
<td>2</td>
<td>RC2</td>
<td>M</td>
<td>Director General</td>
<td>Senior</td>
</tr>
<tr>
<td>3</td>
<td>RC3</td>
<td>F</td>
<td>Head of IT Department</td>
<td>Middle</td>
</tr>
<tr>
<td>4</td>
<td>RC4</td>
<td>M</td>
<td>Information Technology Task Force (ITTF) Board member</td>
<td>Senior</td>
</tr>
<tr>
<td>5</td>
<td>RC5</td>
<td>M</td>
<td>Head of Department</td>
<td>Senior</td>
</tr>
<tr>
<td>6</td>
<td>RC6</td>
<td>M</td>
<td>Deputy Head of IT Department</td>
<td>Middle</td>
</tr>
<tr>
<td>7</td>
<td>RC7</td>
<td>M</td>
<td>Deputy Head of IT Department</td>
<td>Middle</td>
</tr>
<tr>
<td>8</td>
<td>RC8</td>
<td>F</td>
<td>Head of IT Department</td>
<td>Senior</td>
</tr>
<tr>
<td>9</td>
<td>RC9</td>
<td>F</td>
<td>Head of IT Department</td>
<td>Senior</td>
</tr>
<tr>
<td>10</td>
<td>RC10</td>
<td>M</td>
<td>Head of Foreign Investment Department</td>
<td>Senior</td>
</tr>
<tr>
<td>11</td>
<td>RC11</td>
<td>M</td>
<td>Director General</td>
<td>Senior</td>
</tr>
<tr>
<td>12</td>
<td>RC12</td>
<td>M</td>
<td>IT Advisor</td>
<td>Middle</td>
</tr>
<tr>
<td>13</td>
<td>RC13</td>
<td>M</td>
<td>Undersecretary</td>
<td>Superior</td>
</tr>
<tr>
<td>14</td>
<td>RC14</td>
<td>M</td>
<td>Undersecretary</td>
<td>Superior</td>
</tr>
<tr>
<td>15</td>
<td>RC15</td>
<td>M</td>
<td>Undersecretary</td>
<td>Superior</td>
</tr>
<tr>
<td>16</td>
<td>RC16</td>
<td>M</td>
<td>Deputy Head of IT Department</td>
<td>Middle</td>
</tr>
<tr>
<td>17</td>
<td>RC17</td>
<td>M</td>
<td>Head of Type and Quality Approval Department</td>
<td>Middle</td>
</tr>
<tr>
<td>18</td>
<td>RC18</td>
<td>M</td>
<td>ITTF Board Member</td>
<td>Senior</td>
</tr>
<tr>
<td>19</td>
<td>RC19</td>
<td>M</td>
<td>ITTF Board Member</td>
<td>Senior</td>
</tr>
<tr>
<td>20</td>
<td>RC20</td>
<td>M</td>
<td>Head of IT Department</td>
<td>Senior</td>
</tr>
<tr>
<td>21</td>
<td>RC21</td>
<td>M</td>
<td>Director General</td>
<td>Senior</td>
</tr>
<tr>
<td>22</td>
<td>RC22</td>
<td>M</td>
<td>E-Government Researcher</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Table 4-3 List of Omani Government Departments that participated in this research

<table>
<thead>
<tr>
<th>Government Unit</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Technology Authority (ITA)</td>
<td>3</td>
</tr>
<tr>
<td>Telecommunication Regulatory Authority (TRA)</td>
<td>2</td>
</tr>
<tr>
<td>Ministry of Civil Services</td>
<td>2</td>
</tr>
<tr>
<td>Ministry of Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>Ministry of Commerce and Industry</td>
<td>2</td>
</tr>
<tr>
<td>Muscat Municipality</td>
<td>2</td>
</tr>
<tr>
<td>Information Technology Task Force (discontinued)</td>
<td>3</td>
</tr>
<tr>
<td>Public Authority for Social Insurance</td>
<td>2</td>
</tr>
<tr>
<td>Civil Service Employees Pension Fund</td>
<td>2</td>
</tr>
<tr>
<td>Academia</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
</tr>
</tbody>
</table>
Pilot interviews

Prior to conducting the actual 22 interviews, the researcher conducted two pilot interviews to test the interview guide. According to Bryman (2004), pilot interviews are useful to ensure the functionality of the interview guide, enhance the confidence of the interviewer, and raise their familiarity level with questions to be asked. Pilot interviews are also crucial in identifying and addressing any ambiguities or issues in the wording and order of questions. In addition, through pilot interviews, the researcher can identify problems that may cause the respondents to lose interest in providing insightful information or choosing to skip questions. In this study, the two pilot interviews helped to identify two ambiguous questions which were later modified. Moreover, the researcher noticed that respondents preferred to use Arabic and English language interchangeably. The researcher considered explaining to respondents that they are allowed to use both Arabic and English language in answering questions. The transcripts of those pilot interviews were checked by the researcher’s main supervisor who directed the researcher to be very alert during interviews and use probing questions to get the respondents to talk more and provide detailed accounts of the realities of their experience. The order of questions was also amended to present more general questions before specific questions or questions related to the respondent’s specific experience.

Semi-structured Interviews

This study relied on informal, semi-structured interviews as the main source of data collection. Narratives collected through interviews allowed the researcher to identify and compare ‘factors that motivated Oman Government and Omani government departments to implement e-Government projects’. An interview is very similar to an everyday conversation between two or more individuals. However, the difference between a research interview and an ordinary conversation is that a research interview has a structure and purpose (Kvale 1996). The structure and purpose of a research interview is prepared by the researcher, which gives them the control over the direction of the interview unlike in a normal conversation that can be controlled by both parties. Nonetheless, it is recommended that a conversational style is adapted by researchers using interview as a data collection tool (Minichiello et al. 1995). Scholars agree that interviews are a powerful tool to generate rich data about the interviewee’s construction of reality (Bryman 2004; Fontana & Frey 2000; Miller & Crabtree 2004; Minichiello et al. 1995; Yin 2003). Foddy (1993) argued that interviewing is the only way to obtain information about ‘people’s beliefs’, ‘attitudes’, ‘motives’, ‘values’, and ‘experiences’.
Interviews are categorised based on characteristics of the interview process into two main types: structured and unstructured interviews. Structured interviews are also called standardised interviews where all respondents are asked the exact same questions in the exact same order using a formal interview schedule. On the contrary, unstructured interviews do not use a formal interview schedule and are very close to being a normal conversation without structure except a minimal control imposed by the interviewer to direct the interviewee towards the research interest. Unstructured interviews provide in-depth information about interviewee’s perceptions and experiences of the phenomenon under study (Minichiello et al. 1995). A semi-structured interview is positioned at the middle of the continuum between structured and unstructured interviews. A semi-structured interview is similar to a structured interview in that it uses an interview schedule or guide but the wording and order of questions may change depending on issues and concepts that arise during the interview. The researcher is also able to ask extra questions to probe the meanings of respondents’ answers. Thus, like an unstructured interview, a semi-structured one generates in-depth information which allows for comparability of views and experiences of respondents through the use of standardised questions. To ensure that variations in respondents’ perspectives are due to real variations and not misinterpretations, the interviews should be carefully recorded (Bryman 2004). In this study, all interviews were recorded with the permission of interviewees.

This study used face-to-face semi-structured interviews as a tool for data collection because (a) the research question was narrow and specific; (b) this study was an exploratory study; (c) this study was concerned with identifying motives of a specific phenomenon; (d) this study examined a decision-making process; (e) the researcher knew that potential respondents were familiar with the process of interviews and were willing to share information through communicative means; and (f) this study also attempted to define motives for the adoption of e-Government in the Omani context.

**Interview Process**

According to Taylor and Bogdan (1998, p. 77), an interview is ‘a repeated face-to-face encounters between the researcher and informants directed towards understanding informants’ perspectives on their lives, experiences, or situations as expressed in their own words’. Acquiring in-depth information from the respondent required establishing and maintaining rapport between the researcher and the respondent. This rapport is best acquired
through careful preparation for the interview mixed with other strategies during the interview. In preparing for interviews, the researcher followed Miller and Crabtree’s (2004) advice and contacted potential respondents to (a) give details about the role of the researcher, name, affiliation and sponsoring body of the research; (b) explain the purpose and the benefits of the research in broad terms; (c) explain why the respondent was selected to participate in the research; and (d) assure confidentiality and anonymity of the respondent’s identity details. No less than two days prior to any interview, the respondent was provided with a written copy of the interview guide and a written plain language statement explaining the research project, stating that the participation in the study is totally voluntary, and stating the estimated time which the interview might take. The researcher also familiarised himself with the questions in the interview guide which enhanced his confidence and credibility and helped present the researcher control over the interview. Respondents were given the opportunity to choose the place and time for the interview. All interviews took place in respondents’ work offices except for one interview which took place in a public coffee shop chosen by the respondent.

Since the interviews were conducted within government premises and during official working hours, the researcher considered the cultural norms in Oman, being a native Omani himself, and dressed in Omani official attire. Prior to the commencement of the interview, the researcher introduced himself as a PhD student studying at RMIT University in Australia. Then, the researcher briefly explained the purpose and importance of the study and verbally assured the respondent of the confidentiality and definite privacy of the information obtained through the interview. This act is called briefing by Kvale (1996) and it aims at making the respondent more comfortable and confident in providing information. A signed consent form (see Appendix A) was obtained at the beginning of the interview and the respondents were given a copy of it for their records. It is interesting to note, that all respondents had the interview guide in front of them during the interview with notes on the margins which showed their keen interest in participating in the study.

The researcher followed Minichiello et al.’s (1995) advice to use a technique of ‘breaking the ice’ at the beginning of the interview which helps in establishing rapport. The researcher tried to collect as much information about the respondent prior to the interview in order to come up with a way of breaking the ice at first encounter with the respondent. Most of the respondents had participated in television and newspaper programs promoting e-Government projects in Oman, so the researcher used some of this published material to start the talk with respondents. Miller and Crabtree (2004) consider speaking the language of the respondents as
an important aspect of making sense of what they communicate about their experiences. The researcher also realised that using Arabic as the language of discourse is a part of sharing the culture of the respondents (Burgess 1986). Denzin and Lincoln (2003, p. 76) argue that ‘although respondents may be fluent in the language of the interviewer, there are different ways of saying things, and, indeed, certain things that should not be said at all, linking language and culture manifestation.’ However, as the researcher conducted more interviews, it was noticed that some respondents preferred to use English to reply to some questions, especially the ones with e-Government terminologies. Following this, the researcher informed respondents at the outset of the interviews that it was OK to use either Arabic or English in answering questions or even mix between both languages as the researcher was fluent in both languages and there was no need for an interpreting service which may distort the meaning or add extra layers of meaning (Miller & Crabtree 2004).

To maintain rapport, the researcher also followed Minichiello et al.’s (1995) and Bryman’s (2004) advices and reflected attentive listening and showed tolerance of respondents’ answers by smiling and nodding his head in support and recognition of the importance of information provided by the respondent. The researcher also maintained good eye contact to support the continuation of the social interaction with the respondent. When new concepts emerged, the researcher interrupted the respondents gracefully to follow these new leads and elicit more details about areas of potentially valuable data.

The respondents were asked for permission to record the interviews to help in ensuring the quality of data derived. They were reassured of confidentiality and all of them agreed to have the interviews recorded. An MP3 recording device was used to record the interviews with the researcher’s iPhone 3GS voice recording feature used as a backup. The researcher was flexible in pausing the recording for the occasional interruptions of phone calls and urgent office staff visits. This gesture added to the conversational and relaxed style of the interviews.

Methodologists agree that the order of an interview questions should follow a general to specific model which is believed to be conducive to maintaining the respondent’s interest in continuing the interview. The researcher followed this wisdom and introduced general questions related to the Government of Oman as a whole first and then moved to specific questions which were related to the respondent’s government department. Also, the researcher adapted a recursive model of interviewing (Minichiello et al. 1995) so that the order of questions depended on the responses from respondents as explained in earlier
subsections. Transition points were used to get respondents back to focus in the case of drifting out of the context of the interview. During the interviews, the researcher jotted down brief notes about the interview especially about emerging themes and probing questions that were not part of the original interview guide. According to Miller and Crabtree (2004) these notes should then be reviewed immediately after the interview and reflected upon in more descriptive and analytical manner. These expanded notes were kept in the researcher’s reflexive journal as suggest by Lincoln and Guba (1985) which were later used in the analysis stage. The analysis of these notes was also used to inform the process of administering future interviews.

The 22 semi-structured interviews were conducted face-to-face in Muscat, the Capital city of Oman, between November 2010 and April 2011. The length of the interviews ranged between 25 minutes to 75 minutes with an average of 50 minutes per interview. The interviews took place during normal working hours with no more than two interviews conducted in the same day. Due to time and cost constraints, these interviews were one-time interviews. At the end of each interview, the researcher thanked the respondents for their generosity in sparing some of their valuable time to share valued information about e-Government in Oman. Respondents were reassured of confidentiality and anonymity of the information they provided. This act is in accordance with Kvale’s (1996) advice to end research interviews with a debrief.

In the days between interviews, the researcher listened to recorded interviews and transcribed them verbatim. On the side, the researcher kept notes of non-verbal gestures in the reflexive journal. The researcher listened to the interviews again while reading the transcripts of each to ensure the accuracy and thoroughness of the transcripts. Listening to the recorded interviews helped the researcher relive the interviews and generate insightful and analytical comments. Also, transcribing interviews at an early stage and not waiting to the end of the data collection period helped the researcher to avoid being overwhelmed with the sheer amount of lengthy sound tracks to be transcribed.

**Field Challenges**

One of the obvious challenges in research is getting access to respondents. Usually, *gatekeepers* are responsible for deterring researchers from approaching super busy managers. Secretaries of potential respondents were not cooperative in scheduling appointments with top level management such as undersecretaries, directorate generals and CEOs. The
researcher had to attend to the offices of these potential respondents and physically deliver invitation letters for them to participate in the study. The researcher provided the secretaries with his business card and obtained contact details of them. This showed the secretaries that the researcher had credibility and was determined to be fitted in the busy schedules of those individuals for the sake of research and not for any personal gains.

During the months of November and December 2010, the Government of Oman was involved in enormous and multiple celebration events of the country’s 40th National Day, therefore, most of the pre-scheduled appointments had to be rescheduled. Another challenge was the 200 kilometre distance between Muscat, where all the interviews took place, and the researcher’s residence. The researcher took advantage of the two hour drive back home to listen to recordings of interviews conducted on the same day. This activity enhanced the researcher’s interviewing skills and enabled the refining of the process of future interviews at an early stage.

4.4.2 Qualitative Data Analysis

Miles and Huberman (1994, p.10) define qualitative data analysis ‘as consisting of three concurrent flows of activity: data reduction, data display, and conclusion drawing /verification.’ In essence, these activities are directed at ‘search[ing] for general statements about relationships among categories of data.’ (Marshall & Rossman 1995, p.111) Many researchers, such as Jones (1985), have pointed to the fact that most of the literature on qualitative research is more detailed on aspects and methods of data collection rather than data analysis although ‘that the real mystique of qualitative inquiry lies in the processes of using data rather than in the processes of gathering data’ (Wolcott 1994, p. 1). Miles and Huberman have advocated a great deal of research effort to document techniques on qualitative data analysis enlightened by their fundamental view of the continuity of the process of data analysis cycling around the three streams of data reduction, data display, and conclusion drawing until thematic saturation is reached making it an iterative process. Similar analysis strategies were also advocated by Wolcott (1994) and Bogdan and Biklen (1992) who also asserted that qualitative data analysis is an iterative approach that moves around circles of different strategies rather than moving in a linear pattern. The analysis of data collected in this study was directed by the interactive model proposed in (Miles & Huberman 1994) and shown in Figure 4.3 below.
Data Reduction

Qualitative research yields rich and thick data. In most cases, the sheer mass of variant texts and descriptions can be overwhelming to a researcher in the analysis stage. Data reduction is a strategy of simplification. According to Miles and Huberman (1994, p.10) data reduction ‘refers to the process of selecting, focusing, simplifying, abstracting, and transforming the data that appear in written-up field notes and transcriptions.’ The process of reducing data begins by reading transcribed texts to get a first impression of the content and create broad-term labels for chunks of data. This reading is dubbed ‘interactive reading’ by Dey (1993, p. 83) which he metaphorically relates to ‘loosen[ing] the soil and mak[ing] it possible for the seeds of our analysis to put down roots and grow.’ Minichiello et al. (1995) integrated features from Dey’s (1993) interactive reading techniques and those of the ‘research map’ from Layder (1993) to produce a modified list of eight techniques which are arguably useful for all fields of social research depending on the purpose of the research. Since this research is informed by a predetermined framework, developed from the literature review, the ‘free association’ and ‘making comparison’ techniques fitted this research better. In free association, the researcher reads the text at a micro and macro levels and writes down everything that comes to their mind about the constructs of the text. This allows the researcher to question prefixed assumptions at later stages in the analysis (Minichiello et al. 1995). This technique was amalgamated with making comparisons between sets of data within and across interviews and with assumptions and experiences of the researcher.
Undeniably, this analytical reading set the stage well for the next step in data reduction, which is coding (Creswell 1998).

According to Miles and Huberman (1994, p.56) coding ‘is analysis. To review a set of field notes, transcribed or synthesised, and to dissect them meaningfully, while keeping the relations between the parts intact, is the stuff of analysis ... Codes are tags or labels for assigning units of meaning to the descriptive or inferential information compiled during a study.’ The researcher used open coding to label chunks of data from the interview transcripts to enable the retrieval of this information for the data display stage and finally for drawing conclusions. Miles and Huberman also suggest using ‘in vivo’ codes which are common phrases used by respondents. In this study, the researcher created codes from the core research question, the theoretical framework, and from the interview transcripts. Descriptive codes were used to summarise segments of data which, some of them, were later modified to be more inferential and interpretive of the segments they label. For the sake of easy retrieval, the researcher utilized Nvivo© 9 software package to code each interview transcript separately at this stage. Although Nvivo© 9 is not fully compatible with the Arabic Language, it was useful for delimiting texts under code labels and displaying these codes in a graphical style easy for manipulation, categorising, subcategorising, and most importantly for reference. Later in the analysis, this method was instrumental in discovering themes and developing conclusions using pattern codes that were more interpretive and explanatory of raw data.

Coding is not an arbitrary activity. Qualitative researchers have sought to make the coding process more systematic than intuitive as it is put by Walker (1985, p. 3) describing qualitative data analysis as ‘... more explicitly interpretive, creative and personal than in quantitative analysis, which is not to say that it should not be equally systematic and careful.’ In this study, the researcher kept to the coding standards presented by Miles and Huberman (1994). In summary, the researcher: (i) created a list of tentative codes prior to the beginning of the analysis of interview transcripts which was helpful in creating a dyadic link between the raw data and the core research question and study framework, with some code modification to fit the emerging concepts and themes; (ii) created a structure into which all codes would fit enabling a clear path for interpretation of data and systematic development during the iterative coding process; (iii) attention was paid to the semantic features of codes, including the use of representative names and labels; (iv) created a list of operational definitions for all codes to assure consistency in coding; (v) developed categories of codes
which were both exhaustive and mutually exclusive; and (vi) utilised Nvivo© 9 software to enable easier management of codes.

**Data Display**

The process of data display in qualitative research is central to the understanding of the issue under study and the comprehension of its emerging aspects. In turn, clear understanding and comprehension enable the development of adequate and clear descriptions and conclusions. Miles and Huberman (1994) favour visual and systematic forms of displays over using extended texts in displaying research data. They argue that visual display is more manageable and easier to compare between entities as well as focusing on single entities. In their opinion, it is difficult for both the researcher and the reader to draw conclusions from texts contained in several pages. Tabular displays are more focused and compact which permits easier inference of answers to research questions.

There are many visual formats of data display. A researcher should choose one or more formats depending on the features of their research, such as the number of research questions to be answered and the priori concepts and theory constructs to be searched for. Since this study was concerned with identifying layers of motivating factors for implementing e-Government from the perspective of Oman Government as a whole as well as single government departments, a clustered conceptual matrix (Miles & Huberman 1994) was be used as the format of data display. The essence of a clustered conceptual matrix is that it groups items that are associated together an either conceptual or empirical basis (Miles & Huberman 1994). Conceptual grouping is grouping items or categories that belong to the same themes central to the research question, whereas empirical grouping is grouping items or categories as associated together by the respondents. The end result is a condensed image of categories of data that allows the researcher to immerse themselves in the data and perceive the overall picture which allows for inferring and drawing direct conclusions. Through this systematic condensing, synthesis of the units of analysis is achieved (Miles & Huberman 1994). The thematic matrices should also be accompanied by analytical text which offers a more focused and systematic description of themes and present early conclusions. Examples of the matrices developed for this study will be shown in Chapters 5 and 6. These are mostly diagrams which represent the factors that drove the adoption of e-Government in Oman along with diagrams of factors that impeded the implementation.
For this study, the researcher developed a two-phase data analysis strategy. The first phase examined the world view of each respondent on what were the factors that influenced the adoption and implementation of e-Government in Oman. The second phase aimed at comparing and contrasting these views between different respondents according to their position levels and affiliation. In the second phase, the researcher also paid special attention to potential relationships between different variables and noted patterns and recurrent themes. In accordance with the ‘maximum variation’ sampling strategy employed in this study, the researcher also examined themes emerging from extreme cases. Themes relating to challenges and success factors of implementing e-Government were also examined as they appeared in narratives of various respondents although not probed for in the original interview guide.

**Drawing Conclusions using Mechanisms of Hermeneutics**

Having clustered and categorised the emerging themes in the previous step of analysis, drawing conclusions becomes the last step in the data analysis process. It is noteworthy, that some preconceptions that highlight the researcher’s prior understanding of motives for implementing e-Government were confirmed by the emerging themes rather than imposed or forced on the emerging themes. The researcher was very careful not to take these preconceptions for granted as Miles and Huberman (1994) warned, but used them only to relate to and tie the data analysis process with the core line of inquiry informed by the central research question. In drawing conclusions, the researcher used theories from the research framework as a lens to describe the results obtained from analysing the collected data. To produce solid interpretive conclusions about the textual data and its condensed version of matrices, the researcher used a mechanism of hermeneutics theory called the hermeneutics circle.

Hermeneutics, as a method of interpreting text, has been linked to religious, literature, and law studies in which the meaning of text is central and the ascertainment of the meaning is also of fundamental importance (Fry 2009). As a book editor Gadamer (1976, p. p. xii), wrote:

> the hermeneutical has to do with bridging the gap between the familiar world in which we stand and the strange meaning that resists assimilation into the horizons of our world ... The familiar horizons of the interpreter’s world, though perhaps more
difficult to grasp thematically, are as integral a part of the event of understanding as are the explicit procedures by which he assimilates the alien object.

This is to say that, in research, there exist preconceptions about the issue under study in the researcher’s mind, which are inflicted in the interpretation process of data obtained from respondents. The researcher is always concerned about the meaning of the text and trying to tap into the mind of the respondent to distil a vivid picture of the meaning of the discourse. This is consistent with views expressed in (Strauss 1987) and (Miles & Huberman 1994) who argued that a predefined list of text labels or codes should be prepared from the researcher’s own understanding of the research issue prior to starting the field work. On the contrary, Hirsch and Donald (1976) advocated discarding any pre-conceptualisations when interpreting the meaning of text, which also concurred with the views of Glaser (1992) in his book about principles of using grounded theory in research. The argument on bridging the views between Gadamer and Strauss on one side and Hirsch and Glaser on the other is well beyond the scope of this study. The researcher adapted to the views of Gadamer in using hermeneutics for text interpretation.

A mechanism of applying hermeneutics in text interpretation called the hermeneutics circle was originally developed by Heidegger (1962) in which a constant circular movement between parts of the text back to the whole of the text is used to acquire a deeper understanding of the whole text. This activity requires that the interpreter has prior conceptualisation of the meaning of text at hand. Hermeneutics circle is depicted in Figure 4.4 below:
The iterative activity of interpretation in the hermeneutics circle adds to the clarity of the meaning and emergence of the wholesome vivid picture of the connotation embedded in the text. In every iteration, the researcher applies understanding of a part of the text, informed by preconceptions from the literature review for example, to the whole meaning of the text until the whole text is perceived to be fully understood and no more new meanings emerge. At this stage, the researcher breaks out of the hermeneutics circle with a reliable conclusion. Hermeneutics, in action, is a mix of both subjective stance and objective stance in understanding the respondents’ dialogue and using self pre-understandings in interpreting the meaning of those dialogues (McAuley 2004). Data display techniques described in the previous section aided the researcher in administering the hermeneutics circle as it provided mini parts of the whole text to be interpreted in light of the text as a whole.

Hermeneutics has been previously used in Information Systems research, such as in (Lee 1994), where the author used an interpretive stance with a hermeneutics perspective to investigate the collective behaviour and actions of email users. The author concluded that the email system ought to be considered as a medium in which the experiences and social constructs of users is indulged in the text of email messages. In a more abstract level, Klein and Myers (1999) recognised hermeneutics as a ‘branch of interpretive philosophy’ and
reflected on prejudice or pre-understanding as a starting point of understanding the text at hand. They concurred with Gadamer in labelling such prejudice as positive prejudice that sets the start point of the hermeneutics circle. Prejudice or preconception can also be formed from the understanding of a part of the whole text. The main contribution made by Klein and Myers here is introducing six principles for using hermeneutics as a foundation of interpretive research in Information Systems - see Klein and Myers (1999) for details on these principles. In this study, the researcher adopted these principles to aid in drawing conclusions systematically. Klein and Myers (1999) suggest that these principles were interdependent under the overarching principle of hermeneutics circle itself.

The first principle is the contextualisation of the study in historical, economic, and political settings. This study was conducted within the boundaries of government departments in a developing country. The researcher provided expanded details of the historical, economic, and political setting of Oman as a country and the history of implementing e-Government in Oman. The interview guide included as its very first question and inquiry of how e-Government in Oman was defined by the respondent.

The second principle is the principle of interaction between the researcher and the subjects. In this study, the researcher is a native of Oman who spent most of his life in the Omani context and is fluent in the language spoken by the subjects. Moreover, the researcher is a keen observer of IT development in Oman in general and e-Government projects in particular and is fully aware of the cultural and social norms in Oman. The researcher chose to speak to subjects in their mother tongue of Arabic Language when collecting data for the study.

The third principle is the principle of abstraction and generalisation. The researcher used Institutional Theory, Service Quality Models, and value-added process model to look at the motivating factors of adopting and implementing e-Government in Oman and to try to categorise these motives. In addition, the researcher studied the motives of many developing countries to implement e-Government. Therefore, the basis for abstraction and generalisation was set at the outset of this study by using the aforementioned theoretical concepts.

The fourth principle is the principle of dialogical reasoning which means confronting the researcher’s own prejudice or pre-understanding of the issue under study. It is also concerned with making the intellectual basis of the study as clear and transparent to the reader and the researcher’s own self as possible. Similar to the third principle, the researcher produced a clear framework that guided the research and defined the basis for selecting hermeneutics to
interpret the textual datum obtained in the process of data collection. The guiding conceptual framework was kept eclectic to accommodate for country-specific motives.

The fifth principle is the principle of multiple interpretations. In this study, the researcher adopted a maximum variation sampling strategy with multiple case studies to cater for polar types or contradicting views on the phenomenon under study. During data analysis, the researcher compared and contrasted between views of senior managers and those of more senior managers and between the views of people who developed the vision for e-Government and the people who are implementing the projects of e-Government.

The sixth principle is the principle of suspicion which is concerned with thinking critically and questioning the meaning conveyed by the respondents. In this study, the researcher presented the results to a focus group consisting of five of the original respondents to confirm the validity of the findings and allow for potential amendments. However, no amendments were suggested to the core contents of the findings except for suggestions to make data diagrams more presentable.

4.5 Chapter Summary

In this chapter, the researcher presented the methods and techniques used in the data collection and analysis for this study. The material on which this discussion is based is drawn from a qualitative case study research. The study involved a thorough review of academic literature and government policy papers in the area of e-Government in Oman and more generally in developing countries. The choice of this methodology was deemed highly appropriate in order to gain a broader and deeper understanding of the factors affecting the implementation of e-Government projects, based on the narratives of those directly involved in the implementation process. Data was collected through semi-structured interviews with 21 Omani senior and middle managers involved in the decision making to adopt and implement e-Government in Oman and with one Omani e-Government researcher. Guidelines from Miles and Huberman’s (1994) Interactive Model were used in analysing the qualitative data. Hermeneutics’ Circle was used to interpret the text of interview narratives, assist in categorising emerging themes and draw conclusions. Data was coded manually and using Nvivo© 9 software package to assist in retrieving valuable segments of data from the sheer amount of interview transcripts. Findings will be presented and discussed in the following two chapters.

5.1 Introduction

In Chapter 2, a heuristic framework of motivating factors for the adoption of e-Government was developed (see Figure 2.2, page 52). It was developed based on a review of e-Government initiatives in many developing countries across the world. The framework integrates these motives through the lenses of Institutional Theory, value-added processes of information systems, and Quality of Service models while keeping it flexible to accommodate for country-specific factors. The framework is used in this chapter to flag salient factors that drove the adoption of e-Government in Oman. This chapter presents the data and the analysis for the initial stage of adoption of e-Government in Oman (2000 – 2010).

It is essential to illustrate the meaning of the term e-Government in the context of Oman. Therefore, prior to presenting the data about adoption motives, the events associated with the adoption of e-Government in Oman are presented in a chronological order. Statements made by policy-level as well as implementation-level officials, who participated in crafting and implementing the e-Government policy in Oman, are replicated to give meaning to the term e-Government in Oman and to related events that led to the adoption. These statements are corroborated with secondary data from policy and research documents pertinent to the e-Government adoption process.

The primary data was collected through formal semi-structured interviews, telephone conversations, email correspondence and informal dialogues with respondents during the period from November 2010 to April 2011. The sources for secondary data included: policy documents, scientific research artefacts, press releases, news clippings, and debate programs broadcasted on national television.

The identity of the study respondents is kept anonymous. Quotes from respondents’ narratives are referenced by the respondent codename and the line number where the quote starts in the original interview transcript. For example RC12 [150] denotes that the quote belongs to respondent codenamed RC12 and is found in line 150 of the interview transcript.
text onward. A table of respondent codenames and their characteristics is provided in Chapter 4 (Table 4-2).

The chapter will start with a chronological account of events that occurred during the initiation phase of adoption (5.2), followed with a description of the concept of e-Government from the perspective of the study respondents. This description will show the policy rhetoric surrounding the adoption process (5.3). This leads to the extraction and categorisation of factors that drove the adoption (5.4). Using the original framework developed in Chapter 2, these factors are categorised into economic motives (5.4.1), motives of conformity (5.4.2), motives to improve service quality (5.4.3), motives related to improving government information quality (5.4.4), political motives (5.4.5), civil society motives (5.4.6), and country-specific motives (5.4.7). This categorical presentation of adoption motives is followed by a section that summarises these motives (5.5). In section 5.6, a description of the design of the implementation environment of e-Government is given based on narratives from respondents. It seemed as if the physical layer of e-Government implementation was envisaged to be developed based on Taylor’s (1986) model of value-added processes of Information Systems. Section 5.7 presents the problem of the stall of e-Government implementation in Oman.

Finally, the chapter concludes with an analysis and discussion of the adoption motives (5.8) through the lenses of institutional theory, dimensions of service quality (Parasuraman, Zeithaml & Berry 1988) and (Grönroos 1988) along with a discussion of the definition of the concept of e-Government in Oman. These theoretical lenses offer an understanding of the origins of the factors that drove the first stage of adoption and their effect on the extent of implementation of e-Government in Oman.

5.2 E-Government Origin and the Initiation Process

The e-Government initiative in Oman was originally launched in May 2003. However, it was essential for this study to explore how e-Government originated in order to discover the motives that led to its adoption. Extending Foucault’s views, Ball (1990, p. 23) argued that ‘[origins] provide a basis from which causality and narrative can be deployed. Origins, once found, are often taken to constitute an explanation of things; they are also commonly the starting point for the evolution or development of things’. Since this study is concerned with tracing the origins of goals that drove the adoption of e-Government and relating those goals
to the extent of its implementation, policy-level respondents were prompted to comment on the initiation phase of the policy. However, prior to introducing such details, a time map of the e-Government adoption and implementation, during this phase (2000 – 2010), is represented in Figure 5.1 below as a general reference to the order of data presentation in this chapter. The timeline also shows events that occurred prior to the time of original conception of e-Government in Oman in the year 2000. These events, specifically, occurred in the years 1996 and 1998 and had influenced the initiation of the e-Government initiative in Oman. Therefore, it was important to include them within this analysis.
Figure 5.1 Timeline of e-Government development in Oman (2000 - 2010)
In order to investigate the origins of the e-Government policy in Oman, management of the Information Technology Authority (ITA) were interviewed along with other members who participated in the formation of the policy. These members were:

- RC1, an executive manager at the ITA.
- RC3, a middle manager at the ITA.
- RC4, a key member of the task force commissioned to form the strategy (ITTF).
- RC18, a key member of the team commissioned to mitigate the Y2K issue.
- RC13, a member of the task force commissioned to form the strategy (ITTF).
- RC14, a member of the task force commissioned to form the strategy (ITTF).
- RC19, a member of the task force commissioned to form the strategy (ITTF).
- RC22, an e-Government researcher specialised in the context of Oman.

Policy initiation and adoption does not happen in a vacuum (Bekkers & Homburg 2005). It is created in response to needs and is motivated by forces from the technological, political, economic, social, and institutional environments. In particular, this section provides a description of the economic dynamics that influenced the decision to adopt e-Government in Oman.

With a prevailing view of the country’s major source of revenue – oil production – heading towards terminal decline (Gerth & Labaton 2004; McBrierty & Al Zubair 2004), the Government of Oman became interested in adopting new economic strategies to enhance economic diversification and provide sustainable jobs for a growing number of indigenous jobseekers. In the following paragraphs, an account of policy measures undertaken by the government in response to an expected economic crisis is presented.

These measures started to be formed in the year 1995 during a review of the achievements of the first long term development strategy from 1970 to 1995. Through this review the government had realised that such previous positive achievements may not be attainable during the second long term development strategy (1996-2020) if the country continued to depend on oil production as the main source of revenue (International Business Publications 2012; Ministry of National Economy 1995). Fluctuating oil prices, as a result of external political and economic forces, have also contributed to the pressing need to diversify the economy (Ministry of National Economy 2010b). The need for economic diversification as one of the motives of e-Government adoption was accounted for by RC4:
Basically the profits we were after were economic profits eventually for this sector [IT sector] to contribute to the GDP of the country, and to participate in going away from depending on Oil as main revenue. RC4 [85]

In the wake of an expected economic crisis, the second long term development strategy (1996-2020) was of critical importance (Ministry of National Economy 1995). Therefore, a comprehensive assessment of manufacturing and service sectors was performed. This assessment involved foreign experts and top-level government officials to lay clear objectives and measures of achieving sustainable economic development (Al-Saqri 2010; International Business Publications 2012). Among the sectors to be leveraged towards contributing to the economic diversification were the Information and Telecommunications Technologies and Technical Education sectors (Ministry of National Economy 2010b).

Prior to the formation of this economic strategy, the government had collaborated with the World Bank to produce a detailed assessment of the economic policies of Oman and to recommend appropriate mechanisms for sustainable economic development (World Bank 1994). The assessment from the World Bank found that the government’s spending and investment in the public services and infrastructure was above the international standards for a developing country. Therefore, it was recommended that some of the government functions be offloaded to the private sector (Looney 2009). However, the private sector in Oman, at the time, was underdeveloped (Al-Lamki 1998). Therefore, it was imperative for the government to improve the efficiency of its traditional functions and introduce public sector reform in order to facilitate the development of the private sector and the economy in general.

In June 1995, the government organised a conference titled Oman Vision 2020 to discuss aspects of the second long term development strategy (1996-2020) (Al-Lamki 2000). This strategy was later renamed to Oman 2020. Two of the main goals of the Oman 2020 development strategy were: (i) to prepare the Omani economy to adapt to the new globalised world economy and (ii) to develop and equip human resources with the needed skills to participate in the technology-based economy, in order to accomplish higher economic growth and prosperous life for Omani citizens (Ministry of Information 1999). Oman 2020 subsequently became a general frame of reference for policy development in Oman. In agreement, RC3 said that the Omani e-Government strategy was an extension of the Oman 2020 vision and was especially related to:
His Majesty’s vision, which was manifested in Oman Vision 2020, to diversify economic resources and build a sustainable economy along with providing services to business parties in electronic forms. RC3 [48]

In 1998, the Omani economy was affected by a global crash in oil prices to a less than $USD 13 per barrel (King 1998) from an average of $USD 25 per barrel in the previous year. Facing an expected economic crisis required prudence and a rapid response to mitigate the risks of Oman’s economic downfall.

Making problems worse, the majority of the Omani population (63%) were between the age of 15 and 64 (Census Administration 2004) and most of them were seeking employment in the public sector because the private sector had not matured to offer high paying jobs, stable employment, and robust career advancement schemas (Al-Lamki 1998). The demographic factor in association with an expected increase in job seekers was also an important determinant of e-Government adoption in Oman. RC4 stated:

[In relation to adopting e-Government] the pinpoint for Oman, at that time in the year 2000, was that more than 60% or 70% of the young people of the country were school age. So what’s the pinpoint for Oman? We enable digital society through creating jobs for these youth and if we are going for the knowledge economy so priority number 1 is creating SMEs, creating the industry, creating jobs so we enable digital society through enabling the youth and it is the youth who should build this digital society and that is what is important for Oman. RC4 [72]

The above extract from RC4, who was a key member of the committee that developed the e-Government strategy, shows that e-Government was intended to become a platform for building a knowledge-based industry that can create jobs for a large segment of the young population. However this suggestion is in contradiction with the common theme of e-Government as an apparatus of cutting cost and eliminating some front-line and/or data-entry jobs. Policy makers in Oman envisaged that e-Government would catalyse the establishment of indigenous IS/IT small-to-medium private firms to supply e-Government solutions for the public sector. By extension, this industry would create technology jobs for local citizens. It is, therefore, important to note that adoption of e-Government in Oman was expected to help, in a secondary way, in creating jobs either in the private sector or in the public sector for IS/IT skilled local workforce.

To further detail the demographic issues in Oman, between the year 1980 and 1995, the average population growth rate reached 3.6 per annum. According to the national general census of 2003, the rate of population growth in Oman was 2.3 per cent which was
considerably higher than the world average of 1.6 per cent, and the Middle East and North Africa region average of 1.8 per cent (Census Administration 2004).

The rapid population growth rate has resulted in an expansion of the working age population. The age distribution of Oman population showed that Oman is a young workforce country where 40.6 per cent of the population are under the age of 15 (Ministry of National Economy 2006). This also indicated that 40.6 per cent of the 2.5 million population will be of employment age within the next 4 to 18 years. In 1996, the Ministry of National Economy has anticipated that more than 53,000 new jobs must be created annually for the next thirteen years to accommodate for the anticipated increase in the number of new entrants to the workforce (Ministry of National Economy 1996). The World Bank projected a doubling in the population of Oman, to the excess of 5 million in 2023. Accordingly, Oman was urged to devise corresponding measures to enhance the sustainability of the economy and reduce unemployment rates (World Bank 2004).

In 1998, the National Information Technology Committee (NITC) was established ‘to oversee the development of the Sultanate’s IT sector’ (ESCWA 2007, p. 15) in accordance with the Oman 2020 strategy. The committee involved highly skilled ICT government officials from various government departments such as the Royal Oman Police, the Ministry of Finance, the Central Bank of Oman, the Ministry of Commerce and Industry, and the Ministry of Defence. The committee was chaired by the Minister of National Economy (ESCWA 2007) who simultaneously held the positions of the Supervisor of the Ministry of Finance and the Deputy Chairman of the Financial Affairs and Energy Resources Council. This same minister had become the champion of the e-Government strategy in Oman.

Many of the respondents, in this research, maintained that the e-Government initiative in Oman traces its origin to the Y2K issue. The Y2K issue was a global concern which was manifested in the fear that because computers used two-digit year dates, computer software around the world would malfunction on 01/01/00. In response, governments around the world established task forces of different local and international IT expertise to assess the expected risks and devise appropriate solutions. In many cases, those task forces were established with the involvement of top political and financial authorities in the country. This was also the case in Oman as the NITC was commissioned to address the global Y2K issue. The committee succeeded in transforming the country’s information systems to be Y2K compliant.
Data from policy-level respondents confirmed the central role of the NITC and its relation to the origination of e-Government in Oman. RC3, who is a member of the Information Technology Authority (ITA), which currently oversees the implementation of e-Government, explained:

You might have already heard the story from someone else. But, the Y2K issue was the starting point … I was among the first people who worked under the e-Oman umbrella. I have heard about e-Government before when I was studying at the university as it was starting to become a buzzword. However, when I first joined in, I started asking people around me in the organisation: “how did we get to this strategy?”

So, everyone was telling me that it is the issue of the third millennium and that the whole world was occupied by the thought that comes 2000 we will all be technologically backward and that all computer software will become dysfunctional. Basically, we could lose everything in a blink of an eye if we do not act fast. Therefore, in 1998 the government established a task force to mitigate the Y2K risks and afterwards to produce a strategy to move Oman to become a knowledge society. RC3 [35]

As RC3 anticipated, the story about the Y2K issue being the point of origin for the e-Government policy was told by other respondents as well. For example, RC18 who was a member of the team that worked on mitigating the risks of Y2K stated:

Truth be told, we felt that the Y2K issue was just like a worldwide revolution. Many countries have surpassed us in dealing with this issue starting in 1995 and 1996. However, we started in 1998 with a diverse team of IT specialists from different government and private organisations. The team was established by a resolution from the Council of Ministers and was led by my colleague RC4 who used to supervise the IT systems in the Ministry of Finance which is the top government agency in terms of public spending. RC18 [2]

Both RC3 and RC18 highlighted the global nature of the issue and the urgent need to act fast through collaboration with more advanced countries in implementing effective solutions. RC18 maintained that although the team’s job was intensive and ambiguous, it was carried out successfully:

Our job was very laborious and filled with uncertainties about the outcomes, but all the hard work we have put has fruition. We succeeded in crossing to year 2000 smoothly. Right after our job was successfully completed, the government envisaged the creation of an e-Government strategy and the same team which worked on the Y2K issue took the responsibility of creating it with the help of an external consultant: Gartner. RC18 [9]
In April 2000, the NITC committee was promoted to become an Information Technology Task Force (ITTF), commissioned to develop a national vision for the development of the ICT sector and e-Government in Oman (AlEsmaeli 2002). The vision of the ITTF was related to:

The leveraging of information technology and communications in providing collaborative services to public and private sectors and citizens through electronic means [as being] the driving force to move forward the Sultanate to the knowledge-based economy and achieve sustainable development. (Ministry of National Economy 2003)

In May 2000, the ‘Shurra’ Council1 of Oman called upon representatives from academia, industry consulting groups, and government agencies to participate in a five day conference aimed at reviewing the administrative system in the country and devising public sector reform measures. The Council was advised by His Majesty the Sultan to organise this conference (Oman Shurra Council 2010). The publicised goal of public reform was to increase the effectiveness, efficiency, and responsiveness of the public sector to citizens’ as well as to business needs. The Council directed the formation of committees to investigate current status of administrative and service processes at various levels of government departments. The reports that resulted from the conference discovered that lengthy and bureaucratic processes were prevalent in all government transactions (Al-Ruzaiqi 2003). New venture creators were faced with bureaucratic procedures that spanned across many government departments and took a long time to complete. This was clearly demonstrated by RC18 who used to be a member of the information and communication committee formed by the ‘Shurra’ Council:

We were asked to come up with an initiative which could help expedite all government transactions because there were complaints from the private sector that the government is very slow in processing transactions such as acquirement of visas for foreign employees, taxing forms, applications for foreign investments, and applications for getting licenses from various government departments for establishing business ventures in the country. When a foreign investor comes to the Sultanate to establish a business, he is required to go through application procedures in 8 different government units. I could not agree more that this process was lengthy and tedious. RC18 [70]

These bureaucratic procedures were perceived as deterrents to foreign investors, inhibiting the potential for creating new jobs and generation of national revenue. In a resolution to these issues, conference participants recommended several reform procedures and concluded that

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1 This is a freely elected council that provides consultation to the government on the needs of the society. The word Shurra in Arabic means consultation.
the deployment of information technology would be the vehicle for driving policies and implementing the agenda for public sector reform. Participants envisaged that ICTs had the potential to increase the productivity of the public sector, improve service delivery to constituents, facilitate collaboration and process integration between government departments, increase the quality and use of information in decision making, attract direct foreign investment, create local jobs, and reduce the cost of government operations including service provision (Al-Ruzaiqi 2003). In this regard, the adoption of e-Government was viewed as an instrumental tool to bring about the desired public sector reform and eliminate excessive bureaucratic procedures which, by extension, will facilitate foreign direct investment. To this end, RC20 stated:

Globalisation requires that we become more efficient in order to attract foreign investment. Foreign investment will create jobs for our people. Efficiency means that our procedures are clear and seamless from A to Z … [In] Singapore for example, it will take you one day to open a business but in Oman it will take you two months or one year maybe. So bureaucracy is there and IT can actually help [eliminate] bureaucracy through business process re-engineering. RC20 [110]

This was also clear in His Majesty’s Speech delivered on 4th November 2000 to the Council of Oman. His Majesty stated:

The experiment is moving forward as planned, and in a manner which promise us success, as it takes further steps to streamline its regulations, procedures and practices, and to ensure that, with God’s permission, there is further positive, constructive interaction between government and citizens … our domestic policy aims to ensure the effective participation of our government and our people through your Council. It also aims to reinforce the foundations of our national economy, diversify its sources and improve the quality of our manpower so that it can respond effectively to the demands of the modern age. (Ministry of Foreign Affairs 2010c)

According to Gulf Business (2001), foreign investors viewed the Omani investment climate as not as encouraging to foreign direct investment. Therefore, the Government of Oman considered e-Government initiatives as a way of promoting good international image of the country in relations to transparency and speedy processing of applications to start new ventures in the country. The following three extracts from different respondents explain the relationship between the adoption of e-Government and attracting foreign direct investment:

We are part of the whole world and we need to invite investors to come to Oman. So, these people when you invite them to invest, they will ask: “How are your services conducted; How can I get a commercial license?; and how
can I transfer my money?” If this is not clear to these people through electronic channels or through eService channels … we will not be able to compete for the best investor. So, the economy and attracting investors to come to Oman [were] every important [factors]. RC1 [43]

and:

[E-Government] is very much connected with the economy. We are big on attracting foreign investment so there must be ways to encourage investors to invest in Oman and this is where e-Government comes into play. RC14 [87]

and:

If we look at the rhetoric of e-Government everywhere in the world and especially here in Oman, we will find that e-Government is being popularised as a tool to attract international giant projects. Yes, we must speak the language of the world and we must keep up with the rest of the world otherwise we will lose in respect to our international image or worse we might lose our favourable international image entirely. RC22 [20]

Similarly, the agenda for public reform, set by the Shurra Council, was influenced by global trends to utilise ICTs to solve an internal administrative problem related to bureaucracy, which was believed to be hindering economic development. While bureaucracy was considered an effective instrument of administrative scrutiny, it was blamed for introducing subjectivity and personal interests in administrative decision making. ICT was perceived to offer a more transparent and speedy alternative to office bureaucracy as outlined by RC14:

At one point in time bureaucracy was an essential system of administration. It helped when there were decisions that we could not make as fast because we needed to investigate and scrutinise things. However, we realised that bureaucracy is not only introducing delays to transactions but also subjectivity and personal preferences of some administrators and staff. E-Government is an integrated system which can help speed up the transactions and eliminate personalised and biased interventions especially during the early or middle stages of transactions. RC14 [97]

Consequently, a resolution stemmed from the Shurra Council’s Conference to invite external consulting firms to tender to carry out a contextual research project which would produce a national strategy for implementing e-Government in Oman. Gartner was among the firms that participated in the tender and was awarded the contract to develop the e-Government strategy (Murphy 2002). The Gartner team was assisted by members of the ITTF (who were from the same team that mitigated the Y2K risk under NITC). The strategy was designed to prepare the Omani society to become a Digital Society by providing adequate education to citizens in ICTs and replacing traditional channels of interaction between the government and its constituents with electronic service provision. Although e-Government was just one element
in the overall strategy, it was considered key and central (Gartner Team 2002). The other two elements of the strategy (e-Governance and Digital Society) were considered prerequisites to the fruiting of the overall strategy. ITTF members worked for two years (2000-2002) with the Gartner team to produce the national strategy of e-Government and later the strategy was handed over to the ITA to implement it as RC19 said: ‘we worked for about two years on this as a committee and ITA inherited the road map to work on’. RC19 [46]

Members of the ITTF had played a major role in selecting Gartner from a pool of tenders for the project because:

… Others [bidders] (…) are vendors actually and not purely consulting firms, but Gartner is a research company and the reason we chose them, with a lot of politics and difficulties, some of us actually fought for them because they were pure researchers … because they produce strategies which are backed up by field research. RC4 [242]

Gartner helped channel the global discourse of a knowledge-based economy and globalisation into Oman. In fact, the strategy produced by Gartner was based upon the experience of countries in similar economic and social settings such as Ireland and Singapore (Gartner Team 2002). However, Gartner focused on comparing the Omani situation with that of Ireland (15 years prior to 2000) as being similar in demographic, economic and entrepreneurial culture aspects. The Executive Summary of the strategy (Gartner Team 2002) brought to the consideration of decision makers the details of the success story of Ireland. It highlighted the adopted innovative strategies which capitalised on enhancing the capabilities of human resources in the area of information and telecommunications technologies to enable the creation and dissemination of knowledge which was the main strategic resource in the new knowledge economy.

At the time of the preparation of Oman e-Government strategy, the report by Gartner included economic growth figures related to the Irish experience in integrating with the world economy. For example, Ireland became the world largest software exporter with technology exports reaching $USD 32 billion and was housing European headquarters of the world’s leading IT corporations. A feature that illustrated comparative advantage was also included in the report where the situation of the Irish economy prior to moving into a knowledge-based economy was highlighted. In the past, Ireland suffered from deficits in general budget, high unemployment rates with a general preference for public sector jobs among young graduates. The main sector of employment was agriculture with an absence of indigenous technology.
firms. Similar to the demographic situation of Oman, the majority of the Irish population was under the age of 15 (Gartner Team 2002). These facts were used to provide evidence for the success of knowledge-based economy in resolving economic and demographic issues facing Oman at the time.

However, RC4, who assisted Gartner in localising the strategy to the Omani context, contended that it was not the intention of the Government of Oman to copy the Irish experience in producing human capacities for foreign computer hardware industry. Neither was it their intention to copy the Indian model of knowledge economy in producing software engineers for foreign software companies. He argued that the goal of the government in relation to the new knowledge-economy was simply to exploit new economic opportunities in creating an indigenous knowledge industry that can provide for local demand mainly from the public sector and to export IS/IT solutions to countries in the region. He said:

> If we are going for the knowledge economy so priority number one is creating local SMEs creating the industry, and creating jobs. So we enable digital society through enabling the youth and it is the youth who should build this digital society and that is what is important for Oman … This was a major problem for the country [high rate of young population], but we looked it at it as an opportunity to use our young people to build these SMEs, to build this local industry to create the digital society. RC4 [75]

He continued:

> We had a chance here to create things we can sell to the region here or we can sell to Africa tomorrow. In fact, we still do have the chance. RC4 [205]

To RC4, there was a need to produce a local specialised manpower in the field of information technology. The rationale was that government spending in acquiring information technology solutions would create a viable market which should be supplied by a local industry. The demographic factor of Oman being a young nation was another element of the rationale to create a knowledge-based industry which, by extension, will create jobs for an expected influx of first-time job seekers. Similarly, due to the strategic geographic location of Oman, the focus on knowledge-based industry was to attract call centres and data centres of international firms, especially those already operating in Oman or other neighbouring countries, or those in need of Arabic customer support. RC4 acknowledged that there were major differences in human capacities between Oman and Ireland and India where Oman would promote an industry focusing on technical matters rather than design or manufacturing aspects. Concurring with RC4, RC1 said:
Industrial development, human resources development, and marketing are [approaches that aim] to enable the society with the training and with projects such as the Centre for Innovation and Support to create Omani expertise in certain technologies. We [now] have another project to create a Centre for Excellence in mobile development and development of Arabic contents. RC1 [178]

With a narrow economic base of depleting natural resources and demographic pressures, Oman was left with little choice to deflect the penetration of globalisation trends in the economic and social spheres. As a step towards integrating with the world economy, Oman became the 139th fully-fledged member of the World Trade Organisation (WTO) in November 2000 with an ordinary grace period of 10 years to implement WTO requirements of open-door economic policies or what is known as the neo-liberal economic paradigm. As a member of the WTO, Oman embarked on many open-door policies concerning economic growth. For example, Oman established the Telecommunication Regulatory Authority (TRA) in 2002 to liberate the telecommunications sector from monopoly. It also allowed for up to 100 per cent foreign ownership of businesses in the service sector, such as banking and insurance and up to 70 per cent foreign ownership of businesses in other sectors (Fasano & Iqbal 2003). Also, Oman adjusted its Commercial Company Law and Foreign Capital Investment Law and established the Omani Centre for Investment Promotion and Export Development (OCIPED) to attract more foreign direct investments (PAIPED 2012). Other initiatives in adopting a free trade and free market strategies focused on boosting the growth of the private sector through privatisation and creating a business environment attractive to foreign direct investments. This direction was clear in His Majesty’s Speech to the public on the 18th of November 1998. His Majesty stated:

Today, we are witnessing a retreat and decline in oil prices which certainly has its impact on the State income, because oil is the major source of that income, although it is less so than before. As you know, we have always called in past years, for the diversification of the economy, to protect us from the dangers of being dependent on one product and its fluctuations ... The Private Sector now, more than at any time in the past, is required to redouble and accelerate its efforts, with confidence, and utilising all opportunities in promisingly productive avenues ... Beside that, it is required to be fully aware of the international contemporary circumstances, which are based upon the freedom of trade and investment. This necessitates that our economic enterprises should be on the highest level of efficient administration, productivity and marketing in order to have the strength to compete, especially since we are entering the World Trade Organisation.

... This should be done in concert and harmony with the efforts exerted by the Government to stimulate domestic and foreign investment. It is to be done by
establishing a new infrastructure, continuing to maintain the existing foundations on which we have built, providing a wide range of services, improving the atmosphere of general investments, and instituting a programme of privatisation based on scientific and realistic principles. This programme will help towards the continuation of economic growth, increase the efficiency of productivity and vole monopolisation. In addition, there should be a continual review of relevant legislation, in order to protect private economic business, ensuring its freedom and diversifying the ways of supporting and encouraging it. It will apply especially to facilitating and simplifying bureaucratic procedures, and eliminating unnecessary elements of these procedures. (Ministry of Foreign Affairs 2010d)

E-Government, as a strategy of public sector and administrative reform in Oman, was also associated with economic development and job creation through boosting the image of the business atmosphere in Oman and ushering a platform for the establishment of a knowledge-based industry. With such persuasive promises of e-Government and urgency to act fast in order to avoid being trenched by digital divide, the strategy was then adopted by the Cabinet of Ministers as RC4 explained:

Although this movement and idea started with us, the technocrats, but we went up to the politicians and ministers and we gave them reasons [for it]. Our initial papers had the saying that we have no choice [not to go this way] and that knowledge economy is coming and that Oman has to be enabled to participate in the new world economy. So, the politicians bought it and what kept it going is that we had a high level support. We had a buy-in from the whole cabinet. The enthusiasm of the guys who were working on the strategy kept it going. They were really patient about it. RC4 [135]

On May 7th 2003, the strategy of the Oman e-Government was officially launched at an estimated cost of $USD 80 million and with an estimated completion time of 8 years (AlShihi & McGrath 2004). The strategy was titled Towards a Digital Oman (Gartner Team 2002) and was later shortened to e-Oman to represent the Omani brand of e-Government (Ministry of National Economy 2008). The strategy was not solely focused on e-Services, but was designed to address certain goals of Oman’s Digital Vision. The first goal was related to enhancing economic growth and development through the creation of jobs in the ICT sector, building local ICT capacities, incubating ICT start-ups and encouraging a culture of ICT-enabled entrepreneurship, promoting an international image of the investment atmosphere in Oman as an ICT-enabled country in order to attract foreign direct investments, and reducing the cost of government operations (Ministry of National Economy 2008).
A number of respondents highlighted the objective elements of these strategic goals. The following extract from RC18, a member of the ITTF, demonstrated that the e-Government strategy was extending the Oman 2020 long-term economic development strategy:

The goals of e-Government are in the same directions of Oman 2020 economic development strategy which focuses on the streamlining of bureaucratic procedures related to new venture creation to attract more foreign direct investment. RC18 [20]

Similarly, e-Government projects were expected to make applications for foreign investment more easy and seamless. For example, RC14 said:

Before [the introduction of] e-Government, foreign investors were required to fill out many forms or, let me say, booklets actually. From an economic perspective, attracting foreign investors is very important for us. Therefore, our e-Government implementation must be tailored to serve this goal. RC14 [87]

In regards to job creation, e-Government adoption was viewed as a stimulus to create IT-related jobs for citizens. RC13 stated:

Some people might say that IT will reduce the need for human intervention in some jobs. I disagree with this opinion and I think that IT adoption will create more jobs for technically skilled youth in Oman because IT is essentially utilised in any type of business. RC13 [63]

The strategy envisaged the creation of local small to medium enterprises (SMEs) to build e-Government solutions for the Omani public sector. This form of enterprise was initially expected to contribute 10,000 jobs for the Omani youth. Therefore, following global trends, the Knowledge Oasis Muscat (KOM) was established in September 2003 (Alkhalifa 2010). KOM is modelled as a technology park providing incentives to local as well as foreign investors in the field of ICT. These incentives include, state of the art networked office space, up to 100% foreign ownership, exemption from commercial and personal taxes, no restrictions of fund transfers, and no controls on foreign exchange. KOM is designed to house and support creative business ideas and to interface local ICT industries with experts around world. To encourage local ICT entrepreneurship, KOM has launched The Knowledge Mine (TKM) initiative to provide expert advice and leadership for local IT start-up ventures (Knowledge Oasis Muscat 2006). A snapshot of KOM’s portal is shown in Figure 5.2.
In this regard, RC4 concluded that the profits of adopting and implementing e-Government in Oman were:

Basically creating jobs, we even had figures ... we had KPIs that we should create 10,000 jobs in 5 years. That’s one profit or ROI (Return on Investment) and also creating clusters that’s why we created KOM and the idea here was to create a knowledge industry. RC4 [83]

The second goal of the e-Oman strategy was to prepare the Omani society as a whole to become a digital society. This included training and awareness programs for government employees as well as the general public to obtain computer skills certificates such as the International Computer Driving License (ICDL). This goal was also aligned with international trends in a global movement to reduce the digital divide. To this end, RC1 stated:

[The third track of our strategy is] building the capabilities, so we have government trainings in which we are training more than 93,000 employees of the government sector to be certified in one of those ICDL, IC3, or Cambridge Certificates. We are opening centres around the county to train people: housewives, people who do not have jobs and anybody who really wants training in the next three years we will be training them free of charge through
our centres. We now have 10 male centres and nine centres for women and [the number] is growing to reach everywhere [in the country]. RC1 [22]

The third goal of the strategy was to transform all government services to become electronic services. The strategy envisaged the creation of an active schema for achieving this goal, which was the concept of communities of interest (COI). In order to simplify the task of collaboration between various government entities, communities of interest is a grouping schema which involves entities that are interdependent in process input. For example, the Ministry of Commerce and Industry would form a community of interest with the Ministry of Manpower and the Ministry of Regional Municipalities. This community of interest is called the ‘Business COI’ which indicates the core functions of this COI in supporting the creation of new businesses or providing services to existing businesses. The COI concept was clearly described by one of the policy-level respondents:

An important decision was made in this strategy which is to go away from “government silos” where a government organisation is perpetuated as the sole owner of data and information about processes within its boundaries. Instead, the concept of communities of interest was introduced and adopted. For example, in the community of education services the Ministry of Education, the Ministry of Higher Education, and the Ministry of Social Development are grouped together in order to exchange inputs and produce outputs for another community of services: the manpower community of services. These communities of services are considered the backbone of electronic services. RC12 [164]

The electronic collaborative environment was envisaged to include shared services such as authentication, security, common forms, payment gateways, and directories. Moreover, the strategy recommended the creation of shared databases such as the National Registration System, Commercial Record System, and Manpower Registration System (Gartner Team 2002). This electronic environment of COIs and shared services and databases was to be built on a generic electronic platform which would create the Government Nervous System (Gartner Team 2002). This environment was to interface with clients through electronic means such as mobile devices, internet and web portals, and kiosks. Examples of elements of the collaborative electronic environment were discussed by a member of the ITA (RC2):

We have [created] shared databases through cooperation with other government units. For example we started working with the Royal Oman Police as an authoritative organisation in disseminating personal information of citizens to link their National Registration System with other government units. We also have coordinated with the Ministry of Commerce and Industry to share Commercial Registration Records with other government units. We
also have developed an e-Payment gateway to be shared and used by all
government units for electronic payments. RC2 [93]

An example of the realisation of this goal was the launch of the smart identity card by the
The new card has a smart chip which can be read electronically to retrieve personal identity
information about the card holder. It is also possible to download electronic programs into the
card chip to serve other identification purposes. For example, the electronic capability of the
card was utilised in the 2012 Shurra Council voting to identify eligible voters on criteria of
district constituency and legal voting age. A sample of the smart chip card is shown in Figure
5.3 below.

Figure 5.3 Oman Smart Identity Card – Sample – Source: www.civilstatus.gov.om

The fourth goal of the strategy was to enhance the ICT infrastructure of the country. This
included desktop workstations as well as networking infrastructure for both the government
departments and the public. In line with this goal, the government established the
Telecommunication Regulatory Authority in 2002 to liberalise the telecommunication sector
and to attract foreign investment to develop the telecommunication infrastructure
(Telecommunication Regulatory Authority 2009a). According to RC4, in 2004, the
government contracted OmanTel (the only telecommunication company in the country at the
time) to develop an MPLS-based (Multi-Protocol Label Switch) government network
connecting all government departments with their branches and with each other’s. MPLS-
based network technology is a high performance modern computer network standard. In
regards to developing the infrastructure for constituents, RC1 stated:

… We have free internet for a certain segment of the population for one year,
students for three months, and teachers for three months. We have free PCs
fully subsidized for all the social security beneficiaries and 50% subsidized for
teachers and students. We are creating that environment. RC1 [94]
Similarly, a government data warehousing centre was established to ensure secure storage of government data and support business continuity. The strategy had also recommended the establishment of a technical support body to manage issues related to connecting government departments to the government network and to the national data centre.

The fifth goal of the strategy was to establish the legal and secure environment for supporting the transformation towards electronic services. The strategy recommended the creation of a Security and Audit Office to manage the security of government data and applications. To satisfy this need, a security framework was developed to guide the implementation of electronic services and this framework was later upgraded to become the foundation of an independent security body called Oman Computer Emergency Readiness Team (OCERT) launched in April 2010 (Oman Computer Emergency Readiness Team 2012). In the same vein, according to RC19, the Central Bank of Oman (CBO) initiated a project in 2003 to establish an electronic payment platform between private and public financial institutions in Oman. The project was successfully completed in 2010 as was originally anticipated. The following excerpt is RC19’s description of the e-Payment system:

Oman had to step into the 21st century. So, payment systems needed to be well controlled and regulated … We set up our own infrastructure of systemic payment in the whole of the country through an electronic platform. Previously payments were done either manually where banks will come over here for clearing checks or banks will communicate with us through Telex or through swift which was a semi-electronic platform but at the end of the day swift was not a local product it is an international product and countries need local products to support their own local platforms. So, we decided to develop our own system. RC19 [54]

Similarly, according to RC1, ITA has created another payment gateway in cooperation with MasterCard Inc. for both the public and private sectors’ electronic transactions. In terms of legal affairs, the electronic transactions law which legalises electronic contracting and purchasing came into effect on May 18th 2008 (Information Technology Authority 2008). Similarly, ITA is currently working on developing a Public Key Infrastructure (Information Technology Authority 2011b) to support trusted authentication activities for users of both public and private electronic services.

The sixth goal of the strategy was to create ‘Quick Wins’ or ‘Flagship Projects’. These electronic projects were intended to create publicity for the new strategy of Digital Society and showcase the value of the strategy. They were also intended to create peer pressure on
government departments to follow the lead and hasten towards transforming public services using electronic means. RC19 described this goal as follows:

[ITA] should create now very quickly one or two low hanging fruits to talk of them as a success story and blow it out of proportion so that people can look upon it in a credible venture. RC19 [276]

Deliberations that led to the development of the strategy were operated at the elite management level and did not involve a representative number of civil servants. Civil servants were, then, directed to implement e-Government initiatives. However, the study reveals that such directions were considered unclear by respondents from various government departments who contended that planning for implementing e-Government in their respective departments was initiated internally with almost no reference to details of the original strategy. Implementation-level respondents argued that they have not, nor their subordinates, received adequate orientation in relation to the national strategy of e-Government. The following three excerpts clearly show the issue of lack of support from ITA:

Our vision started to get aligned with e-Government in 2008 or 2009. We are working based on internal coordination and with no reference to any external framework because we are not evaluated by any external organisation on progress or quality of implementation. RC5 [122]

and (this particular government department started to implement e-Government effectively in 2010):

The e-Government implementation sprung from internal teams and we consulted some external private companies before we started the actual implementation. We have an internal team that follows-up the implementation efforts and report to our top management. RC7 [72]

and (this particular government department started to implement e-Government effectively in late 2010):

We have consulted an external Oman-based firm on the best way to proceed with e-Government implementation. Then we wanted to also look at experiences abroad, so we consulted a European company. We have also contracted the implementation to an external company which we are internally following up with. RC17 [137]

Members of the ITA have argued that they lacked the authority to make binding recommendations. They stated that their role was reactive to requests from government agencies for assistance and guidance as demonstrated by RC3:

The Royal Decree stated that the Authority’s role is assistive and we were not given the legal authority to enforce any recommendations on government
units. If there was a law we would have been in a better situation now. RC3 [100]

This was also confirmed by another member of the ITA, RC2:

As a matter of fact, there are no set dates of finishing a certain implementation phase and moving to the next. We have a clear vision and implementation plan, but we cannot say to any government unit that you have to finish a certain phase on a certain date. It is up to them really. RC2 [101]

Similarly, RC1 described the delicate exhortative culture between ITA and government departments when it came to the issue of implementation progress. He stated:

I think that the government agencies need time as well. You cannot come to them with a plan today and ask for the results tomorrow … You can’t come in the first three years and say that I need you to do this and that. This would be like a lightning strike to them. People will resist and they will find ways to resist. You have to take them to the next level and that what is what we are doing. RC1 [208]

In fact, ITA did not come into existence until May 2006 after which the e-Government initiative started to take shape. In this regard, RC3 gave the following account:

Prior to becoming an official agency, we did not have any authorities nor were our responsibilities discerned. We basically were a small team of three people, a secretary, a consultant, and an acting head. In the absence of an institution, any of our efforts could have been overridden and challenged by anyone. However, after our current CEO joined the team he brought in a clear idea and pushed for the establishment of ITA in 2006. Since then we became more anchored with an established vision which allowed us to progress with our ambitious plans for Digital Oman Society. RC3 [135]

In May 2006, the government established the Information Technology Authority (ITA) by Royal Decree 52/2006 (Official Gazette 2006) as an independent government agency to oversee the implementation of the e-Oman strategy and provide technical support to other government departments. Government departments were urged to reach out to the ITA for technical assistance related to the implementation of e-Government. The decree affiliated ITA to the Ministry of National Economy. In line with the general sustainable economic policy of the country, article (2) of ITA’s administrative system established by the decree states the mission of the ITA:

The [ITA] aims to strengthen and activate the government policy to move to an economy based on information technology to achieve both economic and social benefits to the Omani society through the integration of the use of this technology within the policy framework of economic diversification and sustainable development. (Official Gazette 2006, p. 7)
Accordingly, ITA was required to coordinate efforts with KOM which was established in 2003 with the responsibility of developing a knowledge-based economy under the management of the Public Establishment for Industrial Estates (PEIE). Similarly, ITA is required to coordinate with the Telecommunication Regulatory Authority (TRA) established in 2002 and the Ministry of Transport and Communications for the provision of ICT infrastructure that will enable the implementation of the strategy. With such increased and complex responsibilities, the newly established agency was to be managed by a new team different from the team that originally assisted in developing the national strategy of e-Government. However, some members of the old team were involved as advisors to the ITA’s board of directors.

The need for economic development dominated the agenda of e-Government (Times of Oman 2003). The objectives of e-Government were economic in nature based on establishing a knowledge-based industry to serve the socio-economic wellbeing of the society by creating new jobs. This was also demonstrated by a policy-level respondent, RC18:

> The basic concept of e-Government is to provide government services electronically. However, this concept was extended to include business-to-business activities which are related to e-Commerce, although I have my own reservations regarding the mixing between e-Government and e-Commerce. E-Commerce is a totally different business-driven concept which should not be mixed up with government activities. RC18 [40]

Why e-Government implementation was associated with sustainable economic development may be inferred from the statement made by the Undersecretary for Development Affairs of the Ministry of National Economy at the official launch of the strategy on May 7th 2003:

> The most important recommendations in the study was that the government was to seek implementation of the strategy as soon as possible … developments in information and communication technology created a digital divide in the world and the Sultanate [of Oman] faced a decisive challenge in its history … steps to be made in the coming years would determine the Sultanate’s position among other countries and the opportunities that would be available for its citizens in this regard. (Times of Oman 2003)

In light of the above, implementation of ICT-based projects worldwide has created a compelling pressure on the government to claim a position in the new economic order or risk being left behind, as RC4 described:

> … This is where the world is going so why do not we jump in today than wait until tomorrow. If we do not do it, we will be left behind and we will be those
in the second world of this. We have an opportunity today to be in the new first world of the future. RC14 [117]

The strategy of e-Government adoption and implementation in Oman (launched in 2003) was an encapsulation of multi-perspective systems designed to introduce public sector reform in order to enable the country to exploit a new economic window of opportunity: knowledge-based economy.

Based on the previous narratives and historical account of events that led to the adoption of e-Government in Oman, it is clear that e-Government in Oman is based on a particular conception which is unique within the economic and social settings of Oman. The concept of e-Government in Oman is influenced by environmental factors specific to the Omani economic and demographic characteristics. The following sections further illustrate the concept of e-Government in Oman based on narratives from policy-level officials in Oman.

5.3 The Concept of e-Government in Oman

E-Government in Oman is part of a grand vision in which e-Government was regarded as a window of opportunity and a value-led policy for the country to exploit the potential of ICTs and become a part of the new knowledge-based economy (Gartner Team 2002). The other part of this grand vision is concerned with creating an enabling environment to ensure the successful implementation of e-Government. In the following two subsections, the concept of e-Government is illustrated using data from respondents of this study.

5.3.1 E-Government as an Ecosystem

The basic definition of an ecosystem is a ‘complex of living organisms, their physical environment, and all their interrelationships in a particular unit of space’ (Merriam-Webster Dictionary 2013b). According to RC4, who was involved in the formation of the e-Government strategy, the strategy had a vision of founding an ecosystem consisting of e-Government (simply public e-Services), e-Governance, and Digital Society (building the ICT capacities of the Omani society to become a digital society):

There are many definitions for e-Government, but the definition we put is a tripod of moving a country to the knowledge economy and digital society so we called the whole movement as digital Oman movement and we defined e-Government as enabling services electronically within the government sector … We had e-Governance which is the laws, the regulations, the soft rules that
together have to be available to enable e-Government and then we had digital society which is enabling the society as a whole which is the citizens all over the communities … so basically it is part of a whole ecosystem. RC4 [8]

This definition portrays e-Government in Oman as a tool in the country’s broader economic strategy to become a knowledge-based economy (Gartner Team 2002). This e-Government strategy entailed the creation and launch of an ICT-based ecosystem of three elements: e-Government, e-Governance, and Digital Society. E-Government by itself was merely concerned with the improvement of efficiency and effectiveness of government operations through electronic delivery of public services to the public, government bodies, and business firms. However, the other two pillars of the e-Government’s tripod in Oman (as RC4 called it) were mainly parts of the enabling environment of e-Government; (i) e-Governance is concerned with legalising, and authorising the use of e-Government within government entities; (ii) digital society is concerned with empowering citizens and capacitating the technical environment to make it possible to deliver and utilise e-Government services.

Similarly, RC2 stressed that e-Government was about the introduction of e-Services, which cannot function without preparing consumers (citizens, public organisations, and private corporations) to use such services and preparing the environment for building, promoting, and supporting these services. The concept of an Omani e-Government ecosystem was echoed by RC2, who is a manager at the Information Technology Authority (ITA):

The international definition of e-Government is related to the delivery of public services to citizens through electronic means. However, we do not see this definition as sufficient in our case. We thought that the term e-Government is entirely concerned with the provider of the service and neglects the needs of the customer and the enabling environment. Therefore, we named our initiative e-Oman. So, our concept is related to e-Services, the customer of these services which is the Omani society as a whole whether individuals or groups, and the environment which enables the successful implementation of these services: the infrastructure, and rules and regulations which are somewhat embedded in the roles of ITA. RC2 [2]

RC2 contended that the government chose to call the e-Government strategy e-Oman (in Arabic: عمان الرقمية) to imply the inclusion of all segments of the society in the strategy. RC1 provided evidence to this claim by illustrating the vision of a digital society in which every single citizen is entitled to receive training in ICTs regardless of age, gender, location, or employment status. He stated:

We are opening centres around the county to train people: housewives, people who do not have jobs anybody who really wants training in the next 3 years we will be training them free of charge through centres ... we have now 10
male centres and 9 centres for women and it is growing to reach everywhere [in the country]. RC1 [24]

Collectively, respondents at the implementation level (all except RC1, RC2, RC3, RC4, and RC22) referred to the effectiveness and efficiency related to the delivery of electronic services as the central theme in defining e-Government. Respondents at the policy level (RC1, RC2, RC3, and RC4) provided instances of the definition, which was consistent with the nature of multidimensionality of public policy making (Baumgartner & Jones 2002). Aspects of e-democracy, e-participation, and other aspects related to the political sphere of government systems did not appear as significant points in the discourse of Oman e-Government definitions from respondents.

However, the ultimate objective of the Oman e-Government policy was to move the country to the knowledge economy as RC1 stated:

   We chose to call [the initiative] Knowledge Oman or e-Oman because it was our plan and intention from day one that we wanted to transform Oman into a Knowledge Society; into a society where information is not just available instantly but used in decision making and subsequently in producing knowledge. RC1 [7]

The vision of an ecosystem was also cast in planning for implementation. In this regard, RC4 denoted that government services were clearly categorised in the original strategy by identifying government departments that needed to collaborate in the delivery of a single service electronically. According to the strategy, these services were grouped into sectors of services. These sectors were called communities of interest to represent an ecosystem of collaborative government departments (Gartner Team 2002) for the purpose of delivering seamless and lean electronic services. Correspondingly, both RC11 and RC22 explained that the idea of communities of interest or as later called communities of services was intended to provide a clear direction for government departments to facilitate inter-organisational alignment and data flow across their boundaries. The end product of such collaboration was geared towards improving the efficiency of the public sector and enhancing the national economy. The following subsection illustrates the relationship between the Oman e-Government strategy and the economic values associated with the adoption of the strategy.
5.3.2 E-Government as a Policy Window

According to Kingdon (1995), a policy window is a window of opportunity to introduce change in policy because of the existence of a problem that catches the attention of policy entrepreneurs. Policy windows open through the sense of crises or assessments that indicate the need for a change in current procedures. Policy windows open for a short period of time and policy entrepreneurs, such as civil servants or politicians, should act quickly to bring their ideas to the policy agenda. The following extract from RC4, a key member of the committee that formed the e-Government strategy, illustrated this idea of policy window in regards to the e-Government policy in Oman:

Here we told our government … let’s jumpstart this movement as fast as possible because it is a window of opportunity for our economy towards these new economies, towards these new ways of doing business so that we can enable our SMEs in a different way. We can enable our civil society. Even an individual can be a businessman at home. Something simple like call centres can involve housewives at home and these kinds of things, but let the government enable, as fast as possible, the infrastructure which is the platform to enable this. So [e-Government] has economic impact because it defines a new economy and a new way of doing business. RC4 [36]

The e-Government initiative in Oman was sponsored and administered by the Ministry of National Economy. The rationale for initiating an e-Government strategy as a value-led policy resulted from a dominant belief that crude oil production, which is the main source of national income, is expected to be depleted by 2020. The government was obliged to proactively respond to the prospect of such a large scale economic crisis by implementing measures of economic diversification. In the year 2000, e-Government was already a global phenomenon adopted and supported by the UN as a mean of leveraging poverty and economic enhancement especially for developing nations. RC18’s view in regards to e-Government policy initiation was:

Oman market economy has adopted the Capitalist Model which is built upon certain requirements of speedy access to information, speedy processing of various applications, speedy transactions; be it for the government or, for the private sector, or for individuals. We were open to the international business environment which dictates that we adopt whatever models around us which we feel they could serve us in developing our economy and our government sector which is spearheading the private enterprise. As you know government spending is the main driver of economic activity in the Sultanate and maybe even regarded as the foundation of the Sultanate’s economy. RC18 [61]
According to RC18, the main theme of the *Oman 2020* strategy revolved around adopting approaches that would attract foreign investments and enhance economic diversification. According to RC4, RC18, and RC14, the e-Government strategy was in line with *Oman 2020* strategy which emphasised opening up the market to foreign direct investment and reforming bureaucratic paper-based procedures that discourage foreign investors.

Similarly, His Majesty the Sultan of Oman has associated the adoption of e-Government to improving government performance and training citizens in ICTs to enhance the country’s economy and promoting ICTs in becoming a necessary pillar of sustainable development. His Majesty stated:

> Information technology and communications have now become the main elements that move forward the development process in this third millennium. Therefore, we have accorded our attention to finding a national strategy to develop the skills and abilities of citizens in this domain with the aim of further developing e-government services. (Ministry of Foreign Affairs 2010b)

According to RC1, RC3, and RC19, the original strategy anticipated that the process of transforming face-to-face government services into electronic services would create a local industry based on information technology solutions creating new jobs for Omani citizens. Further, RC4 argued that e-Government in Oman should be regarded as an e-business strategy for the country’s public sector in order to improve productivity, profitability, and citizens’ satisfaction. This is consistent with claims from RC18 that e-Government implementation by the public sector would create economic value for the private sector because public sector spending is the baseline of private sector economic activities in Oman. These statements further substantiate the envisaged concept of e-Government strategy as being an integrated ecosystem involving the economic, civil society, and regulatory environment. Therefore, the concept of e-Government in Oman is unique to the Omani context and the adoption was driven by forces related to the Omani context. These driving forces are presented in details in the following section.

5.4 The Forces Driving Adoption of E-Government in Oman.

The data shows predominantly that there were five types of motives that drove the adoption of e-Government in Oman nationally. These motives were distinguished into two major categories: motives at the institutional environment of government and motives at the technical environment of government. That is, there were motives that motivated the
government at the policy level to adopt e-Government and also there were motives at the practice level of government. This section presents these types of motives evidenced with quotes from respondents at the policy level as well as with quotes from respondents at the implementation level respectively. However, prior to delving into the details, a brief definition of these motives is given.

At the policy level, the Government of Oman considered e-Government as a window of opportunity to create a platform and a building block to usher in knowledge based industry. Much of the data presentation in the above sections showed that the e-Government strategy in Oman was economically enforced. Subsection 5.4.1 adds to this presentation of economic motives that led to the adoption of e-Government.

The government was also motivated by concerns of conformance to world standards. The government felt an obligation to keep up with the rest of the world and maintain a favourable image in the international community as being on top of developments occurring in its institutional environment. Subsection 5.4.2 provides details of the motive of conformance that drove the government to adopt e-Government in order to sustain its competitive advantage. Subsections 5.4.1 and 5.4.2 show that motives of conformity and economic motives are interrelated since the e-Government is mainly associated with efficiency, cost reduction, and enhancing productivity.

At the technical environment or the practice level, the motives that drove the adoption were related to improving the quality of public services and the quality of information exchanged between government departments and with constituents. These motives are detailed in subsections 5.4.3 and 5.4.4 respectively. Also, there were some motives that were specific to the political sphere in Oman (5.4.5), the civil society sphere (5.4.6), and to the geographic and demographic nature of the country (5.4.7).

5.4.1 Economic Motives

In relation to adopting e-Government, the Government’s goals were to enable the economic and social systems to effectively participate in the global economy. In this global context, decision makers in the country were influenced by global discourses related to economic reforms through the reform of public administrative procedures, development of the local
private sector, and enhancing the skills of the national workforce as being the building block of a sound economy.

Nearing the turn of the century, the dominant view of economic growth policies were neoliberal, advocating privatisation, liberalisation of local industries and openness of the economy to ease the integration into the world economy (Gore 1993). At the same time, a knowledge-based economy became a remarkable global discourse rendering the creation, utilisation, and effective dissemination of knowledge as becoming the major source of wealth (Mansell, de Montalvo & Wehn 1998). Access and transfer of knowledge embedded in human beings was becoming the new promising economic development paradigm (World Bank 1998). This development paradigm was termed knowledge-based economy, which relies on the state as the facilitator and developer of this economic paradigm (Dutta, Lanvin & Paua 2003). Global discourse on knowledge-based economy specified Information and Telecommunications Technologies (ICT) as its infrastructure (Mansell 2002), and knowledge as its main resource and product (Drucker 1998).

The main focus of recent research, by academics and multilateral organisations, is not only on the potential of ICT as an infrastructure to facilitate access and dissemination of knowledge. ICT solutions were considered as solution-enabler of some sustainable development issues in the developing world such as illiteracy, poverty, inequalities, and democratising of public services (Mansell, de Montalvo & Wehn 1998; UNDP 2001; UNESCO 1999). Therefore, ICT was seen as a main driver of knowledge-based economy by contributing to growth through the creation of small and medium-size enterprises which would provide jobs for the local workforce. ICT was also considered the vehicle for production and dissemination of knowledge which is the main resource of sustainable development (UNDP 2001). This understanding of the new changes in the global economic arena was shared in Oman and specifically between members of the strategy-building committee (ITTF) as RC19 described:

We in Oman always want to be in compliance with best international standards and we do not want to trail the world we want to keep up with the world. If you can’t lead it you at least keep up with it. And we feel once you create this sort of environment in the country it creates more interest and more confidence in the economy of the country. RC19 [167]

This view is corroborated by the following extract from RC2 in regards to the motives that led the country to adopt e-Government:
You do not really have a choice because as country striving to develop its economy, you must attract foreign investors. These investors will evaluate the country first and if they find that our systems are still dependant on the useless paper-based procedures, they will make the decision not to invest. Therefore, we were obliged to change towards knowledge economy because the rest of the world is going this direction. RC2 [32]

Knowledge-based economy also requires the upgrade of human resources skills in computer technologies. In the endeavour to develop human resources, the Government of Oman attempted the reform of the education system by launching the Basic Education System in 1998. The new system focused on practical applications of science and mathematics subjects and, for the first time, introduced computer skills subjects to be taught from first grade. Also, English Language subjects were to be taught from first grade as opposed to fourth grade in the previous system. The aim of the education system reform was to improve the efficiency and capability of the workforce to meet the needs and challenges of the globalisation era (Ministry of Information 1999). According to Dakopoulou (2009), globalisation has encouraged certain discourses such as English as a global language, knowledge economy, and national curriculum which forced developing countries to follow the global direction and shape their education policies accordingly. Oman, as shown above, ascribed to this discourse. Following a global direction has enhanced the efficiency and effectiveness of education systems in many developing countries such as the Arab countries. According to Al-Abri (2011), the Ministry of Education in Oman implemented the Basic Education System as a response to global education discourses. He argues that the Ministry continues to implement education policies that are derived from global experiences to sustain challenges imposed by globalisation. This was confirmed by RC16 as he stated:

There is a continuous coordination between the Information Technology Authority (ITA) and the Ministry of Higher Education to introduce specialised courses in Information Technology. RC16 [42]

The influence of globalisation on the education system in Oman has changed the learning culture from being passive to that of critical thinking and has encouraged learners to become active participants in the social sector challenging the ‘taking for granted’ assumptions locally and internationally (Al-Harthi 2002). The researcher believes that introducing reform to the education system in Oman was an intermediary response to globalisation pressures while reserving local culture and social structure. Acting as a foundation to the knowledge economy and e-Government adoption, the policy of reform was considered as a window of opportunity to benefit from successful international experiences. In this regard, RC2 stated:
Another reason [for the adoption] is the citizen himself because the citizen has reached a certain level of awareness [about the technology] and started making comparisons with people around the world and asking why do not we have like what others have? Why doesn’t the government do like other governments and introduce e-Government and electronic access to information like what is happening the in the global society. RC2 [35]

The discussion of these global trends in relation to economy and human resources development, being among the main drivers for the adoption of e-Government in Oman, is confirmed by empirical evidence. For example RC22 confirmed that the e-Government initiative was in line with the government’s more general policies of human resources development:

We wanted to reach a phase were all Omani citizens are able to interact with the new modern era which everyone – without an exception - calls “the era of technology”. I strongly believe that no one can afford not to be aware of the technology. In any organisation, whether you are a lawyer or a janitor you must be able to use this technology and this is why the government had this strategic vision of educating the citizens in information technology. RC22 [82]

In a similar context, the government of Oman realised the prominent need to implement e-Government projects as a necessity for economic development. RC4 stated:

We came to the conclusion that no government has a choice to not go for e-government … it is this period … see economies started with agrarian economies people were rich when they had a lot of land. Then came the industrial economies so people who had a lot of factories were very rich and it is the case until today somehow but, actually in the new millennium it is the information or knowledge economy so people who enable their knowledge industry like USA today it is making more and more money from its knowledge industry … it is not a question of whether there is a good reason to do it or there is a bad reason not to do it … just like a long time ago, you cannot say I have to find a reason why to put a telephone infrastructure in my country in the 1800s because it is a business necessity. RC4 [90]

RC4 continued to argue that e-Government in Oman constitutes viable opportunities to economic development:

… Because it helps open a new paradigm of economy and it helps open a new paradigm of business the so called knowledge based economies. RC4 [34]

As discussed above, developing a knowledge-based economy depends on state intervention to develop the ICT infrastructure and human resources and facilitate the building of the industry to produce ICT solutions for local needs. The above quotes by policy-level officials in the Government of Oman specifically relate to these concepts of the state role in developing a knowledge-based economy.
The main idea of e-Government is related to cost reduction in government operations. This reduction in operation costs is achievable through the reduction of paper use and most importantly cutting some frontline jobs. However, in Oman, the adoption of e-Government was considered as an apparatus for generating jobs for the local workforce. This idea was dependent on a view of e-Government as a platform of enabling a knowledge-based economy. This conception was influenced by research-backed evidence which was channelled to Oman mainly through Gartner, the consulting firm that developed the Digital Oman strategy. The following discussion illustrates the role of knowledge-based economy in the generation of new jobs.

In an analysis of job creation forecasts from the US Labour Statistical Bureau and OECD forecasts, Lundvall (2003) concluded that knowledge-based business activities will account for the largest growth rate in job creation and employment in the US and other OECD countries. Moreover, OECD has estimated that knowledge-skilled applicants were preferred for 8 out of 10 newly created jobs in OECD countries (Côté & Healy 2001). Research by the World Bank Institute and Knowledge Development Program (World Bank 2007) and OECD Growth Project (OECD 2001) have emphasised the role of ICT in reducing unemployment rates by measures of magnitude through creating knowledge-related jobs, stimulating the creation of knowledge-based business firms, and increasing productivity and economic growth through facilitating the acquirements, utilisations, and dissemination of knowledge by human actors in business environments.

The outcome of these publications recommended that more attention should be paid to (i) investment in human resources development, (ii) reinforcement of research and development practices, (iii) investment in large-scale diffusion of information and telecommunications technologies, and (iv) instigating a linkage between innovation in technology and practical application to local businesses. In turn, these steps will help in (v) creating more local employment opportunities.

This assessment also underpinned the initiation and development of the e-Government policy and programs in Oman. This was clearly attested to by RC1 through a description of the steps undertaken to implement e-Government. He stated:

If we focus on the people, the process and the technology that means we will achieve e-Government; so it is nothing different from what other people are doing. The good thing about Oman is that we understood that we needed a coordinating body to coordinate this effort so ITA was established. We have
also the Council of Scientific Research because we needed a body to focus on Research and Development so the Council of Scientific Research was created … We have also established a Centre for Innovation and Support to produce local Omani expertise in certain technologies. RC1 [37]

The five steps the Omani Government saw as an essential part of the adoption of e-Government included (i) job creation, (ii) investment in human resources, (iii) investment in the ICT infrastructure, (iv) encouraging research and development and knowledge transfer, and (v) linking innovations with local needs. This clearly shows that e-Government adoption was to become the catalyst and window of opportunity for the establishment of a knowledge-based economy. Evidence from respondents in this research, in relation to these steps, is presented in the following subsections.

(i) Job Creation

Data collected from interviewees and government documents suggest that Oman’s e-Government strategy was seen to help in a secondary way to create jobs. It was considered as a basic platform for launching a knowledge-based economy. The launch of e-Government projects were expected to create ICT-based jobs of providing training the society and civil employees on computer skills. For example, RC19 stated:

I suggested that in every school in every region in the country keep one room aside with four or six computers and connect it to the internet and after school time let whoever wants to come and use it come and I immediately showed [the panel] how we can create about 2000 to 2400 jobs by taking two secondary school leavers and training them in basic IT to train other individuals in the communities. RC19 [205]

Similarly, RC4 explained that the original strategy of e-government urged government officials to plan for government intervention in the creation of small to medium-size information technology enterprises (SMEs) that would provide up to 10,000 jobs in five years for the country’s youth. He argued that the return on investment of e-Government was mostly economical through creating new jobs for young graduates ‘to build these SMEs, to build this local industry, and to create the digital society’, RC4 [79]. He also acknowledged that the top most priority of the e-Government initiative is to create knowledge-based industry which will contribute to the diversification of economy resources and growth of job opportunities. The strategy envisaged that government departments were going to outsource e-Government solutions such as web portals and other government information systems to a local ICT-based
industry instead of outsourcing to offshore businesses. This step, by extension, would create a new local job market for local ICT-skilled workforce.

(ii) Investment in human resources

In terms of investment in human resources and upgrading the skills of the local workforce, the government has mandated civil service employees to enrol in government funded courses to acquire the Internet and Computing Core Certification (IC3) which is an international standard certificate in computer proficiency. RC1 stated that more than 45,000 employees have acquired IC3 since the commencement of the training program. The program started in February 2009 after ITA signed a contract with Certiport in October 2008 to provide training in computer skills for 93,000 civil service employees within a period of three years (Information Technology Authority 2009). Although Certiport was a foreign company, it employed a number of local citizens to deliver some of its training programs.

The Government of Oman is seen to be committed to prevent any one segment being excluded from the digital society movement. RC3 stated that the government also embarked on an initiative to provide Internet access to certain segments of the society at discounted rates. This segment included school teachers, university students in freshman year, and low-income families. Furthermore, RC3 explained that citizen members of this segment were entitled to receive a free-of-charge laptop computer under His Majesty’s National PC Initiative which was launched in late 2010. She asserted that the initiative focused on the teachers and students segment because the Omani Government believes that this segment is the core initiator of knowledge transfer within the society. This schema was believed to increase PC and Internet penetration rates in the country and facilitate the readiness of the society to participate in, and benefit from, the knowledge industry. This, she believed, would create incentives among citizens to adopt e-Government services.

(iii) Investment in ICT infrastructure

In terms of investment in ICT infrastructure, RC1 explained that the government has established an MPLS-based (Multi-Protocol Label Switching) cable networks in conjunction with the country’s dominant Internet Service Provider OmanTel to connect government departments and their branches in one physical network termed, the Oman Government Network. He asserted that government departments were exempted from usage charges of the government network at the first stage and may be later charged a minimal amount of the
actual charge. Similarly, RC1 recounted the government effort to realise Universal Service Obligation (USO), which is a global standard telecom policy that obligates telecom companies, at the request of the telecom governing body, to provision certain telecom services to anybody in the country. RC1 explained that the government subsidises the cost of mobile and internet service provision in rural areas and regions of low population densities that are not feasible for commercial telecommunications companies to provide services in. Such efforts illustrate the government’s commitment and determination to achieve an inclusive strategy of moving Oman into a digital society and overcoming the digital divide issue.

(iv) Encouraging research and development and knowledge transfer

In terms of research and development, RC1 stated that the establishment of the Oman Research Council in 2005 was another milestone in supporting e-Government and ICT development based on scientific practices. The Research Council also complements other socio-economic developments through a special program that supports SME innovations and encourages more R&D activity in the information technology industry. Moreover, RC1 explained that the ITA has signed a contract with Microsoft Corporation in 2007 to establish the Innovation and Support Centre (Microsoft Corporation 2010) to support local IT entrepreneurs and provide onsite assistance and needs assessment. The centre employs local graduates and offer internship programs for interested youth with intensive in-depth technical training to create local expertise and facilitates knowledge transfer from R&D and innovations to the local market. This contributes to strengthening the competitiveness of local businesses, prompts knowledge transfer in the society, and creates more ICT-related jobs.

In terms of enhancing the knowledge transfer effect through education, RC11, an affiliate of the Ministry of Higher Education in Oman, asserted that the 7th and 8th 5-year strategic plans of the government (2000-2010) were directed towards human resources development in ICT related education venues. He provided further evidence of government focus on enhancing ICT-related education where recently (late 2010) His Majesty the Sultan has funded 1000 oversees Master’s and Doctorate scholarships (Oman Observer 2011b) in five major areas of which Information Technology and Sciences was a one.
(v) Linking innovation with local needs

Solutions of e-Government corresponded to local needs in Oman in relation to the provision of public services and economic development. The practical goal of the government was to achieve cost reduction in provisioning public service on the part of the government and also the public alike. Many respondents such as RC2, RC10, RC6, and RC12 have confirmed various aspects of cost reduction resulting from the implementation of electronic services. For example, RC2 argued that electronic services will consume less time of government workers since consumers will resume the task of filling official forms which will also reduce errors in consumer-related data. Similarly, RC10 and RC6 explained that electronic services will reduce the cost of paper and cost of human messengers where communication and attainment of government services are carried out through electronic means.

Another aspect was echoed by RC7 and RC9 who postulated that electronic services will consume less time to be provisioned by government agencies and acquired by constituents. Similarly, RC12 explained that the idea of communities of interests will help prevent data and process redundancy across government departments, which will accrue reductions in operation costs. Communities of interest is a concept of collaboration between government departments introduced in the Omani e-Government strategy to align the functions of government departments with those of other government departments in the same sector such as the education sector which involves the Ministry of Education, the Ministry of Higher Education, and the Ministry of Manpower.

In conclusion, the adoption of e-Government in Oman came as a response to a rational need to diversify the economic resources of the country and move away from depending on a depleting natural resource: oil. The government had been affected by global economic discourses channelled by an international consultant (Gartner) and diffused by multilateral organisations such as the UN, World Bank, IMF, and OECD. Top-level policy makers adhered to standards set by these multilateral organisations.

These standards were based on case study research artefacts which further encouraged policy makers in Oman to follow through and implement measures to promote a local knowledge industry. These measures followed globalised trends such as development of human resources, promotion of research and development, and the stimulation of knowledge transfer from research and education institutions into the society.
The main objectives for the Omani Government to adopt e-Government were economic in nature creating more jobs for a growing number of first time job seekers and enhancing the growth of the local economy. In the age of globalisation, the Government of Oman had acknowledged the urgent need to integrate in the world economy and benefit from experiences of successful economies in utilising the potential of ICT and knowledge-based industries. RC13 articulated that the external business environment and the developments in ICT have necessitated the transformation of communication procedures to be compatible with those used by global companies. He argued, that it was essential for the government to utilise ICT and keep up with global changes in the ways of doing business. He reiterated that it was an inevitable choice, but an appropriate option that has been proven feasible.

As an underlying factor for e-Government adoption, it was recognised that the global discourse on the new paradigm of knowledge-based economy has motivated the Government of Oman to conform to world standards to remain globally competitive in the context of sustainable economic and social development. Therefore, Oman has embarked on a strategy of knowledge society called e-Oman with e-Government as a central element of the strategy. The following section further elucidates the motive of conformity that drove the adoption of this strategy.

5.4.2 Motives of Conformity

Conformity means ‘action in accordance with some specified standard or authority’ (Merriam-Webster Dictionary 2013a). States and state governments usually conform to common standards in the international community such as those set by influential international organisations such as the United Nations Committees, the World Bank, and the International Monetary Fund. E-Government has been at the centre of the practices of these international organisations as an apparatus for public sector efficiency, transparent government, and efficient public services to constituents and businesses. An efficient and transparent public sector will encourage private investment and contribute to the sustainable economic development especially in the developing world.

The degree of conformance to these standards is evaluated on annual basis through reports such as the UN Global E-Government Survey (United Nations 2012) which ranks member states based on the sophistication of their implementation of e-Government.
In this study, respondents unanimously maintained that one of the primary motivations for adopting e-Government at a national level was to conform to these standards and to advance Oman’s rank in the UN Global E-Government Survey (United Nations 2012). For example, RC16 explained:

> The top most important goal was to acquire a better rank in the UN and other international rankings and to live up the name of Oman in all international forums. You might think that this is just rhetoric, but believe me this frame came up in every meeting with ITA. RC16 [8]

RC16 asserted that this was an external factor motivating the government to implement e-Government which ‘has a large return to the Sultanate in terms of political and economic spheres’ RC19 [129]. To this end, RC1 and RC22 explained that Oman couldn’t afford not to adhere to world wisdom and underestimate the potential of e-Government and ICT development in enhancing economic growth and productivity. Such wisdom is diffused and migrated into developed and developing countries alike through global annual reports such as the UN E-Government Survey (United Nations 2012), the Global Information Technology Report (World Economic Forum 2012) and other reports from the World Bank Institute related to knowledge economy indexes (World Bank 2012).

A part of this conformance is also voluntary because state governments are part of a global community. They want to show that they are up to date with new technologies to keep a favourable international image. This global community of state governments is also highly competitive and governments around the world are in competition either for recognition, financial support, or for making alliances. State governments recognise that efficient integration in the world economy is primarily achieved by adhering to standards that naturally evolve in the global economy and not just those dictated by global actors. In Oman, RC4 explained that the country had no choice not to implement e-Government because:

> …. it is a business necessity. So, now it is a business necessity for competitive governments to go this way. RC4 [100]

Some respondents even considered e-Services - which is part of e-Government implementation – as essential as electricity lines, water lines, and telephone lines. For example RC2 stated:

> Today, information itself is a service like other services such as electricity, water and telephone. You see no country can survive without providing electricity or water services. Because IT is now part of every human’s life, it is
as important as those other services. I think that in some countries, IT services already became as a human right. RC2 [40]

The UN’s annual survey of countries e-Readiness continues to infuse believes, norms, and values of e-Government all over the world. The UN E-Government report produces an index that ranks countries in this respect (Lenk & Traunmüller 2000). This report coupled with the UN Public Service Award construct competitive pressure on governments to pursue well-defined strategies towards the implementation of e-Government. In the case of Oman, RC1 explained:

... we are also part of the whole world society; now Oman is looked at from various directions; human resource development, e-Readiness UN report and there is also a report produced by International Forum in this matter. These reports also judge the country. It is a mirror: are you going that direction or why aren’t you? RC1 [50]

Pressure is also applied through participation in regional cooperation councils, such as the Gulf Cooperation Council (GCC) where Oman participates in bi-annual meetings of e-Government leaders from Saudi Arabia, Kuwaiat, Bahrain, Qatar, and UAE. Many respondents acknowledged learning from experiences of other countries when planning for implementing e-Government. For example, RC3 stated:

We have continuous communication with government institutions in GCC countries and this pressurise as to work fast, do better, and most importantly learn not to repeat mistakes made by others. RC2 [148]

In a similar way, RC21 presented the experience of the Muscat Municipality in learning from other municipalities regionally and internationally:

We have positive communications with other municipalities. You know, there is an organisation called Arab Towns Organisation which includes all Arab Capital and major cities and we are part of this organisation. We also have very close cooperation with municipalities of Dubai, Al-Ain, Riyadh, Jeddah, Cairo, and even with municipalities in the UK such as the Municipality of Westminster … We always exchange information about experiences, projects, and issues. RC21 [37]

At a local level, government departments were also influenced by internal pressures of conformity to adopt and implement the e-Government strategy developed and adopted at the government policy level. For example, government departments considered His Majesty’s Speech in 2008 about utilising the Information and Communication Technologies as unwritten rules to implement e-Government. In His Speech to the Council of Oman, His Majesty the Sultan of Oman urged government departments to apply Information and
Communication Technologies in their everyday activities in order to ‘usher the Sultanate into the constantly evolving spheres for applying knowledge’ (Ministry of Foreign Affairs 2010b).

In congruence, RC15 stated:

His Majesty has urged government units to focus on utilising information technologies three years ago in his speech to the Council of Oman and he actually emphasised the importance of speeding the process of implementation of information systems. These Royal Directives have always been a way of work for us. RC15 [62]

Another example of internal pressure for conformity is related to acquiring financial support. However, none of the respondents considered financial support as a significant hindrance in the implementation process which meant government departments were financially encouraged and supported to implement e-Government. RC4 clearly demonstrated this:

Finance was not a problem at all because we had 100% buy-in from the cabinet at the time and the strategy was backed by the Minister of National Economy … In the cases when the Ministry of Finance was not able to budget for our projects as fast, His Majesty himself financed those projects such as the National PC Initiative and His Majesty’s Award for Excellence in E-Government. RC4 [147]

In some cases, support from the ITA in terms of software licensing and technical support produced pressure on government departments to abide by regulations from the ITA. RC16 affirmed this saying:

I have worked with ITA and they have this orientation that there are compulsory as well as optional regulations. One of the compulsory regulations is that they have agreements with international firms such as Microsoft. For example, after the launch of Windows 7, support for Windows Vista has expired and that meant we, as government departments, won’t receive any support from ITA in regards to Windows Vista and we had to move to using Windows 7. ITA represents the government in purchasing agreements with Microsoft and other international software firms. ITA then distributes licenses to all government units for free and provides support and trainings for government employees on new software packages or operating systems. RC16 [17]

Another form of internal pressure was the dependency on data and information among various government departments. Government departments undertook efforts to align their electronic processes with those of other government departments on which they depended for data input or output. RC11 explained:

We, at the Ministry of Higher Education, are 100% dependent on information about students from the Ministry of Education. If we do not receive
information from them, we will not be able to operate because they are the main source of input for our processes. Then our output becomes an input for the Ministry of Manpower in the form of attesting university-level and higher education level certificates of job applicants. Without our attestation, an applicant’s certificates will not be accepted as proof of qualification by the Ministry of Manpower. RC11 [156]

Many respondents such as RC19, RC17, and RC21 (quoted earlier) have indicated that prior to the implementation of e-Government projects at their departments; they exchanged visits with other government departments in the country or in neighbouring countries to learn from such implementation experiences. Also, vendors and consultants played a role in the process, where decision makers have sought vendors and consultants who have experiences with other government departments in Oman or in neighbouring countries. Vendors and consultants funnelled experiences and implementation practices between government units. RC19 stated:

> Experience in the Gulf and Oman was part of the selection criteria [for consultants] but incidentally the consultant we ended up choosing did not have experience in the Gulf or Oman at that point of time. It was a Hong Kong based company but they were the preferred consultants by the World Bank and IMF so we knew that they were specialists. RC19 [95]

Similarly RC17 affirmed that his department’s choice of a consultant was based on the consultant’s international experience:

> Working with a consultant was a very important precursor step. We made sure that the consultant chosen for the job came from an international pool of consultants. RC17 [156]

In 2010, the ITA launched His Majesty’s Award for Excellence in E-Government (Information Technology Authority 2012e). The Award was designed to recognise excellence in e-Government implementation by Omani government departments. It is worth noting that the award honours the Ministers of qualified ministries. A unanimous consensus between respondents showed that competition to win His Majesty’s Award was a defining factor in motivating the management to closely follow implementation of e-Government in their departments. RC4, RC8, RC9, RC7 RC16, RC17 confirmed that implementation steps were undertaken in their departments following the launch of HM’s Award. They argued that they felt the pressure of the competition because the award was very prestigious as it has HM’s name attached to it. This account was confirmed by a respondent from the ITA, RC1:

> After the launch of HM’s award, we were overwhelmed by the number of [government organisations] who wants us to help them and to explain the
criteria of the competition and how they can win and how they can improve their electronic services. RC1 [141]

The 2011 government department winners were presented with the Awards in a prestigious ceremony under the auspice of former US President Bill Clinton (picture in Figure 5.4 below):

![Figure 5.4 HM’s Award Winners in 2011 – Source http://www.ita.gov.om/hmaward/english/media_center2_archive.html](http://www.ita.gov.om/hmaward/english/media_center2_archive.html)

Participation in workshops and conferences held by the ITA for government departments was another form of artefact that provided sustenance to the motivation for excellence in e-Government implementation. Also, in some government departments, employees who moved from other technology-advanced departments have created pressure on IT departments to advance their efforts in utilising the technology. For example RC10 stated:

I was in an organisation that is strong in IT and their use of email was extensive … when I came to this organisation in 2005, I found people here are still using Dial-Up where my previous organisation was using ADSL. I used to come to work in the morning and find that the internet connection is very slow and that the email server is down and I used to call the IT people immediately. They were surprised because I was the only person in addition to my superior manager who was complaining about the email service … Really it is because we both came from organisations that are strong in using IT and email. RC10 [17]
On a different area of motivation that facilitated the implementation of e-Government, RC21 asserted that his close relationship with the Director General of Information Technology at his government department has been instrumental to the advancement of implementation of e-Government which resulted in his department winning many recognition awards in the area of better public services (e.g. 2009 Digital Oman Award for Best Electronic Service and 2010 Arab League Award for creative content and structured web site). Similarly, motivational forces manifested in casual relationships between decision makers within or across government departments such as administration board members as explained by RC10:

We have a very close relationship with the ministry of manpower although we are independent organization but the minister of manpower is our chairman of the board. So there is extensive process between us and them in terms of the formalities so I think if we did e-Government it will ease these processes and will make them much faster. RC10 [113]

In conclusion, the data shows that the government of Oman was motivated to conform to external influences from multilateral organisations such as the UN, the World Bank, and the IMF. These influences were related to adherence to international standards of utilising ICT in public sector reform. Policy makers were concerned about the image of the country in international forums and made the decision to march with the rest of the world in adopting e-Government.

In the previous two sections (5.4.1 and 5.4.2), motives for the initiation and adoption of e-Government at the national and ministerial policy level were presented. In the following sections (5.4.3 and 5.4.4), practice-related motives are demonstrated. The following section illustrates an internal motive related to utilising e-Government in improving the relationship between the government and its constituents through the provision of quality public services.

5.4.3 Motives of Improving Service Quality

E-Government, in relation to service quality, is discussed here from the broad perspective of democratic considerations in terms of the provision of accessible, transparent, and equitable public services (Grönlund 2002; Mahrer & Krimmer 2005). From the perspective of consumers, the perception of service quality is a measure of satisfaction (Zeithaml & Bitner 2003). A service is said to be of good quality if it satisfies the expectations of the consumer. Although research in e-Government broadly relates to service quality as a motivator of adoption, it became evident from this study’s data that e-Government applications were
considered instrumental in realising service quality and, hence, influencing citizens satisfaction. For example, RC16 explained that e-Government will enable government departments to apply HM’s grand vision of delivering equitable services to every citizen wherever they are:

His Majesty is special in his way of thinking and we try to translate this way into our daily work. HM’s principle of public service says: do not make people come to the government but the government should go to them. This principle is at the heart of our dealings and services to people. So, with e-Government we will be able to deliver services to people at their homes without the need for them to come to our buildings. RC16 [157]

In the following subsections dimensions of service quality are used as a conceptual lens to present a focused view of respondents in this regard. Detailed evidence of respondents’ view of e-Government as a driver of a service quality ideology in the public sector is presented. It is important to note that although these dimensions come from the service quality literature in the private sector, they are used here as a reference to service quality in the public sector. Some of these dimensions do not necessarily apply to the electronic provision of services through the internet, but rather apply to the overall internal government processes. This is consistent with the overall view of e-Government, in this research, as rooted in public sector innovations which existed for more than 3 decades (Coursey & Norris 2008)

(i) Accessibility of service

The concept of accessibility of service helps create a channel of distribution between the service provider and the consumer where distribution of services is not physically direct anymore (Grönroos 1988). The consumer can obtain the service from an intermediary arrangement such as an online portal or a service kiosk. In this study, one of the most stated motives by respondents for implementing e-Government in Oman was the need to improve the accessibility of public services to consumers; citizens, residents, and visitors of Oman. All respondents advocated the use of the internet technology delivery channels to transform the traditional ways of service delivery. For example, RC1 believed that:

E-Government is a new way of improving the efficiency and effectiveness of service delivery through various channels such as the internet, mobile phones, service kiosks, and call centres. RC1 [3]

RC1 explained that it is very important to know your audience and the best ways to reach to them. He asserted that localisation of technology channels, as resources of service accessibility, will benefit the citizens. He added:
Generally, you see this generation is not satisfied with the traditional ways ... I opened a Facebook channel and a YouTube channel because I know that these people are there and they want to use such channels and they do not want to use Oman e-Gov Portal. I am reaching out to a larger number of people. [339]

Grönroos (1978, p. 598) argued that ‘resources influencing accessibility are ... aimed at making the service quickly and conveniently accessible to the consumers.’ The analysis of narratives of interviews with this study’s respondents revealed that reduction in service cost on the citizens’ part, reduction in effort and time consumed to acquire a government service, and the convenience of acquiring government services anytime and anywhere were practical motives of implementing e-Government projects in government units. As one of the respondents put it:

The citizens will not need to make frequent visits to government units in order to acquire a service. The service will reach them at their places through various channels. All they have to do is choose the channel that suits them the best in order to acquire the service. RC11 [6]

Government public services are intangible products. However, the channels of public service delivery represent the tangible features of these services. By improving the accessibility of service through utilising various technology channels, the quality of public services can be measured by the degree of accessibility. Therefore, competition between government departments can occur by improving the accessibility of their services.

The next section describes the role of e-Government applications in Oman in making public services more responsive to clients. This feature is also related to the feature of accessibility discussed above.

(ii) Responsiveness

According to Parasuraman, Zeithaml and Berry (1985), responsiveness is related to providing services to customers in a prompt and timely manner. The analysis of data collected for this study revealed that one of the motivations for implementing e-Government in Oman was to reduce the time taken to process various applications for public services to citizens, residents, and private firms. For example, RC18 and RC13 stated that the introduction of e-Services in the public sector was seen as a response to complaints from the private sector that the processing of applications by government units took an unreasonable amount of time. A story raised in most of the interviews with respondents was about how the procedure of registering a new company in the Ministry of Commerce and Industry could take months. RC20 gave an
example for comparison between UAE and Singapore in one side where registering a new company would take no more than one day and in Oman, on the other side, which could take between two months to a year depending on how large the company’s commercial activities are. This also illustrates the fact that e-Government adoption was influenced by the need to match advanced governments in service delivery.

RC20 referred to His Majesty’s speech in 2008 urging government departments to utilise IT to speed up the service provision:

This is why the government realised that IT is a factor of being more responsive to citizens needs and His Majesty indicated how important it was to use IT in government services. What we see happening today [citizens’ discontent with public services] is because of the delays happening in processing public service transactions. RC20 [120]

RC11 also stated that ‘The issue [of responsiveness] has become a sort of moral obligation of the Ministry towards its customers’ [34]. In relation to the process of admission of high school graduates into higher education institutions, he asserted that the process now takes a couple of weeks instead of two months. In turn, the cutback in the duration of time to deliver this service to citizens has improved the quality of service and created satisfaction and psychological comfort for the beneficiaries of the service. In regards to the ‘Civil Society’ sphere of governance, RC13 acknowledged the benefits of introducing e-Services in allowing citizens to acquire information from government departments in a matter of seconds without the need to wait in queues in government offices. He agreed with RC11 and many other respondents (such as RC5, RC16, and RC8) who affirm that citizen satisfaction is being increased by the cutback in time to acquire services or vital information from government departments. Similarly, RC2, RC13, and RC15 have maintained that using IT channels as means of service delivery will make government services available anytime and anywhere.

On the political sphere of responsiveness, RC15 stated that ‘One of the positive outcomes of e-Government is that it is capable of providing instant and accurate information necessary for decision making’ [88]. RC10 affirmed that the Government of Oman has come to realise that it was slow in making decisions and have recognised the importance of IT in resolving this issue. This view was corroborated by the view of RC20 who believed that IT can help the bureaucratic nature of government departments, which inhibited the speed in decision-making. Similarly, RC3 stated:
We can introduce a decision-making support system so that during a meeting of the State or Ministers Council, decisions can be made based on accurate information that can be accessed instantaneously rather than basing decisions on personal intuitions. RC3 [63]

RC6 confirmed that e-Government projects provide precise, thorough and detailed information to decision makers to make informed and accurate decisions. RC8 stated that e-Government projects convert paper-based data to electronic data, which can be available to decision makers by a mere push of a button. Therefore, the nature of electronic data being readily available makes e-Government service providers more responsive to ordinary consumers such as citizens, residents, and private commercial companies and to political and economic decision makers in the country. However, the interchange of electronic data between various government departments is a necessity in order to realise the complete advantages of e-Government.

Improved responsiveness and accessibility can also increase the reliability and credibility of public services. The following subsection describes the practical motive of improving the reliability and credibility of public services in relation to e-Government implementation in Oman.

(iii) Reliability and Credibility

Reliability and credibility (Parasuraman, Zeithaml & Berry 1985) can be related to increasing the transparency of government dealings with citizens and with eliminating subjectivity in transactions with citizens. From the data, respondents such as RC15, RC2, and RC14 concentrated on promoting electronic and computer systems as being impartial in processing citizen transactions. These views appeared strongly from respondents from the Ministry of Civil Services (RC5 and RC6), which is in charge of central recruitment of civil servants where applicants are examined using an electronic system and results are disseminated immediately after the examination. RC2 extended the concept of transparency to include keeping the consumer informed of processing progress made towards their transactions mainly through mobile phone SMS messages. He added that paper-based public service procedures may be altered based on the employee’s ‘mood’ and interaction with the consumer so that unnecessary steps or requests for documents are added to the process. However, such a deficiency will not exist when e-Services are implemented, which will increase the transparency and equity of public services.
RC1 believed that e-Government was associated with transparency because His Majesty, in his 2008 speech about e-Government, talked about transparency and e-Government at the same time. RC16 stated that one of the main internal motives of implementing e-Government in Oman is:

In the long run, there will be more confidence in the government by the citizens. Paper-based transactions are prone to great amount of doubts and interventions, but electronic-based transactions eliminate such interventions and subjectivity. For example, in an electronic financial transaction, the amount to be paid is fixed and the customer can’t bargain. E-Government will bring more credibility to the government transactions. RC16 [133]

On the other hand, in the absence of sanctioned electronic procedures, an employee can favour or exempt certain transactions from essential requirements of equity. Credibility and reliability in delivering public services to constituents, government departments, and business firms can also enhance the international image of the country and facilitate the attraction of foreign direct investment. This relates this motive to the economic motive discussed in section 5.4.1.

Effective communication with clients in regards to their service acquisition also enhances the credibility and reliability of public services. The following subsection highlights how e-Government can facilitate effective communication between government departments and constituents. This also contributes to enhancing the levels of satisfaction with public services.

(iv) Communication

In terms of e-Government, the major channels of service delivery are web portals. In Oman, the ITA endeavoured to set standards for portal contents published by government departments in a manner that made these portals user friendly. The ITA awards user friendliness and richness in content in an annual national competition associated with His Majesty’s name, called His Majesty’s Award for Excellence in E-Government. RC2 talked about the advantages of e-Government and mentioned that transparency was the ultimate advantage of e-Government which, to him, meant that the citizen is informed of the status of his application periodically. RC6 explained that citizens seeking employment were informed by mobile SMS messages of vacancy announcements published in the daily newspapers on the day of publication, so that they do not have to buy newspapers everyday just to look for vacancy announcements:
Job announcements are posted on newspapers and notification is sent to all subscribers in the civil service system through SMS. This means that citizens do not have to buy a newspaper on a daily basis just to check for job announcements, but buy the newspaper on the day the announcement of the job of their interest is published. They can then apply for that job via SMS as well. RC6 [33]

Many government departments in Oman are now utilising the social networking tools to communicate with their target clients such as through Facebook, Twitter, YouTube, and public forums operated by Omanis. RC10 gave an example of the affect of electronic communication on increasing the transparency and credibility of public services. He stated:

I really like what the Minister of Civil Services has introduced in the web portal of the Ministry. He listed his personal email as a channel of direct communication between him and the citizens. I think that he strongly believes in the importance of communication and transparency with citizens. RC10 [44]

Government departments saw e-Government as an apparatus of enhancing communication with constituents and were motivated to implement e-Government projects to reach such an objective. E-Government projects also enhance the security of personal information provided by citizens when acquiring public services. The following subsection illustrates the measures of security that e-Government can introduce to secure the provision of public services and, therefore, enhance the credibility and reliability of public services.

(v) Security

Security is an important aspect of electronic services, especially in relation to public services that deal with sensitive personal information. RC1 believed that with the current security tools e-Government public services were becoming more secure and that government departments were motivated to implement e-Government to benefit from this security feature. He gave an example of the current situation where copies of citizen/resident identity cards are requested to obtain public services. In exclamation, he stated: ‘These copies of ID cards which are thrown left and right has got all personal information about an individual, is this a secure practice?’ RC1 [267]

The security of electronic records is more manageable than paper records. A certain degree of access authority can be assigned to individuals based on records as opposed to granting door access to an archive room full of the records of all clients. Also, any tampering with sensitive information can be easily logged and traced to the originating individual. In this regard, the ITA has also worked with concerned government bodies to introduce the e-Transactions law
to ‘protect privacy of individuals involved in electronic transaction … and addresses key issues such as recognition for electronic signatures, admissibility and evidential value of data messages and electronic payments validity’ (Information Technology Authority 2011a). ITA has also signed an agreement with a Singapore-based IT firm to set up Public Key Infrastructure to serve the authentication process of eServices/e-Transactions clients. To this end RC18 explained:

ITA is taking the initiative to build an enabling and secure infrastructure and environment for e-Government implementation. Our colleagues at ITA also initiated the electronic transactions law and consulted us in some aspects. Similarly, they have intervened in some regulatory projects such as the PKI project which I believe is very important to activate electronic transactions either for the government or private sector because it provides assurance and confidence in electronic transactions. RC18 [47]

Similarly, a secure National Payment gateway was established by the ITA in cooperation with MasterCard Worldwide and Bank Muscat in 2007 (Information Technology Authority 2007a) to be utilised by government departments and the private sector to facilitate electronic payment. The most important aspect of security is that e-Government applications are considered to be more capable to more successfully protect citizens’ sensitive data from loss and from unauthorised access. This also adds to the credibility and reliability of public services.

Similarly, credibility and reliability can be associated with certain ways if tangible appearance. The following section illustrates how the instalment of certain tangibles can improve the credibility and reliability of public services.

(vi) Tangibles and Image

Tangible components of a service are simply the physical evidence of the service (Grönroos 1988). RC10 confirmed that as part of introducing e-Services, the furniture, staff workstations, and computer servers have been changed in all of his government department’s branches. Also, the researcher, a native of Oman, observed that all government departments has utilised electronic machines to control the queuing systems in service lounges. Moreover, RC6 stated that his department uses wall-mounted display monitors to display results of recruitment exams for applicants in the waiting lounges. These appearances can convey a credible and professional image about government processes in relation to the provision of public services.
In this study, some respondents such as RC7 and RC18 confirmed that the top management in their departments were motivated to implement e-Government partly because they wanted to convey a good image about their government departments. Both RC8 and RC9 explained that their aim of participating in the competition to win His Majesty’s Award for Excellence in e-Government was to show a good image about their government departments although they believed that they would not be able to win the award. On the level of national government, RC22, like many other participants, believed that implementing e-Government is not a choice anymore and Oman had to ‘jump on the bandwagon’ to keep a good international image since e-Government projects are evaluated by various international committees operating under the United Nations, the International Monetary Fund, and the International Forum. This also illustrates the e-Government adoption was influenced by the need to conform to common global standards.

However, the accessibility, responsiveness, credibility and reliability of public services are based on the ability and efficiency of exchanging information between government departments. E-Government is also about ensuring effective integration between government departments and processes. Therefore, service quality and satisfaction can be improved on the basis of such efficient integration and interaction between underlying processes. In the following sections, the manifestation of this competence, in relation to e-Government implementation in Oman, is highlighted from the aspects of adequacy of effective skilled human resources, possession of necessary knowledge, and the promotion of collaboration and integration between various departments.

(vii) Competence

According to Parasuraman, Zeithaml and Berry (1985), competence of an organisation is its possession of the necessary knowledge and skilled human resources to perform its services. In this study, competence of government departments was seen to be enhanced by effective collaboration and exchange of data (i.e. knowledge about certain public service requirements) between government departments. For example, RC8, a respondent from a government department, which is fully dependant on citizens’ data from other government departments, explained this crucial need in motivating her department to implement e-Government projects, which will allow for seamless data inflow:

The unification of civil record number was of great importance to us so that we can obtain accurate data about our clients from any ministry such as the
Ministry of Health, the Ministry of Manpower, and the Ministry of Civil Services through the client’s civil record number. Today, The Civil Record Authority is jointly working with other ministries to make the civil record number a unified identification across all government units … without a unified civil record number, all the data we obtain from other government units become useless. RC8 [79]

According to RC1, the ITA is actively liaising with all government departments to provide professional advice with regards to standards and technical implementation procedures that will enhance the competence of government departments in IT. In terms of tangible support, the ITA has funded an internal Multi-Protocol Label Switching (MPLS) network infrastructure to connect different government departments with their branches and with other government departments. Government departments were encouraged to utilise this ‘Government Network’ free of charge at the beginning and for a fraction of the cost in the future. RC1 explained that Telecommunication companies operating in Oman were instructed not to lease network lines to government departments in order to influence them to use the secured collaborative ‘Oman Government Network’.

In addition, in 2009 the ITA established storage Incubators to form a National Data Centre where all government departments can store their data free of charge. The National Data Centre is overseen by the Oman National Computer Emergency Readiness Team, which is a subordinate of the ITA established in 2010 to provide information security measures for the ‘Oman Government Network’. The ITA has also led a project of central procurement of IT software for all government departments where operating systems and mainstream software packages are purchased by the ITA and licenses are distributed to all government departments. The ITA also provides training to government employees on newly purchased systems. RC1 stated:

We have a division at ITA called Governance and Advisory and their mere job is to work with government agencies in helping them in putting specifications and evaluation [of their IT infrastructure] and helping them in everything related to IS even in making tender specifications. RC1 [254]

Within the initiative of e-Government, government departments, with the assistance from the ITA, are enhancing their technology infrastructural capabilities to be able to demonstrate a credible and reliable image to constituents. Similarly, human resources development is as important as developing the physical technological infrastructure. The following section demonstrates the steps undertaken by government departments in conjunction with the ITA in this regard.
(viii) Human Resources Development

Grönroos (1988) postulated that every single employee of a service agency may be directly involved in the process of service distribution. Therefore, all employees should be equipped with salesperson skills to become a part of the accessibility system of a service. In line with this concept, the findings of this study revealed that the Omani authorities steering the e-Government strategy have crafted a clear vision of preparing Omani civil servants for the transformation of service delivery. One of the six pillars of the e-Oman strategy was human resources and capacity development. According to RC1, the ITA is training more than 93,000 employees of the government sector to be certified in one of those ICDL, IC3 and Cambridge Certificate RC1 [23].

This indicated that the dimension of human resources development in relation to service quality has not been overlooked by government departments in their quests to adopt and implement e-Government. By training civil service employees on the new ways of service delivery, government departments aimed to avoid a gap pertinent to poor ‘internal marketing’, which usually results in poor engagement of employees in changing their attitudes to fit the goals of the strategy and may, in the long run, cause failure of the strategy or at least some of its components (Grönroos 1978). To this end, RC19 stated:

... [if the users of the services] do not understand and if they are not on board with us then we can set up the best highway in the world. But if they do not drive their cars on that road, then it is a useless highway. RC19 [63]

However, none of the respondents mentioned providing the trained employees/citizens with an induction or with orientation sessions on the specifics of the country’s e-Government vision and how their engagement becomes central to the success of the e-Oman vision. These training courses were contracted out to private sector firms (Information Technology Authority 2009) who were concerned only with the technical contents of the courses.

Developing the technology infrastructure and the human resources skills are prerequisites of competence to deliver quality public services. Similarly, understanding how to compose public service that fit the needs of clients is also important. The following section illustrates the dimension of understanding/knowing, which is necessary for the provision of quality public services.
(ix) Understanding/Knowing

This dimension is concerned with understanding the clients’ needs and delivering services specific to those needs (Parasuraman, Zeithaml & Berry 1988). When explaining his role as a member of the Information Technology Task Force (ITTF), RC19 stated:

Our objective was to come up with a technology road map for e-Oman and it was around the end of 2000 and early 2001 (beginning of the century) and when we sat down to define e-Government at that time it was simply stated as anything that a citizen or a resident can do inline he or she should be able to do online. This was the central theory when we were working on it and I understood it as that. RC19 [3]

This statement explains that the founders of e-Oman (Gartner Team 2002) fully understood the purpose of e-Government as a tool of transforming the channels of service delivery to use electronic means. All respondents agreed that e-Government services were aimed at reducing time, effort, and overhead costs of government services on the citizens’ part. Therefore, these services were to be designed on the premises of convenience of access and reduced cost of attainment. This dimension increases the competence of government departments that implement e-Government to deliver quality services and satisfaction to constituents.

Similarly, the active participation of citizens in the provision of public services and the consideration of their preferences is an important dimension of improving service quality and satisfaction. This dimension can be enabled and improved by the implementation of e-Government service. The following section illustrates the role of e-Government in improving citizens’ participation in shaping the quality of public services.

(x) Citizens as Active Participants in Service Provision

According to Grönroos (1978), consumers of a service play an active role in shaping the service and, thus, the expectations and behaviour of a consumer must be taken in a favourable view when planning for service provision. In addition, analysis of consumer’s behaviour during the process of acquiring the service must be used to influence the improvement in service quality. Ultimately, Grönroos advocates that the consumer can be an integral component of the service they consume. Evidence from this study was consistent with these views. RC21 argued that citizens’ feedback is considered as a tool of evaluation of various systems in the Muscat Municipality. He further explained that some of this feedback contained citizens’ opinion of the systems run at the municipality compared to systems run at other government departments such as the Immigration and Neutralisation offices and the
Ministry of Manpower. Such comparisons from citizens who are consumers of government services brings out the sense of competition between government departments and affects their motivation to adopt and implement e-Government as RC21 stated:

This makes us wonder why other government departments’ systems are better than ours and we actually go and visit the ministry of manpower and the Immigration offices and compare their systems to our systems. RC21 [55]

RC15 who holds a more senior managerial status at one Ministry asserted that the e-Government system at his Ministry was modified and upgraded according to comments received from citizens who use the system. Similarly, RC6 stated that:

… because the Ministry of Civil Services has applied for the ISO certificate, they had to probe for the level of satisfaction of citizens of their electronic services. RC6 [60]

This also illustrates the fact that e-Government adoption was influenced by the need to comply to professional standards of operation and improving the external worth of government departments through acquiring certifications such as the ISO certificate.

Regular citizen satisfaction tests, RC6 argued, keeps the Ministry of Civil Services upgrading and adjusting its electronic systems to satisfy citizens. In the case of Muscat Municipality, RC20 stated:

At the end of the day you are benefiting the people of Muscat and when they feel more relaxed and their transactions are being done in a better way, they will have more time on their jobs ... and focus on [attending to their] family needs ... rather than going out [frequently to obtain public services] ... also they can do [the services] at night so that they do not have to leave their jobs. RC20 [35]

This extract shows that the motivation for implementing e-Government services in the Muscat Municipality were related to cultural aspects in the Omani community where family chores are extended to include duties toward elder family members such as parents, grandparents, uncles from both mother and father sides. Like in any other Arab and Muslim countries, family chores are usually attended to by male members of the family. These aspects of consumer behaviour motivated government departments to adopt e-Government services provide solutions that satisfies these needs.

Omani citizens are influenced by comparisons with levels of quality of public services in neighbouring countries. Therefore, government departments were motivated to adopt and
implement e-Government projects to achieve citizen satisfaction and reach to similar standards. In this regard, RC2 explained:

IT awareness among citizens today is more than it was 10 or 15 years ago and it is going to be even more complicated in the next generation where the technology is going to be a central part of everyday’s life ... Citizens compare public services with those in neighbouring countries ... Thus, the government is also focusing on the future of service delivery to citizens of the next generation. RC2 [127]

RC2 showed an extreme view of the importance of e-Services such that electronic services are becoming part of the human rights in many countries around the world. Therefore, government departments were driven to implement e-Services to meet these international standards.

In terms of the influence of citizens’ dissatisfaction towards government services in promoting the implementation of e-Government, RC5 stated that:

The main motivating factor: we have had queues of people waiting for services and there are many people who need certain services, but are waiting for long times. Imagine coming to the Ministry at 7:30 am and leaving at 2:30 pm without getting served! The service is not worthy to take two minutes, but takes two days and there are services for example which should take one hour, but takes three days or more. You see, paper based and bureaucratic procedures are not an option anymore. RC5 [24]

In the same vein, RC10 articulated that since his government department is purely a service organisation, decision makers paid keen attention to increasing citizens’ satisfaction. He explained that his organisation has implemented a bonus scheme for employees who serve citizens better according to the minimum time spent to deliver a service to a citizen at the organisation’s service counters.

Another perspective of citizens’ participation in service provision is the actual involvement of citizens in service generation. Online or self-service requires citizens to be the sole source of data input. In this regard, respondents have affirmed that this will increase the quality and accuracy of input resulting in a quality service delivered in a less time. For example, RC2 explained that when citizens input their own data to acquire a service, the accuracy and cleaness of data increases because they know their data better than the government employee does. He continued to highlight that a government employee may be under the pressure of processing hundreds of citizen requests per day, which increases the human error rate.
RC6 described electronic services as being paperless which decreases the burden of screening citizen requests by government employees and decreases error rates. Instead, citizens can apply for services from the convenience of their homes and contribute to improving the quality of the service. Therefore, government departments were motivated to implement e-Services to reduce errors and optimise the cost of the provision of public services.

Similarly, alignment of internal processes within government departments is also important to improve competency in delivering seamless, quality services. The following section illustrates this dimension of service quality in Grönroos’s (1988) model.

(xi) Intra-Organisational elements of the service

Different subunits of an organisation have to work in harmony in order to bear a quality service (Grönroos 1988). Usually, this type of harmonisation is seen as an improvement in the efficiency and functionality of government departments. One respondent, RC16, categorised the implementation of e-Government into horizontal and vertical integration between government processes. On the horizontal aspect, RC16 argued:

… before we offered our services online, we have reviewed our internal working processes and regulations and structures of our bureaus and the internal workflow of processes. So, internal alignment and re-organisation was very important. RC16 [76]

RC16 also stated that the rearrangement process made it necessary for some of the internal subunits in his government department to merge into one entity to enable the new workflow of electronic service delivery. In this same government department, RC17 explained that, the work procedures had to be reviewed and sorted according to a new mechanism that facilitated coordination between different subunits within the government department. These views were also consistent with those in responses from RC15 and RC11 to questions about the planning process of implementing e-Government in their government departments. RC15 stated:

During the implementation of our e-Government system, we found out that there were some procedures that needed to be shortened, removed or merged with other procedures. We have gone through a lot of ‘tailoring’ during the implementation phase just like with any information system project. RC16 [38]

Similarly, RC11 explained that since he moved in to his current government department in 2010, he created a comprehensive implementation strategy which incorporated ideas from different divisions:
We have prompted all of our administrative subdivisions to participate with thoughts and initiatives to the overall strategy of e-Government at the Ministry. In fact, I moved to the Ministry recently and I realised that the implementation efforts were disjointed between different subdivisions, so I initiated this idea of a comprehensive strategy in order to coordinate and align our collective effort.

RC11 [77]

The introduction of new process workflows and the notion of merging different internal subunits have an effect on improving the work bureaucracies because it helps loosen the boundaries of “jurisdictions” between these departments. According to Osborne and Gaebler (1993), bureaucracy represented good administration, but as the tasks of government increased in complexity and the size of government entities grew larger, the concept of bureaucracy had to be modernised. Today, the concept of bureaucracy is associated with inefficient, unresponsive, counterproductive, and time-consuming processes governed by stiff and complicated rules. The authors argued that ‘the people who work in government are not the problem; the systems in which they work are the problem’ (Osborne and Gaebler p.xviii). They offered to solve this problem by loosening the bureaucratic rules and promoting an ‘entrepreneurial spirit’ so that government employees in different subunits are empowered to action requests of citizens effectively.

Respondents such as RC3, RC4, RC9, RC5, and RC20 have related bureaucracy to being a main factor in causing inefficiencies and citizens’ complaints about the complicated procedures in obtaining government services. It is noteworthy that these respondents although were senior level government employees but were talking also with a sense of dissatisfaction about the issue of bureaucracy. For example, RC10, who is the head of the foreign investment section in a government department, explained that citizens’ satisfaction with public services was low because of the saturated bureaucracy within government departments. A service applicant is required to go to more than one director or administrator to get a number of approvals for a single service. RC10 explained that the approval forms have to be printed in a certain way with zero tolerance to minor typing mistakes. In the same government department, RC9 related the absence of transparency to the issue of bureaucracy:

In my humble opinion and personal understanding we not have much transparency and the routine is the same and is repeated in all government departments. Bureaucracy is the fundamental reason for this. RC9 [78]

Another respondent in a more senior management level saw bureaucracy from a different angle. He explained:
… electronic government initiative aims at getting rid of bureaucracy. At the same time, there is a very important point; the work procedures must not be personalised where the workflow halts at a point where a certain person has made a subjective decision. RC14 [100]

In this view, RC14 highlighted a link between the elimination of bureaucracy and subjectivity. RC14 believed that improving bureaucracy at certain levels of management will eliminate subjectivity and personalisation of decision making. In turn, this will result in more transparency, a sense of equality, and psychological comfort for citizens. Therefore, the motivation, then, for e-Government adoption in Oman was to reduce bureaucratic effects and improve the performance and efficiency of government departments to improve public service quality. The re-alignment of internal government processes and increased collaboration both intra- and inter-government departments will contribute to improving the quality of public services.

This type of effective collaboration among government departments also enables the grouping of government services in a single window of delivery which improves the accessibility and convenience of public service attainment. The following section illustrates the concept of auxiliary services in relation to e-Government services.

(xii) Auxiliary Services

An auxiliary service is an extra service that facilitates the accessibility of a main service (Grönroos 1978). For example, many hotels provide their customers with shuttle services from and to airports. In the case of e-Government in Oman, the National PC Initiative, funded by His Majesty, to provide certain segments of the Omani society with free and/or subsidised personal computers and internet access is considered as an auxiliary service that facilitates the accessibility of e-Government services. This auxiliary service of internet service provision also covers rural areas with very low population densities where it is not feasible for commercial telecommunications firms to install high-speed internet connections. RC1 stated:

That’s why we have as a part of the policy with TRA [Telecommunication Regulatory Agency] is the Universal Services where the government subsidize for such regions. We are starting our USO in these regions with high-speed broadband. RC1 [103]

On the same course, the e-Government portal (shown in Figure 5.5) is developed to be a one-stop-shop for all e-Government services from various government departments. The portal
was launched in November 2009. Some of these services that are grouped together may be auxiliary services of each other, which encourages citizens to use this portal for their day-to-day quest for government services, hence, the definition of an auxiliary service. To enable auxiliary services, government departments were motivated to adopt and implement e-Government projects in order to achieve better quality of their public services.

Figure 5.5 Oman e-Government services portal - Source: www.oman.om

This section presented the e-Government adoption motive related to improving public service quality in Oman. The presentation of data was framed according to dimensions of service quality models (Grönroos 1978, 1988; Parasuraman, Zeithaml & Berry 1988). The data predominantly showed that government departments in Oman were motivated to adopt and implement e-Government in order to improve the quality of public services and enhance the satisfaction of citizens with these services. The next section presents the motives of e-Government adoption and implementation in relation to improving the quality of information exchanged between government departments and between them and constituents.

5.4.4 Motives of Improving Information Quality

An important dimension of Taylor’s model of value-added processes (Taylor 1986) is the Information Quality (IQ). The model proposes five values to be added to information in order to meet user’s criteria of quality information, namely: accuracy, comprehensiveness,
currency, reliability, and validity. All of these five criteria were highly important motivations and are among the sought for objectives from implementing e-Government projects in government units. For example, RC7 said:

One of the most important factors that motivated us to implement e-Government is our keenness on receiving accurate and current information from credible sources because we are not able to make payments to pensioners unless after we confirm their entitlement for such payments. You know, when it comes to payment it is a very sensitive issue that largely depends on accuracy and currency of information. RC7 [14]

However, achieving IQ is dependent on the level of both horizontal and vertical collaboration and information exchange within and between various government departments. In this regard, the ITA is working as an intermediary body providing guidance to government departments on how to collaborate with other government departments. Moreover, the ITA has included the degree of collaboration with other government departments as an evaluation criterion for contestants of His Majesty’s Award for Excellence in E-Government. RC6 demonstrated:

We will be fiercely competing with other government units to win His Majesty’s Award, but we need to cooperate and collaborate with them as well. They also need to collaborate with our unit because ITA also evaluates units under the criterion of collaboration with other units in the competition for the Award. RC16 [28]

The results of an analysis of the data from interviews revealed that government departments were motivated to model the public service system in accordance to the value-added processes of information system model. This modelling, respondents argue, will allow for more effective collaboration between government units and will improve the efficiency of public service processes and contents. Further explanation of the value-added model will be presented in section 5.6.

5.4.5 Political Motives

Most respondents hypothesized that economic and social advantages of implementing e-Government will enhance the international image of the country. For example, RC22 explained that:

... the short term benefit of implementing e-Government is to keep up with the rest of the world. Today the world speaks the language of technology and if we
do not follow in that direction we will lose in terms of the image issue. RC22 [67]

Similarly, RC16 asserted that there was an external factor motivating the government to implement e-Government which was to:

... raise the level of the Sultanate in the rankings of UNESCO and international organizations, and this is very important and has a large return to the Sultanate in terms of political and economic spheres. RC16 [129]

Internally, e-Government was regarded as an important tool for improving the process of national policy making by supporting informed decision making, RC15 stated that:

One of the positive outcomes of e-Government is that it is capable of providing instant and accurate information necessary for decision making. RC15 [88]

RC10 affirmed that the Government of Oman has come to realise that because of lengthy bureaucratic procedures, decision making has become slow. The government have recognised the importance of IT in resolving this issue. This view is corroborated by the views of RC20 who believed that IT can help the bureaucratic nature of government units, which inhibits speedy decision-making.

5.4.6 Civil Society Motives

The e-Government initiative in Oman has focused on the aspect of inclusiveness of all segments of the society with extended free training programs to all citizens and free internet services and personal computers for certain unprivileged segments of the society. This effort was directed towards reducing the digital divide in the country and enabling every citizen to benefit from the e-Government initiative. R1 explained:

We have to deliver public services to all people around the country. So, we are trying to avoid the digital divide in Oman. In 2008 HM said “we directed to create a strategic national plan to educate people and prepare them to use the IT technologies”. This is an order and that is why we are going in that direction. RC1 [359]

As shown in the section 5.4.3, transparency and providing equal opportunities to all citizens was also an important motive of the initiative. Among the main objectives of the Omani e-Government initiative were citizen satisfaction with public services, providing psychological comfort through speedy processing of citizen applications and reducing cost and effort in acquiring a government service.
**5.4.7 Country-Specific Motives**

The most mentioned motive specific to Oman was the geographic nature of Oman where populations are scattered everywhere and there are very vast distances between concentrations of populations and the Capital City of Muscat where most of the government headquarters are located. For example, the distance between the city of Salalah in the south and Muscat is approximately 1000 kilometres. Citizens endure great efforts and costs in travelling to Muscat to acquire services because of the tyranny of distance. Electronic services were seen by the Government of Oman as a viable solution to reduce such costs and to reduce the number of patrons and, therefore, reduce traffic pressure on the Capital City. Some respondents such as RC8 and RC 10 argued that reducing traffic and reducing the number of commuters to the Capital City will reduce the probability of accidents which have staggered in recent years putting the rate of death in accidents to 28 per 100,000 people which is very high compared to the global average of 19 per 100,000 people. This alarming rate has become a matter of serious concern even to His Majesty who explicitly called upon all citizens to participate in an initiative to combat this phenomenon.

In terms of motives related to the demographics of Oman, RC4 stated:

> The pinpoint for Oman, at that time in the year 2000, more than 60% or 70% of the young people of the country were school age. So what’s the pinpoint for Oman? We enable digital society through creating jobs for these youth and if we are going for the knowledge economy so priority number 1 is creating SMEs, creating the industry, creating jobs so we enable digital society through enabling the youth and it is the youth who should build this digital society and that is what is important for Oman. RC4 [72]

Other respondents have indicated that His Majesty’s vision and his keen interest in developing the knowledge skills of Omani citizens was a specific motive for Oman. RC11 stated:

> His Majesty’s speech about implementing e-Government did not have a compulsory tone, rather a supportive and encouraging tone. The 7th and 8th national five-year strategic plans focused on developing the ICT sector and in the recent directives from His Majesty personally sponsoring 1000 external scholarships for Omani citizens to pursue Master’s and PhD degrees, Information Technology was one of the five majors to be sponsored by this scholarship initiative. RC11 [100]
This claim is corroborated by the existence of the Sultan Qaboos Academic Chair Foundation which funds fifteen academic chairs at international universities all over the world. One of these academic chairs is at the University of Melbourne (Ministry of Higher Education 2013).

5.5 Summary of Motivating Factors for the Implementation of E-Government in Oman

The results of this study revealed that, at a policy level, economic factors played the most influential role in the adoption of e-Government in Oman followed by institutional necessities to comply with international standards. At the practitioner level, measures of service quality and information quality were regarded as complementary to the economically-forced strategy of e-Government implementation within a national move towards sustainable knowledge-based economy. The decline in oil prices in 1998 created an external pressure for the government to explore alternative economic resources within the broader global discourse on knowledge-based economy. Other motives related to the political, administrative, civil society, and country-specific factors were also among the motives that gave impetus for the adoption of e-Government in Oman. Emerging from this discussion, Figure 5.6 shows a preliminary framework of the motives that drove the Omani national government as well as government departments to adopt e-Government. The motives related to the national government (motives of conformity and economic diversification) are considered as catalyst motives that catalysed the adoption process. The motives related to government departments (service quality, information quality and enhancing the spheres of governance) are considered as implementation motives that drove the implementation of e-Government in Oman.
5.6 Value-added Processes: Creating an Enabling Environment

In relation to e-Government in Oman, better information processing was regarded as a value-added organisational activity which would enhance the quality of data exchanged between government departments and constituents. RC1 explained that the role of the ITA, as a coordinating body of e-Government implementation, which was to create an ICT-based platform that added value to the core business activities of government departments in the country:

At the end, it is the value and when they [government units] see the value and know that there is such a burden that ITA will take away from them they will say OK ITA do it for us. Our ultimate goal in the next 5 years is to make government agencies only focus on their core businesses and we are going to help them in certain areas in which they need help in. RC1 [290]
Similarly, all three board members of the ITTF explicitly acknowledged that the need for value-added services was among the salient factors that motivated government departments to implement e-Government projects. RC4, who used to be a member of the ITTF, stated:

The only way I can talk about it is business; you show value. Most of these Ministers if you talk to them, all of them complain about inefficiency in their departments; we want to be more efficient, they say. The reason why we created this organisation [ITA] is actually to sit and be proactive because really a good system done probably any Minister will see value in it. RC4 [213]

Specifically, in the area of e-Payment, RC19 explained that the e-Payment project at the CBO had created a platform on which other government and private organisations, such as banks, can build in order to produce value-added financial transaction services. RC18 articulated that the Government had to train its employees on the applications of Information Technology in service provision because these employees were unaware of the great value that e-Government could add to the functionality of government departments. The value-added features of e-Government were also realised by the executors of e-Government policies. RC10 explained that his government department was completely dependent on information from the Ministry of Manpower to deliver services to its clients. In regards to adding value to the core business of his department, he explained that:

E-Government will really add value to us because it will solve the problem of dealing with other Ministries. So, there are extensive processes between us and them in terms of the formalities of service provision. So, I think if we implement e-Government, it will ease these processes and will make them much faster. RC10 [102]

From the data, e-Government in Oman was regarded as a reform tool to transform the public service system to become more integrated and to make use of readily available digital data to add value to government core business processes and content. Therefore, the results of an analysis of the data from the interviewees were framed within the Taylor’s model of value-added process of information systems (Taylor 1986). It seemed that Taylor’s model was immediately applicable to the ways in which e-Government implementers in Oman conceptualised the design of the physical implementation environment. This could be related to the fact that governments are processors of information. Therefore, e-Government is considered as a mechanism of applying ICTs innovations to add value to government processes of data transformation into information and also adding value to the produced information to finally produce knowledge. This final product, valid knowledge that is, becomes the basis for government operations.
The information environment is an important element of Taylor’s model as the value of information is context-based. According to Taylor (1986), an information environment is defined by five descriptive elements: (i) organisational, (ii) people, (iii) problems, (iv) information products, services, and systems, and (v) user costs and benefits.

Figure 5.7 illustrates the different descriptive elements of Taylor’s model in relation to the information environment of the e-Government initiative in Oman. First the organisational element of the information environment within e-Government in Oman is categorised by the knowledge base of government departments, the patterns of information flow, the power centres, the management style, and the clients. The second descriptive element of the information environment is the people element which is described by the information literacy, awareness, and how this affects the performance of the organisation. The third element is the problem element which indicates the type of problems that may be encountered in an information environment such as policy making, decision making, planning, and, in the case of a government, citizen needs. The fourth element is the information product/service element which is concerned with the type of audience of an environment, how feedback is received and dealt with, and the format of produced information. The fifth element is related to the cost/benefit of adopting a system to operate within an information environment in terms of the cost of the exerted effort by users of the system in comparison to the potential cost reduction of operations.

The use of Taylor’s model in this case is applicable for two reasons. First, in Oman, e-Government adoption was influenced primarily by the need to improve the delivery of government services to all national socio-economic stakeholders and, by extension, encourage the development of a platform to usher in a knowledge-based economy. Knowledge is the main product of a knowledge economy. At the physical layer, e-Government is an interconnected information system that facilitates effective collaboration between geographically dispersed departments in order to better exploit information resources in decision making and public service delivery.

Secondly, it was understood, from the data, that e-Government is a client-centric innovation focusing on providing added value and/or integrated services to clients. Clients in this case also include government departments. This view is consistent with the specific Omani definition of e-Government which considered e-Government as ecology of an information system environment, stakeholders and a set of enabling regulations that add value to public
services. The presentation of evidence in relation to the value-added processes also adds to the accuracy and applicability of the definition.

Following the graphical reproduction of Taylor’s model in Figure 5.7 below, evidence is presented from respondents’ narratives of how policy makers and implementers of e-Government in Oman envisaged the transformation of the public sector service systems to be based on value-added processes of information systems. The purpose of this presentation is to map out this data to Taylor’s model to create a meaning of the collected evidence. It seemed that e-Government design in Oman was mainly concerned with adding value to information in order to improve the capabilities of government departments to deliver better services to their stakeholders.

It is important to note that the added value to information in the case of e-Government implementation is not easily measurable. However, it can be thought of in the improved quality of public services, the increased productivity in government operations, and the time saved in the provision and attainment of public services. According to Foucault (1980), knowledge is power; that is individuals or organisations that possess valid knowledge in one field are perceived to be more powerful and looked upon by other individuals or organisations in the same field. Therefore, in the case of e-Government adoption and implementation, organisations that can better acquire, manipulate, interpret, and share information will have more competitive advantage. This is also related to the need for Oman to appear globally competitive (see discussion in sections 5.4.1 and 5.4.2).
Figure 5.7 Descriptive elements of Taylor’s model of value-added process
According to Taylor, the organisational element of an information environment can be described through its knowledge base (which represents the base of growth and innovation of the organisation). The implementation of e-Government in Oman benefited the organisational element of government departments by establishing an interactive repository of information, which guarantees speedy and secure access to confidential information. Such repositories included shared databases such as the National Record System (NRS) and the National Archive System (NAS). In this regard, RC1 stated:

> The National Archive [System] will help a lot in this regard and will give the impression and real meaning of information confidentiality and by time some information becomes public and not confidential anymore as we see in other countries. RC1 [20]

Also, the NRS is a shared database developed by the Royal Oman Police which contains identification information of citizens and residents of Oman. The existence of such shared databases is a motivator for government departments in Oman to cooperate with other departments in order to enhance their internal knowledge base. Having a common knowledge base within the Government creates a substantial ground for collaboration and information sharing for the purpose of decision making. As RC13 argued, the Internet should form the basis for the transfer of information across organisational borders in order to enhance decision making and provide accurate information and quality services to constituents. RC13 stated:

> The simplest thing [we can provide for the society using e-Government] is the availability of information itself through the net. Previously, you could get the information by visiting an office of a government unit or offices of other people to consult, which will take days. Today you can get the information you need in a matter of seconds. RC13 [67]

RC11 explained that unification of information semantics was essential to the creation of a common knowledge base. In their views, these respondents maintained that the creation of a common knowledge base for government departments is a precursor to successful implementation of e-Government.

Information flow patterns are important descriptors of an organisation. In Oman, e-Government adds value to the process of information flow by using digital channels of exchange. RC1, RC2, RC3 and RC4 explained that the Government was using various mediums of digital communication with constituents such as web portals, SMS messages, social media applications, call centres, and service kiosks. As RC11 articulated, information
received from the Ministry of Education was an important resource for the functioning of the Ministry of Higher Education:

We are 100% dependent on information exchange with other government units. For example, the Ministry of Higher Education depends on information about students from the Ministry of Education. If we do not receive information from them, we cannot function at all because they are our main source of input. RC11 [156]

While some government departments represent the source of information, other departments are perceived as receivers of information. In the old paper-based system of public service, citizens were involved as carriers of information between different government departments. Using e-Government systems enables the seamless flow of information across the boundaries of government departments through integrated back offices. As RC12 contended, information flow was the backbone of electronic service delivery and it must be patterned in a collaborative way involving all concerned parties to allow for regular and continuous flow. RC12 explained that the implementation of e-Government in Oman was envisaged to be based on the concept of communities of interest:

The concept of communities of interest has been established to facilitate the exchange of information between different government units such as between the Ministry of Education and Ministry of Higher Education in one edge and the Ministry of Manpower in the other edge. Information is input from one edge and processed to become an output to be used by the other edge ... the exchange of information becomes the backbone of electronic services. You cannot get the service without an exchange of information among the parties of the same community of service. RC12 [166]

Therefore, e-Government systems were conceptualised as adding value to the process of information flow between various government departments. This added value is realised in the form of more accurate and easily accessible information.

Pursuing support from power centres in the organisation is essential to the success of innovation adoption such as information systems. In Oman, different influential power figures in the country supported the initiative at the highest national level such as His Majesty the Sultan and key cabinet ministers including the Minister of National Economy. In this regard, RC4 stated:

The politicians bought it [The Strategy], and what kept it going was that we had a high level support. We had a buy-in from the whole cabinet and the key ministers of the cabinet. RC4 [152]
Similarly RC11 explained:

There is no explicit law to force us to adopt e-Government. But His Majesty’s words are considered as a law. RC11 [98]

As RC4 and RC11 demonstrated, support from the top centre of power in the country (His Majesty the Sultan) has motivated government departments to adopt e-Government. RC1 further illustrated that e-Government is a change process which needed leadership support and power. Therefore, this clear understanding from respondents, in this research, of the importance of support from power centres highlights the applicability of Taylor’s model as a blueprint for implementing e-Government in Oman.

The organisation management style is also an important determinant of the success of implementing innovations in organisations. Taylor argued that the management style determines whether or not value can be added to processes of information systems. Managers that understand the full potential of information systems are more successful in introducing value-added processes. In Oman, in some government departments such as the Ministry of Higher Education, the Central Bank, the Ministry of Civil Services, the top management took the effort in getting involved in the planning of e-Government projects and, in most cases, adapted a participative decision-making style to involve all subordinates.

It is interesting to note that the government department where RC19 works has carried out one of the most successful implementations of e-Government. RC19 attributed this success to factors such as continuous involvement of stakeholders including users of the system and personal follow-up of the president of his department. He stated:

[The presentation of consultants’ proposals] was under the auspice of our President and all the CEOs were there as well as business users and tech people. So, the presentation of the systems was made to an audience of all stakeholders. We also had an electronic fund transfer committee, which I was heading and all the CEOs of banks were members of. RC19 [102]

In another case, where RC7 works, the participative decision-making style did not involve users of the system nor did it have direct involvement of top management in the follow-up of implementation a part from routine reporting. RC22, RC19, and RC16 argued that top management support coupled with a clear understanding of the added-value of e-Government was essential for the success of implementation.

Value can be added to services by understanding the actual needs of clients of such services. In Oman, policy-level as well as implementation-level officials argued that profits of e-
Government projects were directed towards the benefit of constituents. However, a pitfall can be recognised in this aspect. In some cases, citizens were not directly involved in the systems development process as will be shown in the next chapter.

It is essential for the success of implementing an information system to assess the needs of perspective users prior to implementation. For example, Muscat Municipality has been regionally and internationally recognised for successful implementation of e-Government initiatives. RC20 and RC21 related this success to continuous and careful assessment of users’ needs.

The people element of Taylor’s model is related to the characteristics of the information system users. Relevant characteristics in the model are: information literacy, awareness of the availability of information and value-added processes, and the prospective effects of the information systems on the performance and productivity of those people.

In terms of information literacy, the Government of Oman has realised the problem of the digital divide and that a large segment of the Omani society is technology-illiterate. Thus, the e-Government initiative was focused on reducing the digital divide through sponsoring free training programs to citizens and civil employees. In this regard, RC19 used a metaphor of motor highways. He stated that the Government can build the best highways in the world, but they will end up being useless if they are not used by drivers. Similarly, he continued, we could implement the best e-Government services, but without the right skills and tools, Omani citizens will not be able to use these services.

Without the appropriate awareness of the availability of value-added services and options for users, the adoption of an information system will not be successful. In relation to e-Government in Oman, the ITA endeavoured to spread awareness of e-Government to all segments of the Omani society through training programs, workshops, and showcasing the technology itself. RC8 and RC16 explained that the ITA holds regular conferences and workshops to enhance the knowledge transfer between local, regional, and international experts of e-Government. Awareness programs create a channel of communication between implementers and the users of the system to serve the purpose of consultation. To this end, RC21 explained:

With regard to the social aspect, it is important to communicate with the community, especially with some of the organisations and civil society private charities as well as associations, for example we work with social associations
such as the Association of Omani Women to raise awareness in the community and for women in particular. RC21 [89]

In relation to the previous point of information literacy, the awareness programs complement the education programs. RC1 and RC3 explained that ITA uses national TV and Radio channels to disseminate information about new eServices and progress of Implementation. Similarly, RC3 stated that ITA showcases e-Government products in local and regional technology exhibitions such as COMEX Oman and GITEX Dubai. This also illustrates the fact that e-Government adoption was influenced by the need to broadcast a favourable image of the country in regional and international forums.

Government departments in Oman considered e-Government as a tool to improve the performance of government services which will eventually add value for the government and citizens. The added value for government departments manifested in reducing costs of service provision and eliminating redundancy in transaction procedures across various departments. In this regard, RC12 explained:

 Governments generally, when they think of moving to e-Government services, they think in terms of raising the efficiency of the performance and effectiveness of services provided to constituents. RC12 [4]

RC10 argued that using integrated e-Government systems will reduce data redundancy and costs of printing. RC5, from the Ministry of Civil Services, explained that sometimes an application form is printed 10 times due to typing mistakes because of stringent form formats. He added, with electronic forms, printing costs are significantly reduced. This is also related to the economic motive of improving productivity and reducing the cost of government operations. In the following paragraphs the discussion is continued to address the problem element of the value-added model.

The problem element of Taylor’s value-added model is related to understanding and defining the problems that are expected to be solved or mitigated by the implementation of an information system. Some of the descriptive elements of this element are decision making, policy making, planning, and attending to citizens’ needs.

The availability of accurate and easily accessible information was considered as one of the motivations to implement e-Government in Oman. Respondents holding senior management levels such as RC15, RC11, and RC14 suggested that they were more confident about the
accuracy of data - provided by e-Government system - they used to make decisions. For example, RC15 stated:

One of the greatest motivations for us is the ability to obtain information about everything and anything in the organisation with a mere push of a button. RC15 [60]

RC3 also foresaw e-Government systems as a platform that can be used interactively to assist the Council of Ministers of Oman in making informed and speedy decisions on issues presented in their regular meetings. She stated:

[e-Government] will enable us to establish an effective and speedy decision-making system. Think about a meeting of the Council of Ministers where someone came up with a good idea to put in the policy agenda; with an electronic decision-making system, information that can support the approval or non-approval of this idea can be readily available. Thus, decision making becomes more objective rather than being based on the intuition and improvisation. RC3 [63]

Similarly, readily available information and knowledge was seen by policy makers in Oman as viable in making informed decisions and formulating social, economic and political policies. Value is added to the process of policy making by simplifying the process of public consultation and, therefore, making effective and sustainable policies in a speedy manner. To this end, RC15 and RC21 explained that it has become easy for government departments to receive prompt feedback from constituents on Ministry-level policies. For example, RC15 explained:

I think that e-Government has positive aspects and great features for the political sphere relating to the provision of the necessary data simultaneously and accurately for decision-makers to take appropriate decision on the issue or project under study. RC15 [88]

In adding value to the citizens’ experience of public service attainment, the Government of Oman was motivated to implement e-Government to leverage citizens’ efforts and costs of acquiring public services. For example, the new recruitment system at the Ministry of Civil Services allows job seekers to apply for job vacancies by interacting with the system using mobile SMS messages. The Ministry of Civil Services is located in the Capital City. According to RC5 and RC6, prior to the automation of the system, job seekers from all over the country used to wait in long queues to apply for a job opportunity in the physical location of the Ministry. The new system, RC5 and RC6 argued, has contributed to increased citizen
satisfaction with services offered by the Ministry of Civil Services. Generally, in relation to acquiring public services from government departments, RC12 stated:

The citizen should not pass through 5 or 10 units of government to acquire a single service. They should only go to one unit and that unit passes the information of the request to other concerned units in the background without incurring extra costs and time on the citizens’ part. This is an important benefit of this golden opportunity to streamline government procedures. RC12 [17]

Therefore, the adoption and implementation of e-Government in Oman was conceptualised to add value to processes of policy making, planning and reducing cost of service attainment on the citizens’ part.

The element information products and services in Taylor’s model is related to understanding the characteristics of the services to be produced by a certain information system. These characteristic are related to identifying the audience of the service, specifying mechanisms of receiving feedback from users related to system design, and understating the format of information that the system is required to produce.

In terms of identifying the audience of e-Government services, the Government of Oman realised the role of social media in communicating with constituents especially the youth. For example, RC1 is using Facebook, Twitter, and YouTube to appeal to the segment of youth in the Omani society. RC7 and RC8 argued that because their department deals with the segment of retirees, it was appropriate to reach to this segment through mobile phones and official e-Government portals. RC1 and RC21 explained that e-Government services in Oman were developed in accordance with cultural and religious values of the Omani society. For example, RC1 stated that computer education programs are administered in separate premises designated for male and female learners. RC21 demonstrated that Muscat Municipality was motivated to implement 24/7 eServices to avoid forcing male-workers to leave their work during day time in order to acquire public services such as building permits and rental contracts. In the Omani society, these activities are predominantly the responsibility of male members of the household.

In allowing for feedback from system users, government departments in Oman realised that feedback from clients served as a continuing motive to strive for delivering better services to constituents. As RC15 explained, the HEAC system at the Ministry of Higher Education is modified and developed every year in accordance with feedback received from external users. Alternatively, RC21 stated that systems implemented within Muscat Municipality are
also evaluated by front-line staff who use them to deliver services to constituents. RC5, RC6, RC9, and RC10 stated that in their government departments, regular surveys were used to assess the levels of client satisfaction. In this regard, RC10 explained:

We are a service organisation and it is very important for us that pensioners receive good service and what I know that we have SMS systems, a hotline, and emailing systems implemented for receiving feedback and complaints … We are revamping our website and we even send some of our web staff abroad to learn how to best design websites and website contents. RC10 [101]

This is also related to the motive of improving service quality and enhancing the responsiveness of government departments to constituents’ needs. The information service element of Taylor’s model is also concerned with designing appropriate formats of information. Information format is an important aspect of adding value to information and information-based processes.

In relation to creating a shared knowledge base between government departments in Oman, the standardisation of information formats was also an important motive in implementing e-Government projects. As an employee in the national pension fund agency, RC8 argued that the unified record number will allow the agency to acquire accurate information from the Ministry of Manpower, the Ministry of Health, and the Ministry of Civil Services and the Royal Oman Police which is necessary to decide on the eligibility of the retiree for pension fund. RC8 stated,

E-Government is directing the unification of the civil record number to become a unique number to be used anytime and anywhere to identify or verify the identity of a person. RC8 [79]

Similarly, in the case of civil employees’ records, RC6 explained:

We started to pay attention to establish a unified database to aid in Human Resources Management and provide thorough, standardized, and accurate data about civil service employees to all government units. RC6 [7]

The unification of record identification numbers is an essential requirement for improving the accessibility and quality of information. This element of e-Government systems design is also related to the motive of improving information quality discusses in subsection 5.4.4.

The last element of Taylor’s model of the value-added processes of information systems is the user cost benefit analysis. That is, how much should a user invest in order to acquire benefit from a certain information system? Taylor argued that, in order to add value to
information system processes, there should be an immediate link between system design and cost saving.

Government departments in Oman realised that publishing information online and enabling citizens to receive services from their homes are important benefits of e-Government. This also meant reduced effort on citizens and reduced workload on government employees. Government departments that are headquartered in Muscat with none or a few branches around the country expressed their motives to implement e-Government because it reduces the citizens’ effort to acquire public services. These include the Civil Servants Pension Fund, the Private Sector’s Employees’ Pension Fund, and the Ministry of Civil Service. One responded, RC9 whose government agency does not have many branches around the country, explained:

> Quality of service is our main goal … Imagine those companies with just one Omani employee having to come from the geographically dispersed regions of Oman to our branch in Muscat to register their employee for pension services.
> RC9 [20]

Obviously, this is also related to the motive of improving the quality of services by improving the accessibility of public services as discussed in subsection 5.4.3. Similarly, using electronic channels in service delivery was seen as an economical motive to save costs of service provision for the government and citizens. In Oman, RC10 gave an example in relation to the services of the Ministry of Finance. This Ministry is responsible for the budgeting for government departments including employees’ payroll. Government departments are required to submit payroll details before the 14th of every calendar month in order to receive fund from the Ministry of Finance to pay salaries. These details were delivered by hand to the headquarters of the Ministry of Finance in Muscat CBD area: Ruwi. Branches of government departments are also required to submit payroll details to their headquarters in Muscat. Clearly, this process has many overhead costs as RC10 stated:

> In 2001 and 2002, whenever I went out on a break during working hours, I used to see many government 4-wheel-drive cars coming from Khuwair to Ruwi with one person who is the driver or the messenger delivering a letter or a parcel to the Ministry of Finance. I am talking about a 40-minute drive and each Ministry in Khuwair is sending its messenger. Instead of sending electronic letters, letters were delivered by hand. So, you can imagine the cost of human messengers … and this is all coming out of the government’s resources. RC10 [29]
The analysis of the above quotes from respondents showed recurring patterns of relating e-Government to dimensions of value-added processes of information systems as proposed by Taylor (1986). In Oman, e-Government was considered as an integrated information system that adds value to information processes to assist government departments to meet the needs of all national socio-economic stakeholders including other government departments. This illustrates the idea that e-Government can be related to and benefit from public sector innovations research especially in the area of information and library sciences.

5.7 The Problem: Stalling of the Implementation

The data has shown that the Omani e-Government initiative took off slowly and its implementation reached a point where it stalled. According to a recent press release from the Information Technology Authority (ITA) of Oman, the implementation of e-Government is expected to exit the first stage of cataloguing by the end of June 2013 (Information Technology Authority 2012b). The stage of cataloguing is the first stage of e-Government implementation progression as described by Layne and Lee (2001). In this stage, only basic static government information is provided to stakeholders through web portals. Figure 5.8 shows the e-Government development model developed in (Layne & Lee 2001). Since its official launch in 2003, the overall progress of e-Government implementation has not progressed beyond the first stage of development.

![E-Government Development Model](image)

**Figure 5.8 E-Government Development Model – Source: (Layne & Lee 2001, p.124)**
While it was essential for Oman to adopt e-Government, the progress of its implementation has been slow as RC4 stated:

… Although the plan went ahead but it was a bit slow … Although some things were put on the ground, but if you ask me, we did not complete things that we set forth; we did not create much of SMEs or jobs for our youth. RC4 [147]

As stated earlier, this research focuses on identifying the motivating factors underlying adoption of e-Government innovations in Oman. Innovation is a function of motivations, obstacles, and resources (Mohr 1969). In other words, success of implementation is determined by the motivations underlying adoption. One may ask, then, an important question: why did the implementation of e-Government in Oman stall if we knew that the external and internal motives for the implementation, as presented in this chapter, were strong? An attempt to answer this question is made in the next chapter. However, prior to moving into the next chapter, a discussion of the definition of e-Government in the context of Oman, the motivating factors that drove the adoption, and he potential shortcomings in the strategy formulation that might have contributed to the stall of the implementation is offered in the next section.

5.8 Discussion

This chapter outlined the historical events that led to the adoption of e-Government in Oman between 1996 and 2010. In the presentation of these events, the definition of e-Government in Oman was also extracted based on narratives from policy-level respondents. Then, the chapter presented the factors that motivated the adoption of e-Government. These motives were economic motives, motives of conformity, motives of improving service and information quality in government operations as well as motives related to the Omani civil society. Although these motives were strong enough to cause adoption and implementation of e-Government projects in the Omani public sector, it appeared that the implementation took off slowly and eventually stalled in 2011.

This concluding section offers reflections on (1) the definition of e-Government in the context of Oman as well as the nature of the adoption phase of Oman e-Government strategy. This reflection is based on an interpretation of the definition put forward by respondents in comparison with the formal definition of e-Government developed in (Bekkers & Homburg 2005); further, (2) a discussion of the various events that led to the adoption of e-Government
in Oman through the lens of Institutional Theory; and (3) a discussion of the motives that
drove the initial adoption of e-Government is provided in view of similar research studies in
the field of e-Government.

In a quest for a better understanding of the evolution of e-Government in Oman, this study
has empirically investigated the origins of the e-Government strategy and its definition. It
was found that e-Government in Oman was originated in the year 2000 as a government
practice of public sector reform. As shown in sections 5.4.3 and 5.4.4, respondents from
government departments ascribed a positive meaning to e-Government as an instrument of
enhancing the quality of their services and adding value to their business processes. The
adoption of e-Government in Oman was stimulated by a concern of loss in terms of social
legitimacy and to conform to world standards. In parallel to this stimulus, the Government of
Oman considered the adoption of e-Government as a window of opportunity to enable the
country to be part of the knowledge economy. Therefore, the Omani Government perceived
e-Government as ecology of three elements: e-Government (i.e. e-Services: delivering public
services through electronic channels), e-Governance (the regulatory environment which
legalises the use of e-Government), and Digital Society (capacitating the Omani Society and
the ICT infrastructure to be able to use and produce e-Government services). From the data,
the ultimate goal of the strategy was to encourage the development of a platform to create a
knowledge-based local industry and to enable the business environment in Oman to attract
foreign investment. As a by-product, e-Government was envisaged to improve the quality of
public services and citizens’ satisfaction with these services. Further details are offered in the
following paragraphs on the specifics of the e-Government definition in Oman as well as the
process of policy initiation.

The data presented in this chapter has shown that the definition of e-Government in the
Omani context is analogous to the definition provided by (Bekkers & Homburg 2005, p. 6):

The use of modern information and communication technologies, especially
Internet and Web technology, by a public organisation to support or redefine
the existing and/or future (information, communication and transaction)
relations with stakeholders in their internal and external environment in order
to create added value. Relevant stakeholders are citizens, companies, societal
organisations, other government organisations and civil servants. Added value
can be found in the following goals: increasing the access to government,
facilitating the quality of service delivery, stimulating internal efficiency,
supporting public and political accountability, increasing the political
participation of citizens, and improving interorganisational cooperation and relations.

Based on a deconstruction of the concept of information ecology introduced by Nardi and O’Day (1999) and Davenport (1997), Bekkers and Homburg (2005) outlined some elements of the concept. First, information ecology is diverse, consisting of different technologies, ideas and people. The empirical results of this study are significantly consistent with this concept. In particular, the Oman e-Government strategy has been kept eclectic so as to adapt to emerging technologies such as mobile, wired and wireless intranets, kiosks, call centres, and social network technologies such as Facebook, YouTube, and Twitter. New ideas of implementation such as cloud computing, e-Post, and e-Voting were considered within the implementation framework. This signifies the ability of the ecosystem to adapt to new trends and learn from different experiences. As for the inclusion of different kinds of people in the ecology, people from different government agencies were consulted during the formation of the strategy as RC19 explained: ‘… all committee members were chosen by [The Minister of National Economy] from different walks of life’ [43]. However, this consultation was limited to an elite group of technocrats and excluded front-line staff, IT department managers and their subordinates, and the general public as a whole. RC4 accentuated this notion by stating: ‘… this movement and idea started with us the technocrats’ [136]. This limitation might have affected the evolution of the ecosystem, and hence, contributed to the stall of the e-Government implementation.

A large number of the personnel who were excluded from the consultation process were from middle management in different government agencies. To this extent, RC1 conceded that one of the main administrative hindrances of e-Government implementation progress was middle management’s resistance to change and to accept recommendations from the ITA regarding implementation procedures. He stated:

I have noticed that the people at the top management are keen to allow such exchange but the real challenge is with the middle management. These are the people who create the confidentiality false philosophy and try to convince the top management not to proceed [with implementation]. RC1 [312]

The lack of consensus among the administrative and operative levels in the organisation structure of Omani government departments has allowed for re-contextualisation of elements of the original concept and/or strategy of e-Government during the implementation stage. The creation of the ‘confidentiality false philosophy’ by middle management is a form of re-contextualisation due to exclusion from the consultation process, as observed by Bowe, Ball
& Gold (1992) in the diffusion of a new education policy in the United Kingdom. Middle managers therefore act as ‘gatekeepers’ to restrict the locus of implementation which they cognitively regard as diminishing to their organisational roles and status (Morgan & Smircich 1980; Northrop, Dutton & Kraemer 1982). Gatekeepers are among the sources of power within an organisation as they have the capacity of altering the meaning of information and knowledge and controlling the channels of information distribution (Pfeffer 1981). As shown in section 5.6, middle managers or gatekeepers were not among the power centres who supported the e-Government initiative. Therefore, directions from the ITA on the optimal implementation of e-Government to various government departments were usually re-contextualised by middle managers to only meet the bare minimum of satisfying top management.

From the data, it too appeared that a large segment of Omani civil service employees and middle managers did not receive appropriate orientation on the goals, substantive values, and rationales of the Omani e-Government strategy. Neither did they obtain detailed directions on the implementation strategy apart from discursive communications to refer to the Oman E-Government Architecture Framework residing at the webpage of the ITA. RC5, an IT manager at a Ministry, stated:

I honestly think that the strategy is not clear apart from the general rhetoric of e-Government being an important innovation for the public sector in Oman. There are more details of the implementation which we need to know. Sometimes we feel that ITA is there and is responsible for big projects, but when it comes to the details of where these projects are at in terms of implementation and how are they going to affect the overall implementation we miss their involvement. RC5 [54]

This articulation is corroborated by the results of a recent study sponsored by the Omani Ministry of Civil Services to measure citizens’ satisfaction of government public services (Al-Adawi 2012). The study revealed that civil service employees were unable to provide satisfactory services to citizens because they were not clear on the vision and mission of the services they provided to citizens. According to the same study, civil service employees argued that there was a lack of training programs that focus on leveraging employee job performance. Civil service employees argued that there was a lack of appreciation and clear direction in regards to their job activities from their superiors and top management. In the process of public service redesign, the opinion of front-line civil service employees is important since they possess tacit knowledge of the best ways of service delivery and design.
This is consistent with the ‘knowledge’ perspective of Lenk and Traunmüller’s (2000) framework of e-Government implementation which emphasises the importance of consulting public service employees and benefiting from their knowledge in public service delivery during the design of e-Government services. Holzer and Callahan (1998) argued that the success of governmental change is substantially dependent on the continuous participation of civil servants in the process of change. In the case of Oman, effective cooperation from civil servants was not attained in the initial stages due to lack of assessment of their needs and views in regards to the implementation of e-Government projects. Throughout its training programs, the ITA has not offered civil servant trainees with strategic orientation related to the underlying rationale of e-Government and antecedents for the way forward.

From an ecosystem/ecological perspective, the exclusion of certain species/actors creates a disjoint in the system which dramatically reduces the agility and determination of the evolution and adaptation process (Bekkers & Homburg 2005). Therefore, the progress of the evolution and adaptation process of the ecology is weakened when actors do not receive the same message. Actors resort to re-contextualisation of the original concept to adhere to commands from superiors which leads to shallow implementations of the innovation (Jun & Weare 2011). So, in the case of e-Government in Oman, the message of implementation and adaptation did not permeate all organisational levels within government departments. This might have contributed to the slow pace of the implementation process.

Similarly, the general public in Oman who are supposed to be the users of e-Government were excluded from the consultation process. This exclusion also limits the locus of the shared understanding of the reality of e-Government beyond policy rhetoric. According to the findings of this study, detailed evaluation of citizen requirements has not occurred until 2006 (three years after the launch of the e-Government initiative). It took another four years to launch the National Personal Computer Initiative, which took effect in late 2010, to equip large segments of the population with government-subsidised personal computers and subsidised subscriptions to the Internet. So, as external stakeholders of the e-Government services, the Omani public was incapable of providing the necessary impetus for the implementation process.

Freeman (1991) and Rogers (2003) argued that diffusion of innovations is less successful in disconnected social systems as opposed to social systems which have larger degrees of consensus between different stakeholders. In the case of Oman, the incomplete consultation
and lack of consensus from stakeholders may have contributed to the slow progress rate of implementation. Public opinion also affects the survival of adopted organisational structures and policies because it is one the enforcing powers of organisational structures (Meyer & Rowan 1977). On the other hand, the omission of public opinion may undermine the extent of the implementation of these structures. Similarly, Julnes and Holzer (2002) stressed the importance of involving internal stakeholders in the process of strategy initiation in order to gain continuous support for the innovation during implementation. In Oman, the opinion of the general public as well as the civil servants was overlooked by policy makers which may have contributed to the stalling of the implementation of e-Government.

However, according to Van Duivenboden and Lips (2005), citizens are seldom consulted about their needs in regards to e-Government projects. The authors argue that this trend is widespread across different countries because e-Government is implemented based on a supply-driven mode where services are delivered by governments to constituents in a proactive manner. In Oman, the exclusion of public opinion during the initiation phase of the strategy was not totally calculated, but can be explained by demographic issues. RC3 explained that the majority of the population around the year 2000 was under the age of 14 and the rest of the adult population were computer-illiterate. Therefore, as RC19 noted that the PC and Internet penetration rate in Oman was one of the lowest worldwide at a low 3%. This articulation is confirmed by the recent 2012 United Nation’s E-Government Survey (United Nations 2012) which reported that the fixed internet subscriptions in Oman were at 2.8% and the fixed broadband subscriptions was at 1.89%. Therefore, it was somewhat unrealistic to consult the society due to such demographic concerns. The consultation of the general public is usually overlooked due to beliefs that it is time consuming and not cost-effective (Irvin & Stansbury 2004).

In Oman, a supply-driven implementation style prevailed over a demand-driven style; the strategy of e-Government implementation was based on the views of top Omani Government officials who participated in the formation of the strategy. User needs were not assessed effectively. According to Unwin (2009), failure of e-Government initiatives is more common in top-down implementation models where users are not involved in the planning and/or implementation phases. A definition of the needs of the intended users does not suffice without the actual involvement of all stakeholders to foster a multifaceted deliberation, consensus, and support for the diffusion strategy (Unwin 2009). Consultation facilitates the
creation of a balance between the supply-driven and demand-driven implementation models (Klievink & Janssen 2009) which positively affects the extent of implementation.

Seemingly, the implementation of e-Government in Oman relied on a top-down structure with emphasis on diffusion through political principles rather than principles of professionalism. This type of implementation approach has been criticized by Northrop, Dutton and Kraemer (1982) and Brudney and Selden (1995) as being ineffective in promoting wider implementation and usage of computer technology in local governments. In particular, Brudney and Selden (1995) concluded that professional management was positively related to the extent of implementation whereas they concurred with Northrop, Dutton & Kraemer (1982) that political-based management was negatively related to the extent of implementation.

In the case of Oman, top management or political management refers to the peak of the management pyramid: the Minister or the Undersecretary of a government department. The empirical results of this study are consistent with this view and the views of Moon and Norris (2005) who argued that municipalities with innovation-oriented managers were more successful in implementing ICT innovations than those managed by less innovation-oriented managers. The implementation of e-Government in most of the Omani government departments was managed by political figures of the department such as the Minister of Undersecretary who were usually not innovation-oriented by profession. In this study, most respondents observed that the rate of progress in the implementation was dependent on the orientation of the top management; deeper and effective implementation was observed in government departments whose ministers appreciated the efficacy of the technology such as in the Ministry of Higher Education and the Central Bank of Oman.

In this regard, Julnes and Holzer (2002) argued that commitment from top management, coupled with internally-originated needs for innovation positively affect the degree of successful implementation. In summary, while adoption can occur due to internal and/or external requirements, the extent of implementation is dependent on top management’s support (political impetus) and understanding of the technology (professional impetus). From the data, the Undersecretary of the Ministry of Higher Education has stated that he personally attended training programs with staff on using the new office automation system. Similarly, the vice president of the Central Bank of Oman stated that he and the President of the Bank followed the implementation of the e-Payment gateway closely because ‘… payment for
As RC4, RC19, and RC14 emphasised, the adoption of e-Government occurred in a rapid manner due to normative pressures to leapfrog towards higher rankings in the UN e-Government progress index. From an institutional perspective, this can be explained by the Omani Government’s concerns over maintaining a favourable relationship within its relational network (Meyer & Rowan 1977) of world nation-states. The Government was also concerned with broadcasting a socially and politically legitimate image to the world by implementing e-Government as a standard practice sanctioned by the UN and other multilateral organisations. Thus, the implementation of e-Government took ceremonial forms of establishing a national strategy of e-Government implementation as it was observed in other countries (Bhatnagar 2004; Janssen & Rotthier 2005) and employing external consultants (Eyob 2004; Heeks 2005) to assist in organisational learning from actors in the same environmental domain. This observation is consistent with the observation made by Kennedy and Fiss (2009) who found that some hospitals in U.S cities adopted and implemented total quality management (TQM) due to concerns over losing social legitimacy.

The second element of the information ecology concept is the ‘keystone species … whose presence is crucial to the survival of the ecology’ (Bekkers & Homburg 2005, p. 12). In relation to e-Government, the authors define such species as technology skilled personnel whose role is essential in implementing new technologies. Previous research shows a clear lack of professional and skilled IT workforce in Oman (Al-Busaidy & Weerakkody 2009a; Al-Gharbi & Al-Kindi 2010; Al-Wohaibi & Edwards 2004; Jabr 2010). According to RC4, the extent of e-Government implementation in Oman was negatively affected by the lack of ‘system architects’ who could direct the implementation with enthusiasm and make things work properly. Most respondents have indicated that the implementation of e-Government in their departments has been managed by a steering committee spearheaded by administrative, rather than information technology, managers.

There was no reference to the position and role of internal Chief Information Officer (CIO). As discussed earlier, an implementation strategy that relies on professionalism is more effective than a strategy that relies on a political style. From an institutional perspective, the introduction of new roles in organisational structure strengthens the institutionalisation of new practices and is an important aspect of legitimising such practices (DiMaggio & Powell
1983; Meyer & Rowan 1977; Zucker 1983) and, thus, increasing their penetration in the organisational structure. To illustrate this further, Meyer and Rowan (1977, p. 349) stated: ‘Organizations described in legitimated vocabularies are assumed to be oriented to collectively defined, and often collectively mandated, ends’. Thus, the role of the CIO would have bridged collective effort and built consensus among internal stakeholders because of perceived unchallenged knowledge (professionalism) and mandated authority (political) character (Feeny, Edwards & and Simpson 1992).

Tolbert, Mossberger and McNeal (2008, p. 551) reflected on the role of the CIO office as an essential element of the ‘institutional capacity’ of an organisation to successfully implement innovations. The CIO office warrants permanence and continuity of leadership, as opposed to the mode of a steering committee, where members might change over time due to regular reshuffle in government positions (Fernandez & Rainey 2006). The empirical findings support this view that frequent changes in top management contributed to the slowdown of implementation progress and sometimes even to the implementation direction. For example, RC9 stated:

I am affirmative that change in leadership would affect the progress of implementation as I personally observed changes in priorities and vision of newly appointed officials. RC9 [120]

Similarly RC8 offered a more detailed account of the effect of discontinuity in leadership:

Plans do change when managers change. For example, some managers do not delegate any authority to their subordinates so the implementation is run according to their personal views and when they leave, the implementation just halt. You see, the e-Government implementation was led by ITTF, then by ITA, and now we are obliged to coordinate with Royal Oman Police to retrieve citizens’ identity information from their National Record System. RC8 [86]

This illustration supports the importance of delegating e-Government implementation within government departments to professional staff to ensure the continuity of project leadership.

The third element of the information ecology concept applies to creating appropriate contexts and labels to the implementation of innovations within the organisations (Nardi & O'Day 1999). A label signifies the meaning stakeholders ascribe to the innovation. The e-Government initiative in Oman was called e-Oman to imply an inclusiveness of all inhabitants of the country as described by RC1. However, RC4 argued that the development team carefully chose the term e-Oman because:
[The term] e-Government is very confusing. Some people define it as this all-over-the-world movement … e-Government confuses the politicians because they think that we are intervening in their work. It is actually e-business and this is what we should call it. We called it e-Oman because we do not want to have the politicians feel alarmed so that they do not support us. RC4 [126]

In light of the explanation provided by RC4, it is evident that the e-Government strategy was made sensitive to perceptions of the surrounding institutional environment. Similarly, RC2 explained that the Omani e-Government strategy aimed to combat the digital divide among the Omani people. Therefore, he asserted, the strategy was termed e-Oman to imply inclusiveness of all segments of the Omani society. In the surrounding institutional environment, e-Government was praised by multilateral organisations such as the UN, World Bank, and the IMF as an instrument of treating inequality caused by the digital divide, thus, implying inclusiveness. Therefore, the Omani Government chose to follow the labelling requirements put forward by such institutional actors. This is consistent with the views of Meyer and Rowan (1977, p. 350) who stated: ‘Affixing the right labels to activities can change them into valuable services and mobilise the commitments of internal participants and external constituents.’ Similarly, these articulations are within the same vicinity of Davenport’s (1997) notion of the importance of sensibility to the locality and uniqueness of the implementation environment.

In regards to the position of e-Government in the institutional system, the government shadowed trendy activities worldwide of establishing an independent body (Lee-Kelley & Kolsaker 2004; Lee, Tan & Trimi 2005) to oversee the implementation of e-Government: ITA. A respondent from the ITA highlighted the concept of belongingness of the strategy of e-Government as she stated:

We provide assistance to government agencies to make them become part of this grand vision of e-Oman. We do this because we own the strategy of e-Oman. We do this by providing consultative assistance only. However, we are not allowed to compel any organisation to provide e-Services in a certain way. RC3 [11]

It is apparent that the Omani e-Government strategy is positioned within a central coordinating body of the institutional system in Oman (the government): the ITA. However, the statutes of Omani government departments were not altered to establish an institutional link to this central coordinating body. Therefore, the relationship between the ITA and Omani government departments is rather of exhortation type and not legalisation (Ball 1990, p. 176). Government departments can seek technical assistance and guidance from the ITA in regards
to implementation procedures of e-Government. However, the ITA does not have the legal mandate to reinforce implementation deadlines and standards on government departments. The ITA does not possess resource-dependence coercive power (DiMaggio & Powell 1983) either because budgeting for government departments is the responsibility of the Omani Ministry of Finance as RC3 explained:

[We motivate government units] just by providing them with advisory and consultancy and this care encourages them to be a part of e-Government. And sometimes they ask for funds from us. So I think that capital and financial support gets them eager to participate, but financial support is not one of our formal responsibilities really. RC2 [122]

The ITA, as a central coordinating body of the implementation of e-Government in Oman lacked the legal authority and resource-dependence power to reinforce the operative goals of the strategy. Without basic legal mandates and authorities, the institutional status of the ITA is similar to the status of an evaluation unit in U.S school districts as described by Zucker (1983, p.10) as: ‘a boundary unit, not primarily as an internal assessor of task performance. It provides the best possible “organizational face” so that outside support will continue; it does not provide “real” tough evaluation information designed to reassess internal [implementation] functions’. In this case, the ‘organizational face’ refers to Oman’s image in international forums and the ‘outside support’ manifests in maintaining the symbolic legitimacy of the activities of Oman’s public sector in the views of multilateral organisations. However, the ITA has recently gained some normative power after the launch of His Majesty’s Award for Excellence in e-Government as RC1 explained:

After the launch of HM’s Award, we were overwhelmed by the number of [government organisations] who wants us to help them and to explain the criteria of the competition and how they can win and how they can improve their electronic services. RC1 [141]

According to RC1, RC3, and RC4, the Award was launched with the prestigious status of being named His Majesty’s Award to create competition-driven motives for government departments to implement e-Government according to standards set by the ITA. The Award has also become as an ‘external criteria of worth’ (Meyer & Rowan 1977, p. 350) for the Omani e-Government strategy. This criterion of worth manifests in the invitation of important world figures in e-Government to preside over the Award presentation ceremony. For example, the 2011 Award presentation ceremony was under the auspice of US former President Bill Clinton and the 2012 Award was under the auspice of the inventor of the
World Wide Web (WWW) Sir Tim Berners-Lee (Information Technology Authority 2012d, 2012e).

Now, with a clear understanding of the origins and goals of e-Government adoption in Oman, the next chapter discusses the implementation and evolution of e-Government in Oman in relation to the stalling of the implementation progress in view of the challenges that accompanied the implementation process.
Chapter 6 – Implementation Challenges and the Rejuvenation Process

6.1 Introduction

By 2011, the implementation of e-Government in Oman had stalled. This chapter examines and discusses the barriers and challenges that contributed to the stalling of the implementation process of e-Government in Oman. The Omani e-Government initiative was officially launched in May 2003, however, according to a 2011 assessment by the ITA (Information Technology Authority 2012b), Omani government units are still at the first stage of e-Government evolution: ‘catalogue’ (Layne & Lee 2001) and are expected to exit this stage by June 2013.

A large number of respondents reflected on the stalling of the initiative and the associated implementation barriers. Therefore, the researcher made the decision to go beyond the explicit objective of integrating adoption motives and organising them in an integrated framework to further investigate challenges of implementation and search for potential links between motives and challenges and the type of influence they had on the extent of implementation. In this examination, some of the data sources are secondary especially in relation to the development of the ICT infrastructure in Oman.

To frame the data related to implementation challenges, a generic model of the role of central government in the implementation of e-Government is used (Mofleh, Wanous & Strachan 2009). This model is in line with the overall nature of the study being focused on the Omani national government level of adoption and implementation. The model builds on twenty models from the extant literature considering that these challenges are common across different countries (Mofleh, Wanous & Strachan 2009). Challenges presented in the model (Mofleh, Wanous & Strachan 2009) are related to financial support, leadership, management styles, setting deadlines, dealing with digital divide and cultural issues. What follows, is a discussion based on interview and secondary data related to these challenges. Emerging challenges from the interview data are also presented. These include lack of authoritative power and control over the implementation, lack of complete consultation and correlation with stakeholders’ needs, and constant change in leadership. Although this chapter draws on Mofleh, Wanous and Strachan’s (2009) model of challenges, some of the challenges in the
model do not apply to the context of Oman as the data showed. For example, the data showed that financial support was not a challenge for the Omani e-Government initiative.

Financial capacity is an important determinant of the successful implementation of e-Government (Ebrahim & Irani 2005; Eyob 2004; Rose & Grant 2010). However, in the case of Oman the e-Government initiative was championed by a key Minister: The Minister of National Economy, who was also the supervisor of the Ministry of Finance and the Deputy Chairman of the Financial Affairs and Energy Resources Council. The initiative also received the support of other key Ministers of the Omani cabinet as RC4 stated:

The initial plan sold out very well, to the cabinet, and it became something to be implemented and financed. Actually, the finance was there because the Minister of Finance backed [the initiative] those days … we also had a full buy-in from key ministers in the cabinet. RC4 [154]

Similarly, the government body coordinating the e-Government implementation in Oman received a generous financial budget for e-Government projects. RC13 explained:

... and this authority [The Information Technology Authority] has been receiving great support in terms of financial budgeting and provisioning of its gigantic projects. RC13 [47]

RC14, a member of the ITTF committee which formed the strategy, argued that the e-Government initiative received continuous financial support because it was learned from the experiences of other countries that e-Government failure was associated with lack of financial support:

... there are some aspects from the experiences of other countries which we looked at especially the financial support [when we planned for the initiative]. I think the lack of funding has contributed to the failure or unsatisfactory results of implementation efforts in those countries. However, in Oman we have planned our implementation very well and ensured that the financing is always there to support the implementation. RC14 [48]

It is evident that the Government of Oman has continuously allocated sufficient financial funds to support the initiative during the implementation phase. RC3 and RC8 argued that financial support was readily available when planning for e-Government projects since the whole initiative was supported by His Majesty the Sultan. Many other respondents considered the MPLS-based government network provided by ITA as form of monetary support. MPLS stands for Multi-Protocol Label Switching which is one of the latest network packet switching technologies that became commonly used as the basis of e-Government networks (Phang & Kankanhalli 2010) because of its reliable performance and cost-
effectiveness (Al Nawakda et al. 2008). The Omani government network is an intranet network that connects government departments together free of charge at the first stage of implementation and for a fraction of the cost later as RC1 stated:

… we have the government network which is interlinking about 500 or 600 government agencies around Oman today. We are actually paying for the government agencies to connect their branches together and to connect with other government agencies. RC1 [220]

In terms of future continuity of financial support for the initiative, respondents expected the government to continue to support the implementation of e-Government. In response to a question about their view of e-Government in five years from the first quarter of 2011 when the interviews were conducted, the majority of respondents did not refer to financial issues as a future impediment to the implementation of e-Government.

In general, respondents were positive about the progress of e-Government implementation in Oman due to their confidence in continuous and adequate financial support from the government. For example RC7, explained that he observed success stories of e-Government implementation in the local and international arena, which, he thought, will motivate the government to continue to support the initiative. Similarly, RC10 maintained that his positive outlook in regards to the future of e-Government in Oman stemmed from his confidence that the government will invest more resources in e-Government projects especially those projects that acquired first-class international recognition awards from the UN:

I am very positive on this and since we have been successful in receiving international recognition for our e-Government, I think the government is very serious in this and they have created a big authority with big officials … I would say that as long as the government is very serious to getting it done, the initiative will continue to receive the financial resources. RC10 [123]

Correspondingly, RC21 explained that he was optimistic that e-Government implementation is bound for progress and success because the Government of Oman has no choice not to keep up with world standards and development.

RC16 argued that e-Government in Oman will continue to be a top priority because it is considered as a tool to enhance the economic diversification in Oman. However, RC16 argued that e-Government may be downgraded to a lower priority if the global economy invents better enhancement tools or, in the case of another financial crisis, which will influence the financial support of e-Government projects. RC16 concluded that government investment in e-Government was a long-term investment and would sustain the constant
change in information technology products which necessitate specialised training of staff and users.

Respondents were optimistic that financial support from the Ministry of Finance would always be there because the return on investment in regards to e-Government was valuable for the growth of the Omani economy as well as for social development. In particular, RC3, a member of the ITA, explained the government’s concept of the return on investment (ROI) in regards to e-Government implementation:

I am not sure that we can measure e-Government ROI precisely. We consider e-Government ROI more of an intangible return. For example, when we see our students in the schools using laptop computers or interactive boards, this is one return on our investment … another specific example is that when we started the training program we set a target of educating 93000 civil servants on computer skills. Imagine that every one of these people is going to become like a ‘messenger’ in spreading computer education in their communities … Imagine enabling a housewife who is unable to drive to her children’s’ schools to check on their progress is able to do this from home by logging into the education portal! RC2 [17]

Seemingly, there was a clear understating and agreement on the type of financial needs for the implementation of e-Government at an initial stage. This understanding and agreement has remained during the implementation phase.

In light of the above, initial financing of the e-Government initiative as well as continuation of this financial support during the implementation phase was not a challenge in the context of Oman. However, the remaining of the chapter discusses the specific challenges that impeded the progress of implementation.

6.2 Leadership Support and Management

Leaders’ role in the implementation of e-Government is another critical success factor (Altameem, Zairi & Alshawi 2006; Kamal 2006; Mishra & Mishra 2012). Effective adoption and implementation of this magnitude relies on effective coordination of the different layers of administration. However, in the Omani case there seemed to be a disconnect between the three layers of administration. These three administrative layers are: the top administration layer, the middle management layer, and the implementation layer. The top administration layer includes the Ministers and Undersecretaries of government departments. The middle management layer includes the Director Generals of directorates in government departments;
and the implementation layer includes low level managers, implementation operatives, and civil service employees of government departments. Above all these three layers also comes support and endorsement from His Majesty the Sultan.

Respondents viewed His Majesty the Sultan as the patron of the e-Government initiative in Oman. RC3 pointed out an important factor in the success of the implementation of any national project which was the endorsement from His Majesty the Sultan. E-Government in Oman has received full support from His Majesty as he publically directed government departments to uptake e-Government projects and utilise the capabilities of ICT in delivering transparent and efficient services to citizens:

We call upon all government institutions to speedily enhance their performance, and to facilitate their services, by applying digital technology in order to usher the Sultanate into the constantly evolving spheres for applying knowledge. (Ministry of Foreign Affairs 2010b)

Therefore, as shown earlier, e-Government projects received chief priority in terms of financial support from the Ministry of National Economy and the Ministry of Finance.

Respondents also combined administrative leadership support with understanding and belief in the instrumentality of e-Government in enhancing efficiency and performance of the public sector as a composite factor for the success of implementation. RC1 explained that e-Government was committed to change management, which necessitates leadership support and belief in the technology:

[To us at ITA], e-Government is more of a change management process … We always say that one of the success factors for e-Government is the support of leadership. So if there is leadership support you will find good implementation of technologies in other government agencies as well. Also belief is important; if the leader/minister/person-in-charge believes in technology, then the implementation will be successful otherwise you will find boxes/PCs everywhere but no actual implementation of the strategy. RC1 [106]

RC16 confirmed the views of RC1 in regards to the importance of administrative leadership understanding of the value of the technology as a success factor of the implementation of e-Government in his government department:

If the administration of the agency is technology-conscious, then the directives of implementation become stronger. This is very important support in mitigating issues related to financial spending and other barriers which are encountered during the implementation process. At this agency, we have a
very technology-conscious leadership and this is a major reason for our success. RC16 [73]

Similarly, RC22, RC1, and RC8 believed that administrative leadership understanding was as important as leadership support in facilitating the establishment of long term commitment and speeding the implementation of e-Government projects. They maintained that, although e-Government has become part of the daily work routine, a technology-averse leader can slow down implementation efforts by downgrading the priority of implementation. Leadership support is useful at the initial stage of implementation; however leadership understanding of the value of e-Government is important for keeping the pace of implementation up. RC21 argued that there were still leaders and managers who do not believe in, or trust, the new technology which results in shallow implementation of e-Government projects. RC21 also argued that a believing leader is instrumental in ensuring the success of implementation especially in developing countries. This argument was asserted by RC15 whose government department implemented a successful e-Government initiative: the HEAC system. As mentioned in chapter 5, the HEAC system has been regarded as a complete success by winning several international awards. RC15 explained that his personal involvement, as a member of the top administrative leadership layer, in training sessions was instrumental in rectifying the issue of employee resistance to change. He stated:

When the system was completed, we called upon the system developers to train the employees on how to use the system. However, there was a great resistance from the employees. I personally decided to attend the training sessions in order to encourage employees to attend. Today, after we implemented the system, if we ask our employees to go back to the paper-based system they will have counter-resistance because they have found the value of using this system in their jobs. RC15 [52]

All respondents argued that the introduction of His Majesty’s Award of Digital Excellence is a motivator for the administrative management (i.e. the Minister and/or Undersecretary of a government department) to pay more attention to implementing e-Government. The Award was specifically designed to honour the Minister of each winning Ministry. This promotes a culture of leadership support and understanding as it creates a competition between Cabinet Ministers to receive recognition of their leadership abilities with regards to advancing e-Government implementation. The Award, then, is based on political reward for cabinet members. This was clearly demonstrated by RC1:

… we started with HM’s award which is to actually show people where they stand in terms of their organisation. Because if I clap for you, it means that
you are doing a good job if not then you should watch out because this is an award that has HM’s name. RC1 [184]

The Award also created a learning paradigm in the area of e-Government implementation as it stimulated implementers to learn from more successful departments and, thus, enhanced knowledge transfer in the area.

According to RC4, e-Government in Oman has witnessed a slowdown in progress in the implementation phase due to managing of e-Government implementation from a perspective of project management being the responsibility of administrative managers, rather than a process management style, which involves all layers of an organisation’s management including civil service employees. Also the disassociation in leadership was among the most consequential barriers. The team who assisted Gartner in developing the national strategy in 2000 and launched the initiative in 2003 was an ad hoc team, which consisted of temporary members who were affiliates of other government departments. Once the strategy was launched in May 2003, most of the team members were disassociated and resumed their normal jobs at various government departments. RC18 explained:

After the team has completed the formation of the strategy with the help of Gartner, I spoke with t Her Excellency the Undersecretary of the Ministry of National Economy (May she rest in peace) and asked to leave the team because I was commissioned to work on the establishment of the Telecommunication Regulatory Authority of Oman. So, I resigned in July 2002 and the team that remained and managed the initiative was much smaller than the size of ITA today. RC18 [32]

This was also confirmed by RC3, who is one of the early members of the team that managed the initiative between 2003 and 2006 and continued to be employed by the ITA after its establishment in 2006. She stated:

… we basically were a small team of three people plus a secretary, a consultant, and an acting head. RC3 [136]

Between 2003 and 2006, this disassociation and absence of a formal institution that owned the initiative resulted in delay in implementation. RC3 continued:

Prior to becoming an official agency, we did not have any authorities nor were our responsibilities discerned ... In the absence of an institution, any of our efforts could have been overridden and challenged by anyone. RC3 [137]

As an exception, RC19 referred to continuity in leadership as an important success factor in the implementation of the e-Payment gateway at the Central Bank of Oman. He remarked...
that the same team members in the initiation stage were maintained throughout the implementation and evaluation stages of the e-Payment project. In the case of the e-Oman national strategy, there was a change in both the implementation team and the champion of the initiative.

The champion of the initiative was originally the Minister of National Economy. However, due to scarcity of his time and contingency of responsibilities, this responsibility was delegated to his undersecretary, which added another layer in the hierarchy of management. In May 2006, the ITA was established by Royal Decree 52/2006 to coordinate the implementation of e-Government which assisted in aligning and giving impetus to the implementation process. RC3 stated:

However, after our current CEO joined the team he brought in a clear idea and pushed for the establishment of ITA in 2006. Since then we became more anchored with an established vision which allowed us to progress with our ambitious plans for Digital Oman Society. RC3 [139]

In terms of individual government departments, changes of Ministers and Undersecretaries appeared to inhibit the speed of implementation and resulted in diversion in goals and objectives of the implementation as RC21 explained:

I believe that the personality of the project manager and his belief in the technology is paramount when it comes to the direction and goals of implementation especially in the public sector of developing countries. In comparison, the personnel in the private sector have much better understanding of the importance of the technology because it is related to their day-to-day job activities. In our public sector there are still cadres who do not believe in or do not understand the importance of e-Government. RC21 [48]

RC22 related this issue to a cultural aspect of Oman where newly-appointed managers, in most cases, assume their roles with a strong belief that their predecessors were replaced due to inefficiency in planning rather than in execution of plans, so they embark on a mission of changing plans without consulting the ITA. This also contributes to the re-contextualisation of the original strategy because of personal preferences.

RC22 also related the reluctance to seek assistance and advice from the ITA to another cultural aspect of saving face value. He stated:

Implementers in government units are hesitant to approach ITA for assistance or advice unless they face serious problems which they are not able to resolve internally with in-house capabilities because they feel that if they seek assistance from ITA, they would look weak for not being able to solve their
internal issues … they are scared of conveying a weak picture of themselves to the government. RC22 [179]

RC22 suggested that measures of accountability should be introduced and spoken of especially in terms of consequences of failing to acquire legitimate technical assistance from the ITA. He stated:

… lack of accountability is the big issue which if it gets solved, we will solve a lot of problems and everyone will spend a good amount of time to finish what they got or just step down if they can’t and let others to lead. RC22 [164]

RC22 postulated that these measures would gradually induce a change in the mindsets of project managers and promote a culture of collaborative technical support between the ITA and various government agencies which, by extension, would ensure stronger association between implementation practices and the original goals of the strategy which is overseen by the ITA.

In short, strong political support existed during the adoption phase, however support and understanding from the administrative leadership was absent or dissociated in many cases during the implementation phase. There was also no, or minimal, engagement of the middle management layer and civil service employees as was discussed in chapter 5. For successful implementation of e-Government, the three layers of management should work in concert where the administrative leadership enables the resources to be allocated for effective adoption. Then, complete mandate should be given to the middle layer of management which allows the middle management to have control and ownership of the projects and drive the implementation successfully through empowerment and involvement of the implementation operatives. However, there seemed to be a managerial disconnect across these three layers in the case of e-Government implementation in Oman. Due to such disconnect and lack of management continuity, the implementation took off slowly and eventually stalled.

6.3 Implementation Approaches and Structures

According to RC4, RC2, RC14, and RC18, the e-Oman strategy was formed according to international standards, but with careful consideration of the local societal context and economic needs of the country. Nonetheless, the strategy formulation process had some shortcomings. Firstly, the consultation during strategy formulation was inadequate as it ignored an important segment of the stakeholders: the public and the civil service employees.
According to RC5, neither citizens nor front-line employees were engaged in the initial stage of the strategy formulation. He surprisingly stated:

I really do not understand why have the vision-initiating agency not consulted the ordinary citizens or as we call it the man in the street?! Where does the citizen stand in all of this?! Yes, we have looked at other country’s experiences and how they went about implementing e-Government, but the most important thing is to correlate the needs of the citizens with the strategy’s objectives and implementation architecture. The citizens must have a presence in all of these formations of strategies because it touches upon their daily life activities. With e-Government in place, the citizen should not have to visit multiple government agencies in order to acquire one service. RC5 [31]

Therefore, the strategy did not have full buy-in from important stakeholders of e-Government; the public who are the actual users of e-Government services and the civil service employees who represent the point of service delivery. Buy-in from civil service employees is critical to the success of implementing new innovations in service delivery (Cadwallader et al. 2010), which is one of the main objectives of e-Government implementation. Although a strategy of training civil service employees existed after the launch of the e-Government strategy, the nature of the training was rather technical as RC1 explained:

We have government trainings in which we are training more than 93,000 employees of the government sector to be certified in one of those ICDL, IC3 and Cambridge certificate. RC1 [22]

Apparently, civil service employees were trained in basic computer skills with no appropriate induction or orientation on the significant role of the new strategy of e-Government in transforming public services in Oman which undermined the force of internal staff to provide impetus for the implementation. Printed materials such as manuals of benefits, policies, and procedures were not made available for trainees. These essential activities of consultation which were overlooked during the policy initiation as well as during the implementation may have caused non-compliance with the strategy from a large segment of the Omani e-Government stakeholders: the public and civil service employees. In turn, non-compliance from key stakeholders contributed to the stalling of the implementation.

RC19 attributed the failure or slowdown in the implementation of e-Government in Oman to inadequate consultation and lack of consensus on the appropriate implementation approach. He stated:
I am not surprised when you say that there is a 60% failure rate [of e-Government implementation worldwide] because it requires a lot of constructive thinking and collective thinking. The problem comes when people from different walks of life try to come to a unified vision and it really becomes very difficult to do so. [Therefore], if some of the projects fail or do not succeed in a great way the reason in my mind always is something not to do with technology but it has to do with people … I mean differences in opinions on how to approach [the implementation]. RC19 [16]

The consultation process was incomplete as it involved only elite management and an independent external consultant. RC4 explained that the e-Oman strategy was initiated by about 10 to 15 ‘technocrat’ managers from different government agencies with the assistance from an independent research-based consultant: Gartner. He also stated that the plan changed during the implementation because it was a ‘super stallion’ plan prone to different interpretations:

The plan changed during the implementation of the structure like establishing ITA, TRA and KOM which came out of that super stallion plan; that we need to regulate the telecom sector and that we need to bring competition to the sector; and we cannot have OmanTel monopolise the market; and we need a regulatory unit with authority so ITA was established to set standards. So, all of these things were suggested as implementation structures. The problem came during these implementations which were affected by different interpretations of goals and objectives. RC4 [147]

According to RC4 and RC19, the directions for implementation were left in an abstract form because the strategy entailed the establishment of several government bodies to take care of implementing specific objectives of the e-Oman strategy. However, these government bodies were disjointed. For example, the Telecommunication Regulatory Authority (TRA) was established to liaise with the Ministry of Transport and Communication in order to regulate the telecommunication sector; the Knowledge Oasis Muscat (KOM) was established in 2003 as a subordinate to the Public Establishment for Industrial Estates which is supervised by the Ministry of Commerce and Industry; and the ITA was established in 2006 as a subordinate of the Ministry of National Economy to oversee the implementation.

In a similar vein, RC19 indicated that the policy initiation process should have been bottom-up where the opinion of important stakeholders, such as the public and residents of Oman, should have been sought and that top management should have acted upon these opinions as guidelines for the implementation approach. He stated:

From [my] perspective, when you say e-Government it brings to mind the services of a government that are driven by the government from the people of
the country; be it citizens or residents, because they both need services from the government so when you talk about e-Government it is a much wider connotation. RC19 [50]

RC19 talked about a success story of implementing an e-Government initiative in the Central Bank of Oman and related the success factors to the continuous involvement of stakeholders during the implementation phase. He stated:

We worked with consultants and we worked very closely with the [stakeholders]. I was leading the project and our main focus was always to keep [stakeholders] involved with us in every step of the way. The reason is that [stakeholders] are the prime users of this service and if they do not understand it and if they are not on board with us it will be useless. You see, we can set up the best highway in the world, but if people do not drive their cars on that road, then it is a useless highway. RC19 [60]

In 2006, ITA launched a road show to investigate the needs of ordinary people countrywide in regards to e-Government. However, this step of public consultation and involvement of stakeholders was carried out six years after the initial process of policy formulation in 2000 and three years from the launch of the national e-Government initiative in 2003. In a recent press release (Worldfolio 2012), ITA described this activity:

An e.Oman Roadshow was hosted in 2006, when we travelled to the different wilayats, towns and communities and listened to what people wanted. The National PC Initiative was one of many e.Oman initiatives that came out of that roadshow. It took us almost a year to visit the entire country and we found that people did not have internet, nor did they have the PCs to access it. The government wants to put its services online and have more people interact with them through the internet, but people need the tools to do so. (Worldfolio 2012).

ITA does not have the power of the law to enforce standards and plans. Government departments perceive the acquirement of assistance and advice from ITA as optional, as RC9 explained:

We started looking at competing for HM’s Award in 2011. At this late stage we received an implementation manual from ITA and we were told to follow it; and they told us that there will be an evaluation based on the ITA’s Framework of e-Government; and it has to be considered in our plans … but [ITA] can’t force us to do it their way because each ministry has its own circumstances and priorities so the coordination with ITA really depends on how much support we need from them. RC9 [134]

Similarly RC8 stated that ITA did not obligate her government department to connect to the government network. She stated:
We, as an independent government entity, are currently using leased lines internet connections with direct purchase from OmanTel. ITA offers a free MPLS-based network connection as an option, but we are not obligated to use it if it is slow and unreliable. Therefore, we are converting to the free MPLS service gradually. RC8 [10]

Respondents from the ITA confirmed that government departments were not lawfully obligated to use the government network. RC1 stated:

… Connecting branches of government agencies together; you have two options which are doing it on you won or doing it through our government network project which we also provide security for. You know any person in charge will say security is a headache for me and since ITA will guarantee it for me why should I go and create my own network although there are some government agencies that will say we will do our own network. And we are fine with that as long as they abide by certain policies and procedures. RC1 [284]

Apparently, there was a lack of perceived authority of the ITA from government departments in Oman. Inadequate official authority negatively affected the overall progress and intended course of implementation. In the absence of an authoritative point of reference, most government departments developed e-Government initiatives with focus on internal needs and neglected the needs of interfacing with other government systems. RC22 explained the lack of coordination between Omani government departments in regards to e-Government implementation due to the perceived institutional autonomy of individual departments:

I generally notice that every government unit is working in ‘silo’ because there is a false believe of autonomy and institutional independence. Every government unit works for its own interest. For example, if I am and IT personnel working for the Ministry of Education then I would implement IT projects with narrow view of benefiting my Ministry and not thinking of how can I make this project also beneficial for other ministries. I think this is wrong and that the implementation focus should be widened to encompass the interest of the whole government system. RC22 [143]

Similarly, RC9 stated:

I think that a lot of government managers still have the old-fashioned concept of ‘this is my baby’ and they won’t allow the sharing of information with other government units. These people should learn that the world has changed and developed and it is a time for collaboration and coordination now. RC9 [93]

Uncoordinated efforts between government departments during the implementation phase resulted in unintended and duplicated results. For example, RC22 stated:
What we have currently is information silos and legacy systems which were created because of lack of coordination between government units implementing e-Government. Actually, we will end up having to install ‘middleware’ systems to make these silos talk to each other. RC22 [172]

Similarly, collaboration between various government departments is paramount to the success of e-Government implementation (Ndou 2004). As discussed above, the ITA was considered to be the independent coordinating agency of e-Government implementation in Oman. However, due to the lack of both authority and sufficient legal power, the ITA was unable to enforce effective collaborative and coordinated routines of implementation. This view was confirmed by RC22 who explained that:

Until today, ITA is making recommendations and suggestions to government units; and giving them whatever they want like the standard architecture for implementation and such things, but it is up to the government institution to implement it or not. In some cases, government units do not seek ITA help unless they face a serious problem but if they can solve this problem internally though in-house solutions, they do it normally without the help of ITA. RC22 [175]

Respondents RC4, RC12, RC18, and RC19, who were involved in engineering the implementation structure of the e-Oman strategy, reflected on this issue by explaining that the strategy had grouped services into segments like the health sector and education sector and called them of Communities of Interest (COIs). However, RC4 argued that the lack of collaborating teams led by system architects inhibited the achievement of this vision. RC4 elaborated on the need for the element of politics and attachment of more power to the ITA project managers at the ITA and other government departments. He stated:

What we have today in terms of collaboration between government units is nothing more than lip services. RC4 [123]

The lack of collaboration and information exchange between government departments, then, also remains as a challenge to the successful implementation of e-Government in Oman.

One of the factors that might have contributed to the lack of cooperation and collaboration between Omani Government departments in relation to e-Government implementation is the lack of awareness of the initiative. Respondents who were involved with the actual implementation process contended that there was a lack of awareness about the strategies intended of e-Government. They argued that ITA should run more frequent workshops and information sessions for implementation managers with regards to the implementation standards, status, and goals. Respondents at the policy-making level explained that e-
Government projects in Oman were not marketed well due to the conservative nature of Omani culture as RC1 stated:

One of the challenges, which is actually a problem here in Oman, is that we are very conservative on talking about ourselves. We are doing a lot of things in this field, but we really do not talk about them. There are a lot of statistics and we are very accurate about statistics to the very minute units. We do not really exaggerate things and this is good but at the same time I think that we lack even introducing ourselves to the outside world. So you find Oman always very conservative when we talk about our achievements; conservative when we talk about our e-Government. RC1 [66]

Marketing was seen as a driver for progressing e-Government in other government departments, as RC19 put it ‘success breeds success’ [258]. His Majesty’s Award for Excellence in Electronic Government is one initiative to motivate top management and create hype around success stories so that other government departments become eager to follow through. However, support and marketing of the initiative to civil service employees is lacking. Only one government department, in this study, have implemented measures of motivating civil service employees to actively and effectively use e-Government services. The motivation has not cascaded down. RC10 stated:

We are a service organization and it is very important for us that [our clients] are served in a timely manner … we are evaluating how much is the time [a client] spends with the staff personnel at the counter. There is a bonus that has been implemented for those staff who serves [clients] faster. RC17 [101]

Although the initial policy has stipulated the creation of flagship or quick-win projects such as the One Stop Shop and the e-Government portal, this vision has not been fulfilled as RC19 stated:

We have had enough lab stands and e-Government has been very high profiled and has been talked about for many years at the committee level and then at the ITA level for 7 or 8 years but there is no solid story that I know of or maybe there is but I am not aware of it. Even if I am not aware of it maybe because they hype or propaganda is not working or there is nothing but I hope that I am not aware. RC19 [272]

The creation of the One Stop Shop at the Ministry of Commerce and Industry in 2006 was limited to the physical presence of a service kiosk of six government departments in a single location at the Ministry. These six government departments were involved with issuing appropriate permissions for the process of new venture creation in Oman. The rhetoric about the One Stop Shop portray it as an online integrated service, however it still requires the physical presence of clients in order to acquire services. RC22 explained:
I happened to have interviewed the previous Undersecretary of the Ministry of Commerce and Industry who initiated the One Stop Shop project. He brought representatives from the 6 different government units (The Ministry of Manpower, The Ministry of Regional Municipalities, Muscat Municipality, The Royal Oman Police, The Ministry of Environment and Climate Affairs, and Oman Chamber of Commerce) and put them in the same office space. He then asked them to perform their normal jobs and serve clients from that one office instead of having the client travel from one office in one ministry to the other in order to get licenses pertinent to the establishment of a business venture. You know, he told me that he wanted them to feel the sweetness of collaboration … Unfortunately; this collaboration was limited to physical means instead of using electronic channels for collaboration. RC22 [154]

Requiring the physical presence of clients to obtain a government service is antithetic to the element of motivation through showing value of e-Government projects. It could adversely contribute to the distrust of users in the practicality of e-Government. One of the responsibilities of the ITA was to provide technical support to other government departments to accomplish their goals towards e-Oman. Government departments were urged to ask the ITA for technical assistance and advice related to the implementation of e-Government. However, government departments were not bound by any explicit law to follow directions from the ITA. Thus, the ITA could only apply measures of soft power such as setting standards and rankings to try to coordinate efforts from various government departments towards the comprehensive implementation of e-Government in Oman.

Only one government department out of the nine departments, which participated in the empirical study, mentioned using the ITA strategy framework as a reference during the actual implementation process. In the absence of an explicit law mandating government departments and employees to attain specific substantial milestones within an established timeframe, the ITA was not able to assume effective evaluative roles of the implementation process and penalise laggards. Laggards are those government departments that exhibit a diminished progress in their implementation approach.

During interviews with officials from the ITA regarding the lack of auditing of the implementation of e-Government in various government departments, they maintained that implementers in government departments were motivated by His Majesty’s directives in his 2008 speech and His Majesty’s Award for Excellence in e-Government. However, the participation in the Award is optional. ITA officials justified the lack of auditing policies at this stage by referring to the need to have a baseline on which evaluation could be built so that logical comparison became achievable. RC1 explained:
I think that the government agencies need time as well. You cannot come to them with a plan today and ask for the results tomorrow. Even world reports say that for you in order to compete in an international award, you have to be mature for a year. This means that you have a system to develop and as you know the life cycle of a system development is long and it takes time. RC1 [208]

However, members of the ITA acknowledged the need for a binding law and detailed evaluation process with evaluation reports submitted to the Council of Ministers (second bearer of power and authority in the country after His Majesty). RC4 asserted that the delay in executing implementation auditing measures contributed to accumulative delay or improper implementation of e-Government initiation. He stated:

… The actual strategy was forgotten the last four or five years although there were things put on the ground, like the network which is a common government network and the infrastructure but really not as they should have been. RC4 [161]

RC22 postulated that since e-Government implementation was associated with the national sustainable development cycle in Oman, laggard departments should be blamed for the act of hindering national development and the wellbeing of the country’s economic system. However, RC1 disagreed with this view and stated:

… This is too much for us in Oman … You know, compliments are part of our Omani culture so that the evaluations procedures are kind of soft. RC1 [206]

Therefore, the evaluation and monitoring of implementation progress, especially in regards to collaboration and coordination between various government departments, was ineffective due to a lack of adequate legal authority vested in the ITA.

6.4 Building the Implementation Environment

This section examines the challenges related to the e-Government implementation environment in Oman. The data showed that there were a number of challenges in relation to the implementation environment: challenges of internet penetration, challenges of internet capacity and speed, challenges of security and confidence in the ICT infrastructure, and challenges related to the availability of facilities to the users.

E-Government services are dependent on ICT infrastructure for delivery to constituents. Underdeveloped ICT infrastructure is a major challenge to the successful implementation of
e-Government (Mansar 2006). RC19 noted that building an agile and robust ICT infrastructure should have been a precursor to the e-Government initiative in Oman:

I thought that we are jumping into it a little too fast. What my outlook was at that time and still remains today is that Oman is one of the least internet penetrated countries in the world. Our internet penetration last I heard was 3% or 4% not more than that. RC19 [198]

Similarly, RC20 explained that the low pervasiveness of e-Services in Oman was due to poor ICT infrastructure:

We put services online and ask these citizens to use them; however the infrastructure is not as we would like it to be. A good infrastructure is one of the success factors … e-Government infrastructure is still at an infancy stage, although they thought it will be done two years back but it will take one or two more years to develop. RC20 [55]

The above excerpts are descriptive of the current status of the internet and telecommunication infrastructure in Oman. Many other respondents concurred with these views and indicated that the low average speed of internet services slowed down the pace of implementation. Other respondents such as RC9, RC19, RC16, and RC8 indicated that the geographic nature and settlement patterns in the country made it infeasible for commercial telecommunication companies to provision infrastructure projects in such areas. What follows is a detailed description of the ICT infrastructure of Oman in terms of penetration, capacity, and speed.

The following description is based on secondary data from government documents. It shows that the infrastructure is underdeveloped and incapable of supporting the Omani e-Government initiative.

The majority of the telecommunication infrastructure is owned by Oman Telecommunication Company (OmanTel) which was the only internet service provider until 2004. OmanTel was fully owned by the government until 2005. The company introduced mobile telecommunication services in 1996 and internet services in 1997. In fulfilment of the requirements of the WTO, Oman established the Telecommunication Act in 2002 and established the Telecommunication Regulatory Authority (TRA) to implement this Act, which focuses on the liberalisation of the telecommunication sector and attraction of foreign operators. The Act prescribes TRA as the legal body responsible for allocating frequencies to telecommunication operators in the country.
Similarly, in compliance with WTO standards, in 2004 OmanTel was partitioned into OmanMobile, which would provide mobile telecommunications services and OmanTel, which would provide landline and internet services (Oman Telecommunications Company 2011). A second mobile service provider, Nawras, entered the market in March 2005 to become a competitor of the national mobile service provider: OmanMobile (Nawras Telecommunications Company 2011). However, OmanTel remained the only Internet Service Provider (ISP) in the country. As a new entrant, Nawras had to use OmanMobile’s infrastructure while developing its own infrastructure in highly populated areas such as the Capital City and surrounding suburbs.

In January 2005, the government introduced a scheme to offer 30 per cent of its stake in OmanTel for initial public offering (IPO) in the country’s national stock market: Muscat Securities Market. Today, OmanTel is a shareholders company with the government owning 70 per cent of its shares. Due to competition between the two mobile service providers (Nawras and OmanMobile), mobile voice and data service prices fell. For example, after Nawras has started operating in Oman, the price of a pre-paid sim card from OmanTel was lowered from OMR 30 ($USD 78) to OMR 2 ($USD 5). In May 2007, Nawras reported that it had lowered the prices of its voice and data services to up to 80 per cent. In November 2007, Nawras became the first mobile service provider to offer Third Generation (3G+) data services. As for OmanMobile, 3G service was launched in 2009 (Oman Telecommunications Company 2011). Although the prices of voice calls were reduced, the prices of data services remained to be relatively high with limited coverage outside Muscat.

In July 2008, Nawras launched the fastest mobile broadband data services in the country based on the WiMax technology. In May 2010, Nawras was awarded a license by TRA to become the second fixed-line and internet service provider in the country (Nawras Telecommunications Company 2011). Consequently, Nawras was permitted to build an international voice and data gateway. It has pledged to offer fibre optics broadband services to households countrywide. Trials of this service started in October 2011 (Nawras Telecommunications Company 2011). Although TRA has been slow in liberalising the fixed line and internet local marker, it is evident that the competition factor is positively affecting the development of internet services in Oman. In compliance with conditions of the Free Trade Agreement between the Government of Oman and the USA, the TRA has commissioned Class Two licenses to allow mobile virtual network operators to enter the telecommunication market (MVNOs) (Singh 2010). Since these companies are licensed to
provide mobile voice and data services only, it is assumed that their share of competition within the fixed internet scope is negligible.

With regards to OmanTel, rollout of broadband services to households has been slow especially to areas outside Muscat. According to (Aladwani 2003), Dial-up was the most common method of connecting to the Internet in the Arab World including Oman. In Oman, the internet prices have been relatively high. For example, in 2003 the cost of a 24-hour dial-up connection was USD 19.27 per day (AlShihi 2006). In 2004, the price for a 24-hour ADSL connection was OMR 18 (USD 46.75) per month, but with a download limit of 1 gigabits per month. In 2007, OmanTel launched a plan of wide rollout of residential and business ADSL network connections (Oman Telecommunications Company 2007). Accordingly and due to competition from Nawras, the price of a 24-hour ADSL connection was reduced to OMR 12 (USD 31) per month. The maximum speed offered by ADSL technology was at 8 MB. However, ADSL service availability and speed is dependent on the number of subscribers and most importantly the distance from the telecommunication exchange which is usually located in the centre of every city. In 2008, OmanTel acquired 56.8% of WorldCall; a telecommunication company operating in Pakistan and Sri Lanka. OmanTel hoped to expand its operational market by entering into the world’s sixth most populous country. However, due to the consequences of the global financial crisis and unstable political environment in Pakistan, the subsidiary unit has incurred losses and was on the verge of financial distress (Oman Observer 2010). Similarly in 2008, the Ministry of Finance cancelled an earlier offer of 25 per cent sale of the government’s shares in OmanTel due to unstable global financial markets. Although the price of broadband internet service has been declining due to competition, the availability of the service was limited to the centres of large cities and the speed was constantly interrupted due to aged infrastructure. Dial-up, which is a very slow internet connection service, remained as the common internet connection service in the country.

Following the licensing of Nawras to provide fixed line and internet services, OmanTel has merged with OmanMobile in 2011. The merger has been gradually carried out since 2008 in terms of operational integrations (Oman Telecommunications Company 2011). The partition in 2004 and merger in 2011 have incurred additional monetary costs on the company as well as intangible costs in terms of changes in administration and restructuring in staffing. It is noteworthy, that since the majority of OmanTel shares (70 per cent) are owned by the Government of Oman, the government’s share of the revenue is brought back to the
government’s treasury: The Ministry of Finance, which is in charge of allocating financial support to government departments. Therefore, infrastructure expansion and upgrade has to be sanctioned by the cabinet.

In 2011, OmanTel launched a new internet scheme with 2 MB standard speed for residential subscribers in a monthly plan of OMR 20 ($USD 51.9) with unlimited download quota. The maximum speed of the internet service offered by OmanTel was also increased to reach 40 MB, but only in certain areas of Muscat using fibre optic networks. It is clear that this scheme offered an improvement in value for money for personal customers by reducing the monthly subscription rate and increasing the data download quota. However, since the majority of the underlying technology is based on ADSL technology, the issue of availability and speed of the internet service remained.

The Government of Oman have also led some initiatives to support the development of the ICT infrastructure in the country. Some of these initiatives were designed for government departments and others, specific to the needs of the public. For example, in 2004 the government requested OmanTel to prepare a quotation and a plan for the development of an MPLS-based network for the purpose of connecting government departments into a common network called the Oman Government Network (OGN). OmanTel was awarded the OMR 4 million ($USD 10,390,960 million) contract in June 2006. The company expected to complete the initial stages of the project in 18 months and will connect 415 government sites in four years (Oman Observer 2006; Telecompaper 2006). According to (ESCWA 2007), the OGN was to serve as the first comprehensive scalable and secure network to enhance the delivery of public services. Service Level Agreement was included in the contract as well as periodical reporting on the network performance and development needs. However, there has been delay in connecting all government departments to the OGN. For example, OmanTel announced on 27th April 2012 that it completed an MPLS-based networking project of connecting 76 sites of the Royal Oman Police to headquarters in Muscat (Muscat Daily 2012). Other government departments are being connected gradually, however in an overdue time frame.

One of the main target sectors for e-Government in Oman is education because of the relatively large number of students studying in public schools. However, evidence from the education sector shows that although they considered the initiative of e-Government of
benefit to them, they have not been able to achieve such benefits because of the lack of a reliable and widespread internet connection.

In a recent television debate pertinent to the implementation of the Education Portal at the Ministry of Education (حوار الشباب – البوابة التعليمية) and broadcasted on YouTube on 26 January 2012 (Television of the Sultanate of Oman 2012), most of the audience in the program voiced their discontent with the internet infrastructure. The audience included teachers, school principals, and officials from the ITA, OmanTel and the Ministry of Education. Under the e-Government strategy, schools are expected to be electronically connected to a central education portal with the Ministry of Education’s headquarter in Muscat. Administrative activities such as timetabling, students grade records, students’ and teachers’ attendance records, and registering new students are supposed to be performed online through the education portal (shown in Figure 6.1). However, many school teachers and principals attending the Television program have complained that they have poor or no internet access in their schools. In one case, a regional system administrator stated that 22 schools in his regional directorate have no means of internet connection whatsoever. A database system administrator from the Ministry of Education stated his annoyance with the slow speed of the internet connection:

I am fully supportive of the e-Government initiative. However, I get very frustrated with the slow speed of the internet connection and the frequent drop-outs of connection. In many cases, I believe that I would be faster in doing my work if it was paper-based instead of the current very slow connection. (Television of the Sultanate of Oman, 2012)

The above extract shows an example of the discontent of civil servants in regards to the access and speed of the internet services in Oman. This discontent was wide spread among the audience of the aforementioned program. From the data, RC17 explained his discontent with the unavailability of network connection between his government department and other government departments:

I can frankly tell you that until this date, our coordination with other government units is still paper-based and these papers are delivered back and forth between us and the concerned government units by constituents requesting the service from our unit. So, if you are requesting a service from us which requires the permission of other government units, you are responsible to get those permission papers to us in order to proceed with your application. RC17 [46]
In the Television debate related to Oman e-Government services, the engineer representative from OmanTel attributed the unsatisfactory performance of the telecommunication infrastructure to three main reasons:

- Firstly, he discussed the issues of delay in establishing adequate infrastructure due to complicated procedures of acquiring permissions from different ministries: the Ministry of Housing, the Ministry of Regional Municipalities, and the Ministry of Environment and Climate Affairs, and most importantly the Telecommunication Regulatory Authority (TRA). OmanTel is obliged by law to acquire individual permissions from all four government agencies for cable laying and mounting cell towers to pinpoint the appropriate locations for cable bed excavation. Similarly, wireless data frequencies are allocated to OmanTel by the TRA; the process is also a lengthy one. OmanTel representative contended that these procedures take a considerable amount of time.

- Secondly, since OmanTel has become a shareholders company, reaching a balance between public interest and that of shareholders has become more difficult. According to OmanTel’s representative, trading of OmanTel shares is considered to be a significant contributor to the stability and performance of the only national securities market: Muscat Securities Market.
Thirdly, the geographical nature of Oman, where a large proportion of the population settle in remote mountainous and deserted areas, affects the economic feasibility of extending the infrastructure to such areas. Due to such issues, the estimated number of internet subscribers was 72,000 in March 2010, which equates to 2.5 per cent of the population (Oxford Business Group 2011). According to the same author, 60 per cent of subscribers have broadband internet services (including mobile broadband), the rest use ‘dial-up’ to connect to the internet. ‘Dial-up’ has become obsolete for many countries around the world. In a recent response for a request for public consultation from TRA (Telecommunication Regulatory Authority 2012a), OmanTel stated that 60 per cent of households in Oman have no fixed line telephone connections. This means that 60 per cent of households in Oman do not even have dial-up internet connections.

In conclusion, the representative from OmanTel also stated that the government should lead the process of infrastructure development with an independent and clear strategy as seen in South Korea. He argued that due to economic feasibility issues, private telecommunication companies are not suitable in advancing network infrastructure at a national scale:

To be honest with you all, the issue of network coverage has always been brought up by in every communication venue with customers as individual citizens or groups. We, at OmanTel are working hard in improving the infrastructure; we have invested a lot of money in this and we still believe that there is more to be done especially in rural areas. However, please allow me to clarify an important point here; OmanTel has become a shareholders company, so the balancing between the public interest and the interest of investors and shareholders in this company is a very delicate issue which cannot be ignored because any miscalculations in the feasibility of our projects will greatly affect the stability of Muscat Securities Market in which OmanTel’s stocks are traded, which in turn will affect the national economy of Oman. If we look at other countries such as the UK, France, and South Korea, the governments of these countries are taking the initiative in investing in national telecommunication infrastructure. I think this should also happen in Oman because we really cannot rely on private telecommunication companies in this regard. (Television of the Sultanate of Oman, 2012)

As highlighted before, the development of the ICT infrastructure in Oman was mainly dependent on two commercial telecommunication companies (OmanTel and Nawras) operating in Oman. However, commercial companies are more inclined towards achieving maximum profits rather than advancing the implementation of national strategies such as e-Government. To this end RC4 stated:
We needed to bring competition to the telecom sector. We couldn’t let [one company] monopolise and control the telecommunication market. However, this [competition] has been totally inefficient until today. RC4 \[149\]

In its 2007 annual report (Oman Telecommunications Company 2007), TRA has recognised that a Universal Service Obligation (USO) is needed to obligate a public-private partnership to install voice and data network services in rural areas of Oman. In compliance with the prerequisites of e-Oman strategy, TRA has been able to persuade the Council of Ministers to approve the policy in early 2009 (Telecommunication Regulatory Authority 2010). The policy envisaged the provision of mobile or fixed-line telephony services, a broadband internet access to households of a minimum speed of 512 kilo-bits per second, and a broadband internet access to government establishments such as schools and hospitals of 2MB minimum speed. Under such requirements and conditions, TRA was not able to receive any bids in two-rounds of tendering (Telecommunication Regulatory Authority 2010). In December 2010, OmanTel was re-invited to submit a proposal for implementing the USO policy. However, no contract for implementation has been awarded to date. The definition of rural and urban areas is a matter of dispute between TRA and telecom operators in the country (Nawras Telecommunications Company 2012). It is worth noting that the need of a USO policy has been referred to in the original Telecom Act promulgated in 2002 (Telecommunication Regulatory Authority 2009b). Notwithstanding, the USO policy had not come to the agenda of TRA until late 2007 and there is no evidence of it being implemented.

In terms of the availability of international data gateways and bandwidth, the geographic location of Oman earns it a special privilege. For example, in 2004, Oman was selected as one of the landing points of the Falcon submarine cable project, which was designed to connect major cities in the Middle East and Asia across India (Flag Telecom 2004). A submarine cable acting as a backup ring network for GCC countries was installed by Gulf Bridge International off Omani shores in 2011 (Oxford Business Group 2011). In February 2011, through investment by OmanTel, Oman has become an active terminal of the Europe-India Gateway (EIG). EIG is a submarine cable network which routes voice and data traffic between Australia in the East and America in the West through Europe, Asia, and East Africa (Oman Observer 2012c). Similarly, in November 2011, Nawras has become the exclusive terminal of connectivity to a global submarine cable network: Tata Global Network (Nawras Telecommunications Company 2011). In March 2012, Oman was chosen as a terminal in the Europe-Persia Express Gateway (EPEG), which is a fibre optic submarine cable network which connects Western Germany through Germany and the Persian Gulf through Russia,
Iran, and Oman (Oman Observer 2012b). The EPEG project will enable internet subscribers in Oman to have high-speed connectivity as an alternative to the existing longer-distance cable network which circumvent to Western Europe through Egypt’s Suez Canal. The following map (Figure 6.2) shows the submarine telecommunications cables that have landing points in Oman. However, it is noticeable that these landings are concentrated in the vicinity of the Capital City: Muscat. Oman is well connected to the outside world in terms of network cabling. The issue remains with network coverage internally over the country’s land.

Figure 6.2 Submarine Telecommunication Cables - Oman. Source: http://www.submarinecablemap.com/
The other category of challenges in relation to the implementation environment was the security and confidence in the infrastructure, specifically, to provide secure data centres for housing government data. In this regard, RC1 explained that the ITA established a resilient and secure national data centre and offered government departments to transfer their operational data to the centre. Moreover, RC1 argued that for the purpose of archiving declassified government data, the government established the National Records and Archives Agency (NRAA) in 2007. He further elaborated on the reluctance of government agencies, especially at the middle management level, to use the national data centre due to false philosophies about the security and sensitivity of data. However, he expressed his belief in the role of the NRAA in changing the mindset of middle management in relation to security and perception of the meaning of classified data. RC1 also stated the government agencies are now prohibited to house their data outside the boundaries of Oman. However, almost none of the participants of this study have provided evidence of extensive utilisation of the national data centre.

Other infrastructure initiatives in Oman such as the National PC Initiative (NPI) and The National IT Training & Awareness (NITTA) initiative were designed to equip the public with the necessary tools and education to use e-Government services. Therefore, determination from the top authorities in the government had put in place solutions to increase the rate of PC and Internet penetration. For example, ITA has acquired funding from His Majesty personally to launch the National PC Initiative (NPI):

NPI started as we wanted to enable poor homes to start using PCs and to bring up the digital index of the country and this is again the civil society [aspect of e-Government]; and to provide them free internet using TRA. Originally we wanted money from the Ministry of Finance but actually now we got HM’s money to finance this and we have identified students and families that will benefit from the initiative. RC4 [272]

Under NPI, every freshman student is entitled to a free laptop PC, every social-security-beneficiary family is entitled to a free laptop PC, and every school teacher who acquired an ICDL or IC3 certificate is also entitled to a free laptop PC. According to RC1, recipients of free laptops are also entitled to a predetermined period of free internet service.

Although this need of the society was identified in 2006, through a road show organised by ITA, the NPI was only launched in November 2010. According to recent research, the initiative has provided about 113,000 computers to eligible individuals and families (Oxford Business Group 2012). As discussed in chapter 5, training programs were also launched in
centres countrywide. According to RC1, these centres were established to last so that every single citizen could receive free education in computer literacy. Such measures confirm the pre-set intention of e-Oman initiative in focusing on the inclusiveness of all segments of the Omani society to build a digital society. These initiatives have consumed time to be designed, financed, and implemented. Therefore, the need to educate and equip a large segment of the society with basic computer knowledge has consequently contributed to the stalling of the implementation of e-Government in Oman.

In the context of the above discussion, the ICT infrastructure in Oman is then at an emerging stage (Sulaiman & Al-Abri 2008). At the early phase of the e-Government launch, the ICT infrastructure was hindered by a rigid monopoly by the incumbent national telecom operator: OmanTel. Then, it was further hindered by a false perception of competition-driven development depending on public-private partnership to develop the national infrastructure. However, OmanTel was transformed to become a shareholder company in 2005 and serve the interest of the shareholders as a first priority. Nawras was not licensed to provide fixed line services until 2010. OmanTel has also undergone structural transformation due to partition into two companies in 2004 and merger with sister company OmanMobile in 2011; and moving operations to Pakistan and Sri Lanka through the acquirement of majority shares in WorldCall. It was believed by respondents in this research that the paucity of an efficient and high-speed infrastructure is the main hindering factor for e-Government implementation progress from 2003 to 2012.

Conversely, a complementary backbone infrastructure will require operational development in order to facilitate the efficient delivery of public services: the postal system. Recently in April 2012, the Oman Post Company has launched the e-Post initiative which facilitates the creation of digital identification numbers for every single citizen or resident in the country. The e-Post system can be used to lodge applications for services at government agencies. The new system will enable users to track the progress of their applications for services. It is also possible for individuals to set up virtual boxes in order to receive notifications of printed mail addressed for them. A feature exists in the system that allows addressed recipients to request the forward of printed mail to any location of their convenience within the post network. There are only 62,000 active post boxes around the country (Oman Post Company 2012). To elucidate, with the exception of Muscat, physical location of post offices is limited to one post office per ‘wilayat’ (state) usually located in the centre of that ‘wilayat’. As stated by RC19: ‘I thought that we are jumping into it a little too fast’ [198], the Omani strategy of e-
Government implementation has fell within the misconception of leapfrogging where there was an attempt to skip gradual development without adequate focus on the necessary requisite competencies such as building a robust ICT infrastructure.

6.5 Legislating e-Government

There was no explicit law that obligates government departments in Oman to implement e-Government initiatives according to a certain framework or timeline. Some respondents have indicated that the pressure created by HM’s Award for Excellence in e-Government was a motivator for gaining support from top administrative management (i.e. Ministers and Undersecretaries) to enhance the effort of implementing e-Government. RC1, RC8, and RC9 argued that they started witnessing progress in the e-Government implementation after the launch of the Award. For example, laggard departments were motivated to pay more attention to implementing e-Government according to guidelines from ITA in order to be able to compete for HM’s Award. RC17 stated:

After seeing the first version of HM’s Award, we were really motivated to implement e-Government and to learn from those government units that won the Award ... We are very excited because the Award is associated with HM’s name and really if it was any other Award we would have not been as excited to participate ... We really cannot afford not to participate in this prestigious award because if not we will be sending a bad message about our government unit. I believe this also applies to all other government units. RC8 [62]

The loose, or absent evaluation measures of implementation efforts in Omani government departments has created e-Government laggards. Considering the networked nature of e-Government where one unit’s process output is another’s process input, delay in producing required input data imposes a serious challenge for dependant units. This issue renders delay in implementation an accumulative and interrelated syndrome. For example, the Ministry of Higher Education (MoHE) whose main mission is to provide and fairly distribute tuition-free university education opportunities for high school graduates depends extremely on the Ministry of Education (MoE) for students’ grades and personal data. It uses these in order to calculate competitive indexes for each student to compete for a tuition-free education opportunity, but progress in the implementation of e-Government initiatives by MoHE is entirely dependent on progress made by the sole provider of input data: MoE.

According to RC4 and RC1, the lack of a privacy law in the country also infused false philosophy of confidentiality, data ownership, and security issues. RC1 explained that middle
management creates such philosophies which affect decision-makers’ perceptions of the actual advantages of e-Government. Officials in government departments perceive citizens’ data and processes as confidential and to be owned and protected by their respective departments. Some government departments are reluctant to release citizens’ data to other departments to avoid becoming liable in the case of misuse of data. Other government departments lack the confidence in security measures related to transferring digital data outside their own unit boundaries. This was clearly demonstrated by RC22:

What we are having today is information silos and legacy systems which cannot talk with systems in other government units ... people say that they want to implement e-Government but they never want to change the current working systems ... because really they are not willing to accept recommendations from ITA to integrate with other government units because ITA’s recommendations are not based on any explicit laws. RC22 [173]

As discussed in the previous chapter, an e-Transaction law had been promulgated in 2008. However, RC4 contended that about 30 more laws need to be amended in order to support the instatement of e-Government within the Omani public sector. For example, he argued that the Commercial Law (1990), the Banking Law (2000), the Intellectual Property and Copyright Law (2008), the Law of Civil Service (2004), and the Criminal Law need to be amended to correspond with the transformational nature of e-Government. RC4 stated:

Standards on the e-Governance part of the strategy are really missing. It has been lips services. Although we had the full mandate to put forward such laws; we could have put them through Royal Decrees or Cabinet Decrees because we had fully buy-in from the cabinet, but we did not do it. ITA spent more time on the easy things of educating the society and civil service employees and not much has been done on the regulatory environment. The nature of government services is that it goes inter-ministerial. So the strategy architect emphasised that implementation of e-Government should not work with ministries as silos. RC4 [179]

In agreement with RC4 with regard to inter-ministerial cooperation, RC1 advocated for the introduction of a law related to the enforcement of collaboration between Omani government units to realise the integration of e-Government in Oman. He stated:

We are going to request a mandate to evaluate certain policies such as the security policy in the public organisations; are they doing it or not. RC1 [195]

The lack of legal framework that facilitates the structural formation of governments and, therefore, the required collaboration between different government arms is a major hindrance to implementation progress (Mofleh, Wanous & Strachan 2009). In the view of respondents,
the legal infrastructure and level of authority given to ITA was also not sufficient to support a rapid and efficient implementation of e-Government.

According to (Mofleh, Wanous & Strachan 2009), agency e-transformation is an essential element of national government’s duties to ensure successful implementation of e-Government. However, failing in fulfilling this duty has a direct effect on the implementation progress. The role of the national government is to intervene in coordinating implementation strategies between disparate government agencies so that the work routines of government agencies are horizontally integrated (Layne & Lee 2001) based on electronic means.

In relation to Oman, one of the pillars of e-Oman strategy is e-Transformation. However, since the progress of implementation has been slow, the e-Transformation pillar had received little attention as RC1 explained:

This year the service transformation pillar has more weight than last year. In the last plan we had 15 or 16 per cent for the weight for service transformation, but this year we have 20 or more per cent of weight for transformation in the plan. It will get more than 20 per cent focus which means we will really focus on it and deliver it. RC1 [224]

However, RC2 contended that e-Transformation is a function of change in work culture coupled with business process reengineering. This view was corroborated with views of RC15 and RC16, who argued that business process reengineering should be the basis of the strategy for implementation. Although the ITA has a division of experts to provide government agencies with advice related to effective implementation of e-Government, this division is focused on implementation within the single agency. Almost all respondents at the implementation level have argued that advice and assistance from ITA is either not solicited or is received within a limited scope. Comments from RC1 showed that some government agencies were not receptive to advice from ITA. RC1 stated:

There are people saying well, we do not trust ITA or any other government agency with our data. Here we are talking about Power meaning that I love this [data] to be only for me. We encounter this a lot … There are people who are afraid and there are people who will be afraid and stay afraid and it will be hard to convince them. RC1 [294]

With the continuous absence of legal power at the centre of ITA, external advices and directions from ITA might be ignored by government agencies in favour of internal autonomy. RC3 confirmed this:
We have spoken a lot about the adversities of the absence of a binding law to forces government agencies to implement e-Government according to the [e-Governance Framework]. So, even if we provide them with advice and directions in acquiring certain software or adopting a certain technology, there nothing that compels them to listen to us ... nothing at all. We make our advices implicitly as well as officially, but at the end of the day every agency has its own employees and experts who have their own professional views. Our views get to the decision table, but might not end up being enforced. RC3

The process of e-Transformation entails process reengineering, organisational restructuring, and cultural change (Mofleh, Wanous & Strachan 2009). These requirements must be heuristically and lawfully imposed on government agencies because e-Government transformation is a process of interagency collaboration. In short, it is irrational to reduce e-Transformation to the mere introduction of electronic means in the delivery of public services at the level of individual government agencies. In the case of Oman, a deterministic view of technology was prevalent, as RC1 stated:

At the end it is the value and when they see the value and know that there is such a burden that ITA will take [off of their shoulders] they will say OK ITA do it for us. RC1 [290]

However, such claim has not been effective in transforming Omani government departments to become fully integrated with dependent government departments. ITA should play a proactive role in this regard as RC22 articulated:

ITA is supposed to proactively supervise the initiatives at all government units. But in reality, ITA is not doing this unless they are called to intervene by a government unit and solve a certain technical issue. ITA must supervise the implementation of all government units and ask government units not to proceed with implementation unless permission is granted by ITA. You would ask why? Because if there is no coordination we will end up having silo and legacy systems at different government units which will need a middle system in order to make them communicate with each other. On the other hand, if ITA acts as a knowledgeable coordinating agency, integration between government units will become much easier. RC22 [169]

The view of RC22 on uncoordinated and autonomous implementation of e-Government was evident in many government agencies in Oman. For example, RC15 contended that the transfer of information between the Ministry of Higher Education and the Ministry of Education was based on the exchange of compact discs (CDs). The ITA has not succeeded in coordinating the implementation of e-Government in different government departments in
Oman, therefore horizontal integration was not achieved. This deficiency has contributed to the stalling of e-Government implementation in Oman.

6.6 Time Factor

According to RC19, the original strategy had an over-optimistic timeframe for implementing e-Government as he stated: ‘I had a little different angle to it and I thought that we are jumping into it a little too fast’ [197]. Although not sharply clear from the strategy document, the strategy had July 2005 as the eventual date of implementing a fully functional national e-Government (Gartner Team 2002). The empirical investigation revealed that the original strategy was viewed by government agencies as symbolic rather than a clear action plan. Government agencies had established internal steering committees to manage the implementation of e-Government initiatives. However, none of the respondents said that each department had a clear date set for the completion of implementation. In March 2011, RC2 stated:

In reality, there are not clear dates of completion of implementation. It depends on the society itself … you see in Oman, we do not have a sufficient number of local programmers or computers hardware manufacturers. Our progress is dependent on foreign expertise. Also, work procedures have to be reengineered; and the Ministries do not have clear plans of reengineering their work procedures. No matter how clear is the plan at ITA, we at ITA cannot ask Ministries or other government institutions reach a certain stage of development within a certain deadline. RC2 [101]

In order to obtain an understanding of the time needed of e-Government in Oman to progress to full implementation, the researcher prompted respondents to comment on their future outlook of e-Government in the upcoming five years. What follows is an analysis of responses to the question of future outlook from respondents. The analysis of responses to the aforementioned question is presented based on emerging themes in the following subsections.

RC3 said that her future outlook for the next five years is to realise the transactional and integration stage of e-Government implementation where individual and corporate constituents can obtain government services in a one-stop-shop portal. However, RC3 reflected upon the need of introducing constructive policies to enhance internet speed and penetration rate in the country and enhancing the authority of ITA to influence telecommunication companies to improve the digital infrastructure in the country.
RC13 had strong confidence in the applicability of implementation plans to educate all citizens and reduce the digital divide. He asserted that, in the next five years, e-Services will reach every home, school and every business in all industrial sectors. RC13 views were consistent with the inclusiveness characteristic of e-Oman strategy. Similarly, RC15 argued that the provision of e-Services is not a choice anymore. He viewed it as a mandatory measure and that such belief will create a positive preference within government departments to utilise electronic channels in their service delivery.

RC10 asserted that the creation of the ITA as an independent authority overseeing the implementation of e-Government signifies the government’s seriousness in accomplishing the objectives of the national e-government strategy. He argued that the government realises that e-Government is instrumental in reducing the cost of public service provision and diversification of economic resources. He also recognised the role of e-Government in improving citizens’ satisfaction with public services.

Similarly, RC22 expected that the government will elevate the priority of e-Government in resolving issues of citizens’ expressed dissatisfaction with public services. He argued that mobile technologies will be utilised extensively in delivering public service since mobile devices and mobile communication in general are heavily used by the youth nowadays. These views were consistent with those of RC1 who advocated that the next stage of e-Government implementation will concentrate on the provision of mobile and web-based services. RC1, RC21, and RC22 expected government departments to create and publish service applications downloadable to mobile devices of citizens.

RC19 expressed his confidence in the current plans put forward by the government to facilitate the uptake of e-Government initiatives such as NPI, computer training programs for citizens and civil service employees, and HM’s Award for Excellence in e-Government, but he stressed the need for marketing as an effective tool in enhanced the uptake rate. He stated:

>[The government] should create now very quickly one or two low hanging fruits to talk of that as a success; do something and talk about it as a success story and blow it out of proportion so that people can look upon it in a credible venture and move forward [in the implementation]. RC19 [276]

RC20 explained that future implementation efforts require hard work and commitment from managers heading the IT departments across government departments. Like all other respondents, RC20 was optimistic that e-Government will eventually progress to the final
stage of becoming fully integrated. RC17 explained that the enhancement of the internet infrastructure in the country and the increase in the number of internet providers will motivate government departments to provide public services electronically. He stressed that in time, e-Government will become part of the normal work routine and citizens will become more familiar with e-Government services and prefer to acquire services online and not in line. RC18 argued that e-Government will become an apparatus of better government services and as a response to demands from citizens for better and transparent public services.

6.7 Summary of e-Government Challenges in Oman

This chapter has presented the challenges that contributed to the slowdown of e-Government implementation pace in Oman between 2000 and 2012. The presentation of these challenges was guided by a model pertinent to e-Government challenges proposed by Mofleh, Wanous and Strachan (2009). On the basis of the empirical evidence, financial support and funding was not a challenge for the e-Oman initiative. However, the available fund and top leadership support was affected by an inefficient management style which was based on a top down structure and lacked sufficient legal authority to enforce control and coordination on the process of implementation.

The initial strategy was developed by a team of technocrats from different government departments with the assistance of a foreign consulting body and it was adopted by the cabinet. However, the needs of end users were not assessed at the early stage of policy initiation. Neither were they consulted as stakeholders of the policy. Another major barrier to the implementation of e-Government in Oman was the underdeveloped ICT infrastructure. In fact, the internet penetration rate in Oman is around 2.5 per cent with 60 per cent of households with no fixed line network or telephone services. This also speaks volume of the existing digital divide and computer illiteracy in the Omani society which required a considerable amount of time and resources to alleviate. The time frame that was originally set for the e-Government initiative to be fully implemented by July 2005 was over-optimistic as many respondents indicated. In general the obstacles that contributed to the stalling of the Omani e-Government could be categorised under three categories: institutional, management, and technological obstacles. Within the institutional category, the lack of regulatory power in the form of mandates and laws that enforce implementation standards and deadlines coupled with a lack of objective evaluation and auditing mechanisms have adversely affected the implementation progress. Within the technological category, the lack of IT-skilled human
resources, the need to mitigate the existing digital divide, the lack of an efficient ICT infrastructure have slowed down the progress of implementation. Within the management category, the frequent changes in leadership, the lack of a complete consultation of relevant stakeholders, the lack of professional-based leadership, and the lack of understanding and awareness of the value of e-Government have also contributed to the stalling of the e-Government implementation in Oman. The following diagram (Figure 6.3) shows these categories of challenges.

**Institutional Challenges**
- Lack of regulatory power.
- Lack of effective evaluation.
- Lack of a unified implementation plan.

**Management Challenges**
- Leadership instability.
- Lack of public consultation.
- Lack of professional-based leadership.
- Lack of collaboration between govt. units.
- Lack of understanding of the value of e-Government.

**Technological Challenges**
- Lack of IT skilled human resources.
- Digital divide.
- Lack of efficient ICT infrastructure.

Figure 6.3 Framework of E-Government Implementation Challenges in Oman

### 6.8 Chapter Postscript

However, since late 2010 some initiatives have been undertaken by the Government of Oman to realign the direction of e-Government implementation within the overall framework of implementing the Oman 2020 economic development strategy. These initiatives will be
discussed in relation to the three categories of challenges: institutional, management, and technological challenges.

In relation to mitigating the ICT infrastructure challenges, some of the initiatives undertaken include the formation of a national broadband strategy, the establishment of a government-owned broadband infrastructure company, and the freeing of more wireless spectrum frequencies. A National Broadband Strategy (NBS) has been tendered by TRA for consultation in late 2010 (Telecommunication Regulatory Authority 2012b), but it is still under development (Oxford Business Group 2012). In alignment with the e-Oman strategy, the NBS aims to develop a broadband network infrastructure, which will enable every household, business, or government establishment in the country to have access to a high-speed internet connection. As a step towards the development of the strategy, on November 5th 2012, TRA called for public opinion on regulating the requirements of internal telecommunication cabling for residential and business premises (Telecommunication Regulatory Authority 2012a). The cabling guidelines require the instalment of, at least, one voice and data outlet in every room of the dwelling. Cable connections must be of UTP type and must be aggregated to a main distribution box (MDB) installed at the front of the dwelling’s boundary wall. In the case of apartment buildings, an MDB must be replaced by a telecom room. These guidelines are similar to guidelines for electrical wiring in residential and commercial buildings in Oman which indicates the government’s determination to improve the ICT infrastructure.

In line with the NBS strategy, the government has financed the government-owned water and sewage company Haya to lay fibre optic cable in the Capital City, Muscat. Moreover, an amount of OMR $50 million ($USD 129,836,405.95 million) has been invested to support the allocation of more wireless spectrum frequencies, which will enable telecom operators to extend their coverage and transmission speed. However, in April 2012 the culmination of the NBS strategy has manifested in the announcement of a resolution by the Council of Ministers to establish a government-owned company responsible for the development of a national fibre optic network. The company will then provide access to the infrastructure for telecom operators on wholesale basis (Oman News Agency 2012a). In a statement to the press, the Minister of Transport and Telecommunication stated that the decision to establish such a company was in accordance with other countries decisions worldwide. He further explained the motive of establishing the new company:
The broad band networks have become as important as roads and electricity networks in many countries and they are seen as part of the basic infrastructure in modern society. The new service will contribute to the spread of the internet service across the Sultanate and will also contribute to the achievement of National Strategy goals in having digital Oman society, e-Government and Oman Future Economic Vision 2020 that aims to uplifting the Sultanate economically and socially. (Oman News Agency 2012a)

In relation to tackling challenges related to the management and control of e-Government implementation in Oman, some of the initiatives undertaken in this regard include the establishment of Customer Relationship Management (CRM) offices in every government unit, the establishment of a consumer protection authority, the establishment of government performance monitoring call centre, and the establishment of municipal councils. These initiatives are aimed to increase the scope of citizen participation in decision making and increase the public oversight over government operations.

In April 2011, the Sultan has issued royal directives to all ministries to establish special departments that receive and record citizens’ requests and follow operational procedures to action these requests. The objective of these directives is to facilitate and streamline public service procedures for citizens and ensure the smooth conduct of service attainment. These departments are named customer service departments and are directly appended to the office of respective ministers (Ministry of Foreign Affairs 2011). These departments are required to conduct periodic reviews and appropriate upgrades of their business processes to ensure adaptability to the requirements of the society. Hence, customer service department staffs are required to provide customers with receipts of their request for services with a specific follow-up date for receiving a notification of the result of their requests. The departments have contributed in helping citizens and saving their time and effort and ensuring they are able to communicate effectively with government officials of all functional levels in the ministries. Various ministries have paid special attention to developing and strengthening their ICT capacities in order to cope with the new work climate of transparency and responsiveness to citizens. Some ministers had already supplied their personal email addresses on the portal of their respective ministries as a channel of direct communication with citizens. RC10 stated:

I really liked what some ministers have done recently of adding a feature to the web portals of their ministries to allow citizens to contact ministers directly through email. I think these ministers have started paying attention to the importance of transparency and responsiveness to the needs of citizens. RC10 [48]
Similarly, a Royal Decree number 26/2011 was promulgated in March 2011 establishing the Public Authority of Consumer Protection with legislative, financial and administrative independence (Oman Observer 2011c). A similar agency formerly existed as a directorate under the Ministry of Commerce and Industry, but with less authority and a narrower scope of operation. Currently, the main role of the Authority is to maintain and disseminate a consumable price list and spread awareness about consumer rights to complaints about profiteering and trade trickery. This information is free of charge and readily accessible in print and electronic formats. This practice empowers consumers with freedom of choice and enhances their confidence in the government. According to a statement from the chairman of the Authority, the establishment of the authority was due to global requirements in accordance with world best practices of economic and social development (Public Authority for Consumer Protection 2012). Beside the traditional communication channel of phone calls and printed media, the Authority uses social media channels and a web portal to disseminate relevant information about its inspection activities and to hear from consumers regarding complaints of fraud. With cyber presence and physical presence in every governorate of the country, the Public Authority of Consumer Protection has become a modern responsive avenue of direct communication with citizens in regards to their day-to-day activities of goods consumptions.

In a continuation of the approach to expand the scope of citizen participation in public policy formulation, the Sultan has issued Royal Decree 116/2011 promulgating Municipal Councils Law in October 2011 (Al Falahi 2011). Every one of the 61 states in the country is permitted to elect two to six member representatives in the Municipal Council of the state based on its population. A higher-level assembly of state councils is chaired by the governor of the governorate in which the state is part of. Governors are appointed by the government for the 11 governorates of the country; however, members of the Municipal Council are freely elected by citizens and serve a re-electable term of four years. Through the Municipal Council, elected members are empowered to recommend mechanisms for the development of local infrastructure and public services, and suggest aid programs for the underprivileged, orphans, and handicapped citizens in the governorate in general and their ‘wilayat’ (state) in particular (Al Falahi 2011).

The rejuvenation of e-Government was predicted by many respondents as an efficient and instrumental policy window to make the public sector more efficient and more responsive to citizens. For example, in an interview with RC10 on April, 3rd 2011, he stated:
I am positive and I think there is a big hope that the e-Government will become a reality very soon … with the recent developments in the region, I think the government will be more eager to make this successful because it is a basic need now like water and electricity. Also if I may comment on this from a different angel, we have limited resources and we know that oil revenue will not be sustainable and we know that we need to reduce expenses … the government will focus more on reducing the expenses and one of the expenses is the wasting of resources because of there is no e-Government system in place … Again, I am very positive because I think the government will put more resources than they put before especially at this time. RC10 [125]

Similarly, RC1 attributed the recent improvements in the public sector to the government’s desire to enhance the responsiveness of the public sector citizens’ needs. In an interview with RC1 on March, 14th 2011, he stated:

We see things happening right now and we see changes happening and these changes are happening because of the people inside; they want these changes to happen and His Majesty and the government realise that what we do actually is for the people. RC1 [60]

In the same vein, RC1, RC15, and RC22 predicted that more investment will be made in the development of the ICT infrastructure to facilitate effective and seamless collaboration between government units. They contend that implementing an efficient e-Government system is a strategic vision to increase citizen satisfaction with public services and reduce public service operation costs. The following extract from His Majesty Sultan Qaboos’ speech to the Council of Oman in October 2011 demonstrated that the ultimate goal of the government public policy is reaching citizens satisfaction:

Honourable Members of the Oman Council

Dear Citizens

We have always affirmed our continued attention to the development of human resources and we said that these resources take top priority in our plans and programs as the human being is the cornerstone of every development structure and a pivotal component around which all types of development revolve as their ultimate goal is the happiness of the individual, providing him with a means of a decent living and guaranteeing his security and safety. (State Council 2011, p.54)

In this regard, in March 2012, His Majesty the Sultan issued a royal directive for the establishment of call centre at the Secretariat General of the Council of Ministers to receive and respond to calls from citizens in regards to the performance of government departments (Oman Observer 2012d). The directives specify that the call centre should be equipped with
information technology tools to enable it to measure the performance of government units in regards to the provision of public services.

Similarly, in late May 2012, the Ministry of Civil Services has announced that it will hold an extensive symposium in mid-September to deliberate on the adoption of effective apparatuses of enhancing the performance of the public sector. The Minister of Civil Services stated that the symposium came into being in accordance with Royal Directives from His Majesty the Sultan to streamline the procedures for obtaining government services (Oman News Agency 2012b). During the symposium, the Ministry of Civil Services disseminated the results of a recent scientific survey administered by an external consulting company to measure the level of citizens as well as employees satisfaction of public services. The survey revealed that 60 per cent of citizens who responded to the study are unsatisfied with the public services. In specific, they are not satisfied dealings from front staff and with the speed of processing their application-for-service. 32 per cent of respondents attributed their dissatisfaction to a low quality of service experienced with front staff, whereas 23 per cent of respondents attributed their dissatisfaction to a low quality of the service itself. 15 per cent of respondents attributed their dissatisfaction to the poor quality of technology utilised in service delivery and another 15 per cent attributed their dissatisfaction to the poor work environment (Al-Adawi 2012).

Results from focus groups with front line employees, in the aforementioned study, revealed that citizens’ dissatisfaction with public services was attributed to many reasons: (i) the overcrowding of service requesters in government agencies, (ii) citizens’ predetermined belief of the poor quality of government employees’ performance, (iii) the lack of transparency and credibility, (iv) the lack of clarity on laws and requirements of attaining services and the validity of those requirements, (v) the poor quality of technology use, (vi) the uncourteous behaviour of front line staff. Government employees have expressed a general dissatisfaction with the current system of public services (Al-Adawi 2012). They argue that they lack clear understanding of the nature, objectives, and importance of their jobs. They argue that the current work procedures are out dated and the implemented technology has not solved issues related to uncoordinated and conflicting procedures between government units. In turn, these vulnerabilities act counterproductively in motivating them to perform their jobs professionally. In conclusion, the study has recommended that such vulnerabilities must be given immediate attention in order to be resolved effectively. Therefore, the symposium has recommended the establishment of a quality assurance
department at every Ministry to manage the quality of service systems including quality of relationship between government employees and citizens (Oman Observer 2012a).

In terms of increasing collaboration and consultation between government units, His Majesty the Sultan emphasised the importance of collaboration between government units for the realisation of successful implementation of national policies in his 2011 speech to the Council of Oman:

It is obvious that this requires more cooperation and coordination between government departments and the Council of Oman in particular, and between the two and the private sector, the civil societies and corporations in general.

Collaboration and co-operation between all responsible bodies and direct co-ordination between the departments and the exchange of opinions and consultation among those in charge is the way that leads to the success of national plans and programmes in playing their desired role in comprehensive development and achieving its short- and long-term goals. (State Council 2011, p. 52)

In relation to institutional challenges, some of the initiatives undertaken to improve the institutional infrastructure include elevating the status of the ITA to become a subordinate of the Council of Ministers, the launch of a new plan of e-Government implementation with clear deadlines and with increased authority and power to ITA in terms of providing financial and human resources to government units in relation to the implementation of e-Government.

ITA had performed an assessment of the maturity level of e-Services in the country in 2011 (Information Technology Authority 2012c). It was found that the maturity level of e-Government in Oman has fallen below expectations. Specifically, the number of integrated electronic services in the national e-Government portal was zero. Integrated services are those which involve collaboration between multiple government units in order to bear the service to the client. There were only 14 transaction services listed in the national e-Government portal. Transaction services are defined as those services obtained from a single government agency. There was only one interactive electronic service listed in the e-Government portal. An interactive service is a combination of online and offline activities. The user is able to fill out electronic applications for service, however is required to visit the physical premises of the government agency to acquire the service. On the other hand, there were 700 informative services listed in the portal. Informative services are basically information about guidelines pertinent to the definition of procedures and activities required
to obtain a public service. However, most of the 700 informative services are listed in the format of unified resource location (URL) links in the e-Government portal (see Figure 6.4).

Figure 6.4 List of Informational electronic services for citizens and residents on the e-Oman portal. Source: http://www.oman.om

ITA has utilised the poor results of the assessment project as a rationale for the launch of the new transformation plan. In an interview with RC1, a senior manager at the ITA on 14th March 2011, he explained:

I personally think that HM’s Award was the first step in evaluating the progress of implementation. ITA has the right by Royal Decree to overlook the implementation of e-Government in the public organisations and evaluate at the same time. Every year, we report to the Council of Ministers the progress of the overall initiative. However, currently the evaluation that we do is not detailed. As we move on, the reporting is going to be more detailed. We
are going to request a mandate to evaluate certain policies such as the security policy in the public organizations; are they doing it or not. Another example is measuring the transformation of public services online. We have now a baseline as we measured the progress of implementation in government agencies which competed for the Award. In the future the transformation will have to move on to a higher level. So this is part of our plan. RC1 [191]

In June 2012, the Omani Council of Minsters issued a resolution that obligates government agencies to advance to the final stage of the e-Government project implementation: transformation phase by December 2015. In late October 2012, ITA held a symposium in Muscat to officially launch the new e-Government transformation plan (Information Technology Authority 2012b). The symposium was attended by cabinet ministers, undersecretaries of ministries, and IT management staff from different government agencies; a photo from the symposium is shown below in Figure 6.5.

![Figure 6.5 E-Government Transformation Symposium launched in Muscat on October 21st 2012 - Source: http://www.omannews.gov.om/ona/getPicDetail.jsp](http://www.omannews.gov.om/ona/getPicDetail.jsp)

The timeline of the new plan was highlighted during the symposium with clear deadlines for each development step. The rejuvenation process was initiated in light of the realisation that the implementation of e-Government has not been ideal.

The new plan was prepared with a predefined implementation timeframe parallel to standard e-Government evolution models. The plan has set December 2015 as the deadline for all
government agencies to reach the transformation stage of e-Government. Under the new plan, government agencies are required to prepare implementation strategies with details on staffing and financial requirements. ITA has offered to work closely with government agencies to develop their implementation plans according to common e-Government architecture. ITA will monitor and evaluate the progress of implementation in every government agency and will ensure the compatibility of implementation procedures between various government agencies to avoid overlapping and duplicate applications (Information Technology Authority 2012c). ITA has published a web page with information and official documents pertinent to the new transformation plan to serve as a point of reference to implementers (see Figure 6.6).

Figure 6.6 Web page of Omani e-Government Transformation Plan - Source: http://www.ita.gov.om/ITAPortal/Pages/Page.aspx?NID=820&PID=3387&LID=166
Under the new plan, ITA will prepare and manage a general financial budget for the execution of the various phases of the plan. Government agencies will be allocated appropriate financial fund through ITA. ITA will also provide government agencies with expertise in business process reengineering and sophisticated transformational skills. In terms of coordination and collaboration between dependent service providers, ITA will establish working groups with members from concerned government agencies to ensure effective alignment of implementation efforts. ITA will also be responsible for building an integrated and shared electronic infrastructure to house e-Services development by government agencies. An annual evaluation of implementation progress will be performed by ITA for every individual government unit. Progress reports will be submitted to the Council of Ministers, to which ITA has been annexed since 2011. The added privileges of evaluation add to the authoritative power of the ITA to enforce implementation standards within the predefined time frame. Similarly, coercive power of the ITA may be enhanced by its new role of general budgeting for the e-Government implementation projects at all government agencies.

The new plan adds to the formal powers of the ITA as an auditing body of the overall progress of e-Government implementation. In the next section, a discussion and analysis of the effectiveness of the new plan in resolving the implementation impediments is offered.

6.9 Discussion

E-Government is a form of public sector innovation (Kamal 2006; Moon 2002; Moon & Norris 2005; Qing-tan 2005; Tat-Kei Ho 2002; Tolbert, Mossberger & McNeal 2008; West 2004). According to Mohr (1969), innovation is a function of motivation, obstacles, and resources. In other words, the success of implementing innovations in organisations is determined by the motivations underlying the adoption and by the availability of resources to overcome implementation obstacles. Therefore, innovation does not imply mere adoption of new technologies or practices by the organisation, but extends to imply the actual use and implementation of these technologies and practices (Mohr 1969; Rogers & Kim 1985; Wilson 1989).

In this context, the motives underlying the adoption of e-Government in Oman were discussed in Chapter 5. It was established that the Government of Oman had strong motives to adopt and implement e-Government. In this chapter, the obstacles that negatively affected
the implementation of e-Government implementation in Oman have been examined within the view of a model of the roles of the national government in the success of e-Government implementation developed by Mofleh, Wanous and Strachan (2009). In this particular section, a discussion of how these obstacles contributed to the stalling of e-Government implementation in Oman is provided.

The availability of financial resources is among the most important obstacles of e-Government implementation in developing countries (Banerjee & Chau 2004; Basu 2004; Chen et al. 2006; Heeks 2002a; Ndou 2004). E-Government projects are based on IS/IT solutions. A common issue with IS/IT projects is that they are more likely to be abandoned because of exceeding the original budget (Ewusi-Mensah 1997; Pardo & Scholl 2002; Reel 1999). On the basis of the empirical evidence, this research shows that financial support and funding was not a challenge for the e-Oman initiative. According to RC4 and RC14, Omani policy makers had reviewed the experiences of other countries such as Estonia, Egypt, Singapore, and Ireland in implementing e-Government. They learned that for the implementation of e-Government in Oman to succeed, there should be an adequate and continuous financial support of the initiative from the government. In fact, the initiative has received financial support from the Ministry of Finance because the original champion of the initiative was the Supervising Minister of the Ministry of Finance. Moreover, His Majesty Sultan Qaboos has personally funded some of the e-Government initiatives in Oman such as the National PC Initiative (NPI) and His Majesty’s Award for Excellence in e-Government. His Majesty’s keen support of e-Government stems from his vision of supporting human resources development. In his 2008 Speech to the Council of Oman, he said:

... we are sparing no effort and will continue to spare no effort in order to provide our human resources with all the help they will need to develop, hone and train. We will also provide educational opportunities for them in order that they may acquire useful knowledge, the required experience and the necessary technical skills that will be needed in the labour market and as are required by the sustainable development programmes in the various fields. (Ministry of Foreign Affairs 2010b)

E-Government in Oman was regarded by policy makers as a tool of public sector reform, which aimed to attract foreign investment (Common 2008) and, by extension, diversify the economic resources of the country. Oman needed economic diversification in order to move away from dependence on oil exports at a time when the international prices of oil were declining. Therefore, e-Government implementation was regarded as a long term investment
which needed adequate and continuous financial support. On the other hand, respondents such as RC4, RC3, RC1, RC22, and RC19 argued that since e-Government implementation was associated with conveying a favourable image of the country to the international community, the government provided sustained financial support.

In contrast to conclusions from previous studies of e-Government implementation (Bwalya 2009; Coursey & Norris 2008; Ebrahim & Irani 2005; Heeks 2003; Qaisar & Ahmad 2010), that, failure in e-Government implementation in developing countries was attributable to the lack of financial capacity, this study showed that lack of financial resources was not among the challenges that contributed to the slowdown of implementation of the e-Government project in Oman. In short, availability of adequate and continuous support was not a contributor to the stalling of e-Government implementation. However, financial resources are not the only resources that determine the success of innovations (Mohr 1969). Change management, leadership commitment, and leadership stability are also some of the important resources that contribute to the success of the implementation of innovations in the government sector (Kim & Lee 2009).

Change management depends on the utilisation of professional tools such as Six Sigma (Harry & Schroeder 2006), Total Quality Management (Hackman & Wageman 1995), and Business Process Reengineering (Zairi & Sinclair 1995). As for e-Government, Bakry (2004) argued that at the initiation stage of e-Government, Business Process Reengineering (BPR) should be used to guide the redesign of services and restructuring of government organisations; Total Quality Management (TQM) should be used to evaluate and monitor e-Government post implementation; and Six Sigma should be used to identify needed improvements and solving contingencies of the system. Bakry (2004) argued that the application of BPR, TQM and Six Sigma were imperative to the success of integrated e-Government services. Similarly, Weerakkody et al. (2007) found that the lack of effective use of change management techniques was among the factors that contributed to the unsatisfactory results of e-Government implementation in Zambia. In Dubai, Mansar (2006) argued that the utilisation of BPR was the best practice to ensure a successful implementation of e-Government.

In the case of e-Government in Oman, only policy-level respondents (such as RC1, RC4, RC14) acknowledged that e-Government was related to change management and business process reengineering. However, there was no evidence, at the implementation level, of
concrete utilisation of any of the change management tools such as Six Sigma, TQM and BPR. Instead, respondents at the implementation level argued that implementation progress was dependent on the degree of support and supervisory role of top management (i.e. Ministers and/or Undersecretaries) through steering committees. This observation is in line with the discussion presented in Chapter 5 (see section 5.8) in that e-Government implementation in Oman was managed in a political style where implementation was mainly administered by top management in the organisation rather than by a professional style where implementation is administered based on professional knowledge (Kwon, Berry & Feiock 2009). It was argued that implementation of technology innovation based on political administration in the public sector leads to ineffective performance of innovations (Northrop, Dutton & Kraemer 1982), narrow diffusion of innovations (Brudney & Selden 1995), uncoordinated diffusion (Kwon, Berry & Feiock 2009), and superficial diffusion of innovations (Jun & Weare 2011). Therefore, it is safe to conclude that, because the implementation of e-Government in Oman was based on political administration and did not actually utilise any of the change management techniques, it was superficially and narrowly diffused within the Omani public sector.

According to Kwon, Berry and Feiock (2009), political leaders within government agencies (Ministers in the case of Oman) are motivated by personal gain of credibility. This was also evident in the case of Oman as RC1, RC9, and RC22 confirmed that political leaders in some government departments were very conservative when it came to sharing data with other government departments; R9 stated:

You know people still have this very narrow thinking and conservativeness when it comes to collaboration with other government units. They still have this concept “this is my baby” and no one can touch it. RC9 [94]

In agreement with RC9, RC1 stated:

Before the launch of HM’s Award, we used to go to them [government agencies] and ask to help them and they make excuses [for not accepting our offer to help] … There are people saying well, we do not trust ITA or any other government agency with our data. Here we are talking about power more than trust, you know, meaning that I love this to be only for me and we encounter this a lot. RC1 [141]

The above extract from RC1, a member of the ITA, is evidence that the political leaders in Oman were not willing to take the risk of implementing integrated e-Government projects until after the launch of HM’s Award. The Award provides recognition from His Majesty the
Sultan to the Ministers whom ministries excel in e-Government implementation. Prior to the launch of the Award in 2010 the extent of e-Government implementation in Oman was minimal as RC1 explained:

… When we first launched HM’s award for digital excellence, there were two organisations which took two awards out of seven awards. We had about 70 organisations and some of them did not even qualify to compete because they did not have anything. RC1 [115]

This extract also provides some evidence that implementation based on political principles was not effective in promoting a wider extent of e-Government implementation in Oman. According to Northrop, Dutton and Kraemer (1982), government agencies resort to political-based implementation because of a lack of professional staff or lack of resources to maintain professional staff. This is further supported by research in e-Government which established that the lack of IS/IT expertise in the government sector (Siau & Long 2004) due to migration to the private sector (Ebrahimi & Irani 2005) is among the challenges that contribute to the impediment of successful e-Government implementation. This was also evident in the case of e-Government implementation in Oman; RC1 explained:

Our ultimate goal in the next 5 years is to make government agencies only focus on their core businesses and we are going to help them in certain areas in which they need help in and can’t maintain people in those position. You know skilled young people can’t be maintained in positions; they come for one year and they leave. RC1 [291]

This is also corroborated by results from previous research which shows a clear lack of professional and skilled IT workforce in Oman (Al-Busaidy & Weerakkody 2009, Al-Wohaibi & Edwards 2004, Al-Gharbi & Ashrafi 2010, Jabr 2010). In fact, RC4 argued that government organisations in Oman were losing IS/IT professional staff to the ITA. He stated that ITA employs more than 200 of the best national IS/IT professionals in the country.

According to Brudney and Selden (1995), professionalism is associated with extensive implementation of technology innovations rather than with the drive for initial adoption. This is in agreement with results from (Cronbach et al. 1980) and (Julnes & Holzer 2002) which confirm that initial adoption is driven by rational/technocratic factors such as goal orientation. However, effective implementation is driven by professional-based management style. This was also the case in Oman; RC4 stated:

Although this movement and idea started with us the technocrats but we went up to the politician and had a proper sale of the strategy … so the strategy was
adopted and became something that needed to be implemented … However, problems came during the implementation phase. RC4 [135]

There is evidence from the above extract and from other respondents that technocratic reasoning for the initial adoption of e-Government in Oman has worked well. It has contributed to a full adoption of e-Government at the national government level. Although there was evidence of leadership commitment, this commitment was dependent on political rather than professional aspects. Therefore, the leadership in some departments facilitated the adoption of e-Government of Oman; however it did not provide sufficient impetus for extensive implementation.

As an exception, the HEAC system at the Ministry of Higher Education and the e-Payment gateway at the Central Bank of Oman are two solid examples of successful implementation of e-Services in Oman. The HEAC system is a Government-to-Citizens implementation of e-Government and the e-Payment gateway is a Government-to-Business implementation of e-Government in Oman. Both projects had stable and committed leadership throughout the adoption and implementation phases. RC19 explained one of the success factors of the e-Payment gateway implementation as having a stable leadership:

I remember in a meeting with the President of CBO and the president said that he wanted one person responsible for the whole project and since we are making it on the strength of (…), He wanted (…) to take full responsibility of the full project and management and this was the third successful factor and we went ahead and never looked back. Until today we have been with the same team. RC19 [135]

According to RC19, the e-Payment gateway was initiated in 2003 and was completed, as originally expected, in 2010 with a 100 % success rate. This is consistent with the results of Kim and Lee (2009) who observed that innovative, stable, and committed leadership was the strongest factor that contributed to a wider extent of implementation of technology innovations within the Korean public sector.

Equally important, the role of a champion in the diffusion of technology innovations has been identified as a critical success factor (Howell & Higgins 1990; Kim & Mauborgne 2003; Kotter 1995) and especially in the case of e-Government in developing countries (Furuholt & Wahid 2008; Heeks 2002a; Heeks 2003). According to Howell and Higgins (1990, p. 318): ‘champions seek out creative ideas from information sources and then enthusiastically sell them’. The role of championship and enthusiasm about the Omani e-Government initiative
was also evident during the adoption phase as RC4, who spearheaded the committee that formed the original Omani e-Government strategy, stated:

We sold [the strategy] properly to [the cabinet] … we had a full buy-in from the cabinet and especially from key Ministers because the guys who worked on it [the strategy] were very enthusiastic about it … I actually can sell it to you now a 100 times like we did in 2003. RC4 [135]

However, this role of championship did not extend to the implementation phase because of a change in leadership and because the ITTF committee was set up as an ad hoc team and was disassociated after the 2003 adoption and strategy launch. Another important factor that might have compounded the effect of instability in leadership is the lack of institutionalisation of e-Government in the organisational structure of some government departments. For example, the organisational structure of the Ministry of Commerce and Industry has not accommodated a self-contained subunit that is responsible for the development and implementation of the One Stop Shop. Instead, a general Information Technology Department is attached to the Undersecretary’s office as shown in Figure 6.7 below:

Figure 6.7 Portion of the Organisation Structure of The Ministry of Commerce and Industry in Oman - Source: http://www.mocioman.gov.om/Main-Menu/About-The-Ministry/Organization-Chart.aspx
In comparison, The Central Bank of Oman and The Ministry of Higher Education have established specialised units to oversee the implementation of e-Government initiatives, which are considered the most successful implementations of e-Government in Oman. For example the organisational structure of the Central Bank of Oman has introduced an “IT & Payment Systems” subunit under the “Corporate Support” subunit, which is directly attached to the “Executive President’s Office” as shown in Figure 6.8:

Similarly, the Ministry of Higher Education has established a separate subunit called the Higher Education Admission Centre (HEAC) attached to the Ministry’s Undersecretary’s office. The establishment of HEAC was based on Royal Decree number 104/2005 which specified that HEAC should become the only system of admission into government-funded higher education opportunities starting from the academic year 2006/2007 (Ministry of Higher Education 2012). The Royal Decree empowered the Ministry of Higher Education to
select employees from Omani higher education institutions and transfer them to the newly established centre.

Therefore, staff management and leadership within the centre were institutionalised by a regulatory mandate. This is consistent with the observed behaviour of public sector departments, which operate on the basis of explicit laws and mandates (Grönlund 2010; Teicher, Hughes & Dow 2002). Further the same Royal Decree has specified the position of the newly established centre in the Ministry’s organisational structure as a directorate general to be headed by a Director General, who reports directly to the Undersecretary of the Ministry. In the Omani civil service ministries, the Minister is the top most official in a Ministry followed by the Undersecretary of the Ministry. A director general is usually a subordinate of the Undersecretary. Therefore, the institutional position of HEAC was made central in relation to the core business and organisation goals of the Ministry of Higher Education, which is the appropriation of government-funded opportunities for higher education. In institutional terms, the Royal Decree that established HEAC is a form of the regulatory element of institutions (Scott 2001). According to Scott (2001) regulative elements of institutions are the most important elements that produce stability in organisation structure and behaviour.

HEAC is one of the most successful implementations of e-Government in Oman because it is a 100% online public service system. Based on the idea presented by Teicher, Hughes and Dow (2002) that activities of public sector organisations is based on explicit laws, it is safe to conclude that the Royal Decree that instantiated HEAC has contributed the most to the success of the implementation of the system. By comparison, other less successful e-Government initiatives within other Omani government departments were not supported by such a regulative element of institution such as the One Stop Shop at the Ministry of Commerce and Industry. The organisational structure of the Ministry of Higher Education is shown in Figure 6.9.
While the HEAC system at the Ministry of Higher Education can be considered a successful implementation of e-Government in Oman, it remains a standalone system with a traditional manual interface with the Ministry of Education, which provides the main input for the system. RC15 explained:

I believe the e-Government in Oman will not mature without integration and electronic data exchange between various government units. For example, we are totally dependent on student data and grades from the Ministry of Education. Unfortunately, we are still receiving this information in CDs. We are hoping that we can receive them electronically or for HEAC system to read the data directly from the Ministry of Education’s systems. RC15 [68]

The lack of ICT-based integration between departments is also evident in other Omani government departments. The information exchange relations between government departments have not been redefined to become ICT-based. The redefinition of information exchange relations might have been hampered by the lack of institutionalisation of e-Government within the formal structure of government departments. Similarly, a political-based leadership rather than a professional-based leadership, as was the case in e-Government implementation in Oman, is more protective of the discretion of their government departments (Bekkers 2005; Fountain 2001). Therefore, in the lack of mandated collaboration, Omani government departments continued to implement e-Government
projects autonomously with minimal or no electronic interfacing with other government departments. This is consistent with the observations of Mofleh (2008) who found that one of the factors that contributed to the stalling of e-Government implementation in Jordan was the lack of mandated electronic collaboration between government departments.

It is apparent that the implementation of e-Government in Oman has proceeded in an ad hoc manner without much regard to the originally developed strategy of e-Government. There are many factors that contributed to this proceeding: (i) dependence on political aspects rather than professional aspects of implementation which increased the potential for re-contextualisation of the concept, (ii) the lack of regulative mandates that embeds e-Government in the structure of government departments, (iii) the lack of legitimatised evaluation measures of the overall implementation progress, (iv) the lack of perceived authority of the coordinating body: ITA, which led to (v) a lack of coordination of implementation efforts within government departments.

Gilmore and Krantz (1991) argued that failure of implementing innovations in the public sector is associated with ad hoc implementation approaches. This is consistent with the findings of this study; an ad hoc implementation approach has contributed to the stalling of the implementation of e-Government in Oman.

Similarly, the rhetoric about e-Government implementation has overlooked the serious deficiency of poor ICT infrastructure. The Internet penetration rate in Oman is still around 2.5 per cent with 60 per cent of households with no fixed line network or telephony services. During this period of implementation, the government has relied on competition between shareholders telecom companies to develop the infrastructure. However, such reliance has failed to develop a modern ICT infrastructure that can support the government’s strategy towards a successful implementation of e-Government.

It is also argued in the extant literature that failure of e-Government implementation, especially in developing countries, is strongly associated with poor ICT infrastructure (Dada 2006; Ebrahim & Irani 2005; Mansar 2006; Siau & Long 2009; Srivastava & Teo 2010; United Nations 2008). A robust ICT infrastructure is an important determinant of the successful implementation of e-Government in any country (Bertot, Jaeger & Grimes 2010; Chen et al. 2006; Jaeger & Thompson 2003; Mansar 2006). However, according to the findings of this study and those of Al-Busaidy (2010) and Ashrafi and Murtaza (2008), the current state of the ICT infrastructure in Oman is not supportive of a successful
implementation of e-Government. PC and Internet penetration rates were and still are very low in Oman. The stalling of the e-Government initiative implementation in Oman is attributed, to some extent, to the lack of an ICT infrastructure that is capable of providing the necessary platforms for electronic collaboration between government departments to achieve seamless provision of electronic public services.

The technological requirements of implementing a fully functioning e-Government initiative in Oman exceeded the available technological infrastructure. Samarajiva & Zainudeen (2008) reported case studies of poor ICT infrastructure in India, Bangladesh, Sri Lanka, and Indonesia as a result of obstacles raised by incumbent telecommunication operators such as ownership of the national telecommunication backbone. However, Frieden (2005) argued that in the most developed broadband infrastructures in countries such as Korea, Japan, and Canada was related to a partnership between the government and private incumbent companies through effective incentives, loans, and regulations. No such partnerships were evident in Oman.

Another important challenge that the research identified as contributing to the stalling of the e-Government initiative in Oman was the lack of IS/IT expertise. This was also observed by Al-Wohaibi and Edwards (2004, p.181) who stated that in 1998 a small number of 260 national IS/IT graduates entered the job market, of which 227 were diploma holders from local colleges. Similarly, Al-Busaidy and Weerakkody (2009), Al-Gharbi and Ashrafi (2010), and Jabr (2010) argued that the lack of skilled IT workforce contributed to the slowdown of effective IT penetration in the Omani public sector. Expert knowledge or professionalism is one of the prominent forces of institutionalisation (DiMaggio & Powell 1983) and institutionalisation (more implementation) is more effective in the presence of professional champions (Bromley & Powell 2012). It is argued that the existence of more IS/IT professionals in Omani government departments can positively affect the extent of e-Government implementation. People of the same profession can easily identify with each other to stimulate the diffusion of innovations among organisations of the same field (DiMaggio & Powell 1983; Greenwood, Hinings & Suddaby 2002; Scott 2003).

Al-Wohaibi and Edwards (2004) argued that the lack of public oversight and the lack of project control and evaluation were among the main factors that impeded the implementation of IS/IT projects in Omani government organisations. This research found that these factors contributed to the stalling of the e-Government implementation in Oman. The lack of public
oversight and public consultation affected the extent of institutionalisation of the Omani e-Government project since public opinion is argued to be one of the significant forces of institutionalisation of organisational structures and policy (Meyer & Rowan 1977). The lack of effective project control and evaluation resulted in slow implementation of e-Government projects in some, but not all, government departments.

However, in terms of developing the basic capacities of human resources and citizens to be able to use e-Government services, the findings of this study show that the Government of Oman has done a sufficient job in this regard, however it was time consuming. Government-funded training programs in ICTs skills have been offered to civil service employees and the general public regardless of gender, age, or residence location. Also, government-subsidised personal computers and internet services have been offered to certain segments of the society such as school teachers, first year university/college students, and students of poor families. However, the objectives of the training programs did not include elements of raising the awareness of the values of e-Government systems and/or assessment of the views of citizens and civil service employees on the implementation process of e-Government. According to Julnes and Holzer (2002), acquiring consensus from internal stakeholders positively affects the extent of adoption and implementation of innovations. In concurrence with the case of e-Government implementation in Oman, Mofleh (2008), Lee-Kelley and Kolsaker (2004) and Welch (2005) argued that e-Government implementation is hampered by a mismatch between citizens’ actual needs and those presumed by governments in regards to e-Services.

The original e-Oman strategy had a deficiency related to loose and over-optimistic implementation timeframes, which contributed to the slow progress of implementation and detachment from initial goals. This is consistent with the findings of Mofleh (2008) and Akman et al. (2005) who argued that over-optimistic planning and the urgency to leapfrog development in other countries contributed to the increase of unsatisfactory e-Government implementation results in the developing world. On the other hand, Schware and Deane (2003) argued that successful implementation of e-Government was observed in countries where emphasis was placed on developing a solid ICT infrastructure prior to launching e-Government initiatives. The authors supported their claim with a case study of Estonia, where the country commenced the building of an ICT infrastructure in the early 1990s and is now regarded as one the advanced countries in e-Government implementation. In the same vein, Jun and Weare (2011) considered that the success of implementing technology innovations in the private sector is due to long term experience with innovations that started around the
1950s. The authors predicted that this phenomenon of superficial implementation of e-Government might be due to the fact that it is too early to assess e-Government outputs and more time is needed for e-Government to mature.

In summary, while the e-Oman strategy was successfully adopted at the national government level, the implementation of the strategy faced many challenges. Due to these challenges, the implementation of e-Government in Oman has stalled. The analysis of the data presented in this chapter revealed that, contrary to findings from research on the challenges of e-Government implementation in developing countries, the availability of financial resources was not among the factors that contributed to the stalling of e-Government implementation in Oman. However, human resources such as authority, charismatic effects, and continuous support of prestigious individuals (Mohr 1969) were lacking. A large amount of time and resources were spent on education campaigns in the computer-illiterate society, however, necessary development of the ICT infrastructure and alignment of the institutional and legal infrastructure were overlooked. This clearly emerged from an interview with a policy-level official who spearheaded the committee that formed the e-Government strategy:

> The objectives of e-Government movements are the same around the world. But, what is important for Oman? ... We looked at many things we said is it the image of the country that’s important? ... Is it the number of services that we put online that’s important? Or is it the infrastructure? Should we have free phone and internet access? We said No; the pinpoint for Oman is that we enable digital society … through enabling the youth and it is the youth who should build this digital society and that is what is important for Oman because we could have said we enable digital society so quickly let’s do infrastructure but how? We wanted our youth to do this. RC4 [68]

The above extract shows that development of the infrastructure was of secondary importance in the implementation strategy. Omani policy makers expected local IS/IT expertise to build the infrastructure and build e-Services through the establishment of IS/IT small-to-medium enterprises. However, the existence of a robust and reliable infrastructure is a precursor to the success of such enterprises.

In relation to the concept of re-contextualisation (Ball 1990; Bowe, Ball & Gold 1992), the instability in leadership during the implementation of e-Government projects and the lack of legislation-based coordination of the implementation has allowed for re-contextualisation of the objectives of e-Government and ways of implementing it. The variance of the degree of implementation success across Omani government departments was dependent on the capacities of managers and management styles within each department. Government
departments implemented e-Government autonomously and were not obliged to follow guidelines from the ITA.

The Government of Oman was strategically motivated to adopt e-Government as a tool of public sector reform and, by extension, to attract foreign direct investment. By the turn of the new millennium, the government realised that the bureaucratic nature of the Omani administrative system was impeding the economic growth of the country and might prevent Oman from being able to homogenise with the rest of the world in its march towards knowledge-based economy. RC19 stated:

We in Oman … we always want to be in compliance with best international standards and we do not want to trail the world we want to keep up with the work. RC19 [167]

The implementation has stalled because the management structure, the ICT infrastructure, the institutional and legal infrastructure were not conducive to e-Government development. E-Government implementation is a complex process which requires focused and coordinated management of such resources. Although, the Government of Oman possessed a genuine (as was established in Chapter 5) and financially supported (as established in this Chapter) intention to implement e-Government, the country was not capable of making this intention a reality due to constraints related to human resources and the ICT infrastructure.

From an institutional perspective, this is consistent with the findings of Clark (2010), Cole (2012), and Bromley and Powell (2012) who argued that decoupling of policy and practice was not always calculated, but was due to a lack of capacity to put policy into practice. The lack of such capacities could be present because of temporary challenges that can be overcome by time and the implementation is rejuvenated. A decade has passed by and no concrete implementation of e-Government in Oman has come into existence (Al-Busaidy & El-Haddadeh 2011; Al-Busaidy & Weerakkody 2009a; Al-Busaidy & Weerakkody 2011a). In the following sections, all elements of the forces driving, hindering, or restarting the e-Government project in Oman are discussed in more details based on the concept of institutional decoupling.

6.9.1 Decoupling resources and policy

It is argued in this thesis that the apparent lack of institutionalisation of e-Government practices through policy in Oman is best understood through understanding the process and
the associated decoupling of policy and practice. However to put this in perspective, it is important first to understand those factors from a broader overview perspective. Heeks’s (2008) analysis of the factors that contribute to the success or failure of e-Government implementation in developing countries is a commonly used model of analysis and offers a comparative perspective. Table 7.1 below shows a comparison between the factors that affected the degree of success of the Omani e-Government project, identified in this research, and those from Heeks’s (2008) model.

<table>
<thead>
<tr>
<th>Heeks Success/Failure Factors Model of e-Government</th>
<th>Oman e-Government project</th>
</tr>
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<tbody>
<tr>
<td><strong>External pressure</strong></td>
<td>E-Government adoption and implementation was initially driven by the country’s need to conform to international standards and to portray a competitive image of the country’s socio-economic systems.</td>
</tr>
<tr>
<td><strong>Internal political desire</strong></td>
<td>There was also internal drive for the adoption and implementation of Oman e-Government. E-Government was considered as platform that enables the establishment of a knowledge-based economy. Knowledge-based economy was considered as a sustainable economic paradigm for Oman as opposed to the existing economic paradigm which depended heavily on the export of crude oil.</td>
</tr>
<tr>
<td><strong>Overall vision and strategy</strong></td>
<td>The strategy of e-Government in Oman was positioned within the country’s overall socio-economic development objectives.</td>
</tr>
<tr>
<td><strong>Effective project management</strong></td>
<td>Implementation control was weak in Oman as the ITA did not have adequate authority and power to enforce standards. The e-Government project was co-owned by multiple entities such as the ITA, the TRA, the Ministry of National Economy, the Ministry of Transport and Communication, and the Ministry of Commerce and Industry. This led to inefficient leadership and management.</td>
</tr>
<tr>
<td><strong>Effective change management</strong></td>
<td>The project received substantial support from the top government officials and adequate financial resources were allocated for the project. However, the consultation about change was incomplete and did not involve all stakeholders. Change management depended on a top-down approach. This has resulted in a lack of ownership of the project.</td>
</tr>
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</table>
Effective design

The project implementation structures were well designed in the original strategy. However, due to lack of engagement of all stakeholders and lack of authority to enforce design structures, the original implementation design was not followed effectively. Also, the design in some cases was ‘over-ambitious’ with unrealistic deadlines given the poor state of the technological infrastructure and the lack of local IS/IT expertise.

Requisite competencies

There was a lack of IS/IT competencies within government departments. Similarly, the public and civil service employees lacked the basic computer skills as well as access to computers in order to use or participate in the provision of e-Government services.

Adequate technological infrastructure

The ICT infrastructure in Oman was in a poor state with limited access, speed, and robustness. Internet coverage was mainly concentrated in the Capital City and in the centres of a few big cities around the country.

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Table 7.1 Comparison between Heeks (2008) Success/Failure factors and factors identified in this research

Heeks (2002a) argued that the observed high rate of e-Government failure in the developing world was due to the fact that e-Government is predominantly a western concept originated in the developed world. This, he argued, results in a gap between the design of e-Government and the realities of the context of implementation which increases the risks of failure in implementation (Heeks 2002b; Heeks 2006). This research on Oman confirms this perspective. However, such a perspective does not help explain the decoupling process identified throughout implementation of the e-Government project in Oman. The model is more applicable in the case of single e-Government project implemented within a single organisation. Therefore, the observed mismatch between e-Government policy and practice, in this research, is better understood using the concept of institutional decoupling.

Bromley and Powell (2012, p. 497) argued that there were two types of decoupling; means-ends decoupling, which is concerned with ‘symbolic implementation’ of practices and policy-practice decoupling which is concerned with ‘symbolic adoption’ of policies. They argued that policy-practice decoupling occurs because of:
• **Lack of legal-based enforcement.** The research shows that government departments in Oman were not mandated by explicit laws to implement e-Government or to integrate their systems with those in other departments. Only exhortation was used to encourage government departments to integrate. However, previous research argued that activities of public sector organisations are facilitated by explicit laws (Gil-Garcia & Pardo 2005; Grönlund 2010; Teicher, Hughes, & Dow 2002). In Oman inaction in the creation of explicit laws was one of the probable reasons that left the implementation of the e-Government project incomplete.

• **Lack of capacity to implement policy practices.** The research also shows that some government departments did not have sufficient IS/IT-skilled personnel to proceed with extensive implementation. There was also insufficient capacity in the ICT infrastructure to allow for such implementation. The ICT technical infrastructure essential for integration between government departments including between headquarters and disparate branches of same departments was not only insufficient, it lacked modern internet services such as broadband technologies.

• **Lack of appropriate fit between policy goals and existing practices.** The research shows that the management within the Omani government departments was politically-based with centralisation of power within the top level of management, whereas the implementation of e-Government practices should professionally-based with more decentralisation in the provision of public services, and;

• **Difference in relative power between organisations enforcing the policies and those implementing the policies.** The research showed that the ITA, which is the independent body overseeing the implementation, was of less relative power than other government departments required to implement e-Government projects. The ITA was a subordinate of the Ministry of National Economy until 2011 when it was annexed to the Council of Ministers. Therefore, the ITA lacked the power to effectively coordinate the implementation of the e-Government strategy. This was also the case in the UK; the Office of the e-Envoy lacked formal authority to enforce effective
coordinating measures of the implementation of e-Government (Kearns 2004) which resulted, as in Oman, in less desirable outcomes.

Bromley and Powell (2012, p. 485) stated: ‘In means–ends decoupling, policies are thoroughly implemented but have a weak relationship to the core tasks of an organization.’ The research shows that initially there was congruence between global economic trends and local economic needs in motivating the Government of Oman to adopt e-Government services nationally. The Omani economy was then, and still is, largely dependent on revenue from crude oil exports which are managed by the government. However, due to a decline in oil reserves which started in the 1980s (Looney 2009) and which are expected to run-out by 2020 (Common 2008), Oman was faced with a need to diversify its economic base. Subsequent to a review from the World Bank (World Bank 1994) of the economic situation in Oman, the government decided to introduce economic reforms associated with opening the economy (Looney 2009), which also required public sector reform to attract foreign direct investors (Common 2008). E-Government, based on ICT innovations, was considered an appropriate apparatus to reach this goal. The Omani government considered e-Government to be the platform to transform the economy and direct it towards a knowledge-based, rather than resource-based, economy. This idea was emerging through the 1990s as the new sustainable economic paradigm for Oman at the time.

E-Government then was a key element of the e-Oman strategy, which aimed to fit the main institutional logic of the functioning of government departments in Oman, concerned with delivering government services to the public. Many of the policy makers in Oman have argued that Oman had no choice but to implement e-Government. The Omani e-Government strategy was initiated within a strategic response to conform to global trends of administrative reform (Common 2008) and more importantly to achieve economic diversification and growth. Externally, e-Government signified conformity to legitimatised international standards and requirements by multilateral organisations such as the World Bank, the UN, the WTO, the OECD, and the IMF. The research argues from this that the pressures stemming from those different institutional environments (Ghoshal 1993) substantiated the rationality of adopting the e-Government project. In Oman, the e-Government project was seen as conforming to established standards, rather than deviance from those standards to avoid being labelled as irrational or negligent (Meyer & Rowan 1977) in the international community, confirming previous research on organisational adoption of new structures by Zucker (1983) and Meyer and Rowan (1977).
By becoming a member of the WTO in November 2000, Oman had to adopt neo-liberal economic policies of open markets and free competition and to embrace newly available economic practices to integrate with the rest of the world. A Knowledge-based economy was the new paradigm of development at that time and the Government of Oman came to the conclusion that knowledge was to be the new strategic and sustainable resource for the economy. Policy makers in Oman ventured that the underpinnings of the knowledge-based economy were, and are to be, adapted from those countries that were successful in transforming to a knowledge-based economy.

This research shows that the future outlook for e-Government services provision in Oman was an optimistic one focusing on the positive effects of the e-Government policy and its contribution to achieving future sustainable economic development and enhancing citizen satisfaction with public services. Fountain (2001) argued that conflicts in demands between political, social, and economic forces may result in dissolving existing institutional patterns. On the contrary, in the case of Oman, there was initially no conflict between the demands of the political, social, and economic spheres in regards to e-Government implementation. For example, in the political sphere, the implementation of e-Government in Oman was expected to enhance the symbolic image of the country in the international community since e-Government was regarded by the UN as a tool to leverage poverty and promote democracy and equality through the utilisation of ICT-based innovations in administrative practices (United Nations 2008).

In the social sphere, Omani citizens requested faster processing of applications for services and the convenience of service acquisition, which could be provided electronically. Similarly, the e-Government project in Oman was expected to increase transparency of government dealings and increase fairness and equality in service provision among citizens. In regard to demands from the economic sphere, the implementation of the e-Government initiative was portrayed by senior government officials as a key enabler of economic growth, economically sustainable development, and job generation for local citizens. Thus, policy makers of e-Government in Oman regarded the initiative as a window of opportunity for economic diversification and an apparatus to elevate citizens’ satisfaction with public services.

Therefore, in the case of e-Government implementation in Oman, the formal policy established a link between e-Government implementation and public sector reform, which by extension would enable sustainable economic growth, attract more foreign direct investment
and stimulate the establishment of a knowledge-based industry. However, the link between the formal policy goals and core tasks of government departments was clear, but not enacted in practice. Specifically, at the implementation level, there appeared to be a lack of clear linkage between the means of implementation and the desired implementation outcomes of the e-Government project in Oman. The desire for efficiency and better service quality relies on instilling service quality and information quality measures in the work routine of government departments. It also relies on utilising management tools such as Business Process Re-engineering, Total Quality Management, and/or Six Sigma to evaluate and transform public services. Although, respondents at the implementation level, in this research, articulated that e-Government would improve service quality, there was no evidence of applying service quality dimensions in the work routines of Omani government departments. Again, there was no connection between the rhetoric of the e-Government policy and the practices that followed, leading to inadequacies in policy value (Corbitt et al. 2004).

E-Government policy makers in Oman referred to the whole strategy of Omani e-Government as an ecosystem of preparing the country to move towards a knowledge-based economy. This ecosystem consisted of three aspects: e-Government (related to the provision of e-Services), e-Governance (related to legalising the use of e-Government), and the digital society (improving the capability of the society to utilise e-Government services). E-Government, e-Governance, and digital society were forms of the global discourse in relation to public sector reform and knowledge-based economy which made the Omani strategy a replicated form of global trends. The intention was also for the e-Government initiative to be compatible with new requirements of public sector reform promulgated by the Programme on Governance in the Arab Region (POGAR), which was established by the UNDP in 2000 (Common 2008). The establishment of this ecosystem was, then, influenced by global discourses of neo-liberal and knowledge-based economies to prepare both the technical and institutional environments in Oman in a way similar to that described by Meyer and Scott (1983), to be compatible for the production and transfer of the new-age strategic resource: knowledge.

According to Meyer and Scott (1983, p. 140) technical environments are ‘those within which a product or service is exchanged in a market such that organizations are rewarded for effective and efficient control of the work process’, whereas institutional environments are those that ‘are characterized by the elaboration of rules and requirements to which individual
organizations must conform if they are to receive support and legitimacy’. Clearly, the e-Governance aspect belongs to the institutional environment, whereas digital society and e-Government (as in e-Services) are associated with the technical environment of the global movement of e-Government. This research has shown that when there was congruence between the two environments in Oman, progress in implementation of e-Government was made. However, over time, this congruence dissipated and there was a clear disconnect between the rhetoric of the government institutions in Oman and the capabilities inherent in the physical technical environment, despite there being a demand for the services which formed the project. This resulted eventually with the need to re-start the e-Government project in 2011 and 2012.

The associated cost of implementing an ecosystem capable of knowledge transfer, production, and utilisation was, and is, enormous because it involves building the ICT infrastructure and developing the computer skills of citizens. The Omani e-Government Strategy Committee was championed by the Minister of National Economy who was also the Supervisor of the Ministry of Finance and the Deputy Chairman of the Financial Affairs and Energy Resources Council. Internally, the patron of the Omani e-Government initiative was His Majesty the Sultan (Gartner Team 2000). Therefore, institutional and financial support was at the forefront of the government’s actions with the e-Government project. Research shows that organisational practices are most effective and survive the process of organisational change if they are backed with resources and authoritative power (Scott 2001) and when they are congruent (Corbitt et al. 2004). However, the consistent application of this, in the Omani context, was questioned. The research shows, because those involved in the implementation were distracted, progress was slower than planned, and the will to complete the project appeared to dissipate. The research shows that the implementation process over the decade studied was episodic and within each episode the relationships between institutions, the will of those implementing change and the technical environment, changed. There was a clear decoupling of policy and practice.

At a micro level analysis of institutional theory (Tolbert & Zucker 1996; Zucker 1991), the process of adoption of e-Government in Oman should best follow the three sequential processes of habitualisation, objectification, and sedimentation. In continuity, each of these, it is argued, eventually leads to adoption and to institutionalisation (sedimentation in this context) of policy.
The habitualisation stage is equivalent to a pre-implementation brainstorming stage where decision makers search for problem-solving practices in response to a compelling turmoil. In this case, the Government of Oman identified that ‘marching with the rest of the world’ RC19[150] into the knowledge-based economy and reforming the public sector procedures to attract more foreign direct investment was the appropriate resolution to an expected economic crisis of depleting oil reserves and demographic pressures pertinent to an expected surge in job seekers. The e-Government project was discussed, evaluated by Gartner, written, and put into practice.

The second stage, objectification, is a learning process where the developed patterns of solutions become widely accepted and their value is appreciated. This can result from learning from other similar experiences. For Oman, this stage meant attaining consensus from stakeholders – at the policy level - on the applicability of e-Government strategy to solve the economic crisis. The makers of the Omani e-Government strategy acquired 100% buy-in from the cabinet ministers. Policy makers reviewed the experiences of countries in similar economic and demographic situations such as Ireland and Singapore. There was a collective understanding – at the policy level - across all government departments in Oman that e-Government would, and does, add value to the core business of government operations so that it was technically and economically practical. Implementation over another decade ensued, creating e-Government projects in many government departments with varying degrees of success.

The third stage, sedimentation, signifies the final phase of institutionalisation where proposed solutions become a fully disseminated reality bound for continuation. The analysis of responses from participants in this study portrays e-Government strategy as a taken-for-granted, yet incomplete practice in government departments. True institutionalisation of the e-Government policy never eventuated. It dissipated through increasing inaction, lack of will and distraction of other events such as the Global Financial Crisis and the Middle East wars.

In relation to Oman, the lack of a robust and reliable ICT infrastructure has inhibited the ability of the e-Government initiative to show solid results which would, by extension, encourage government departments to implement more projects extensively. Therefore, the
lack of observable overall progress contributed to the reluctance by some Omani government
departments to proceed with active implementation and integration with other government
departments. Zucker (1983, p. 28) argued that ‘change begets change’, indicating that
integration of interrelated systems was dependent on the speed of change implementation in
one of the interdependent systems. In the case of e-Government implementation in Oman, not
many ‘success stories’ of e-Government implementation existed, which was
counterproductive to the progress and success of the overall implementation. Again, there
was another decoupling between the technical resources and the needs of the e-Government
policy.

Tolbert and Zucker (1996, p. 184) concluded that: ‘full institutionalization of a structure is
likely to depend on the conjoint effects of relatively low resistance by opposing groups,
continued cultural support and promotion by advocacy groups, and positive correlation with
desired outcomes’. In the case of e-Government implementation in Oman, full
institutionalisation was not reached. Similarly, Meyer and Rowan (1977, p.343) observed:

> Many of the positions, policies, programs, and procedures of modern
organizations are enforced by public opinion, by the views of important
constituents, by knowledge legitimated through the educational system, by
social prestige, by the laws, and by the definitions of negligence and prudence
used by the courts.

In the case of Oman, public opinion and civil servants opinion has been an enforcing factor of
the rejuvenation of the e-Government initiative in view of the results of the study of public
service satisfaction levels conducted by the Ministry of Civil services as discussed in section
6.8. It is interesting to note, that public opinion in this case is largely shaped by knowledge
from the education system. As it was discussed earlier, a large segment of adults in the
Omani society are computer-illiterate, however the youth segment is more educated in
computer skills and aware of the capabilities of information technology in bringing change to
the functionality of the public sector. To this extent, RC1 stated:

> Generally, you see this generation is not satisfied with the traditional things …
Today, as people in charge we are asking ourselves who are our constituents
and who is our target audience. I opened a Facebook channel and a YouTube
channel because I know that these people are there and they want to use such
channels and they do not want to use Oman Portal. I am [now] reaching out to
a larger number of people. RC1 [339]

This articulation from RC1 shows that change in the public organisational structure of
communication with constituents was driven and shaped by the needs of the constituents
themselves especially young citizens who gained such knowledge of the new ways of service delivery through the education system. This is also corroborated by observations of Bromley and Powell 2012, (p.487) who argued ‘organizations adopt formal policies in order to avoid legal sanctions and the glare of public opinion’.

Although direct public opposition to implementation of the e-Government project was absent, promotion and cultural support of the initiative within the government environment was not complete or effective as respondents at the implementation level in this research have indicated. The level of top management support within Omani government departments varied from one department to another depending on the attitude of senior managers towards e-Government. The role of advocacy groups in promoting the initiative seemed to be absent. Promotion of the e-Government initiative in Oman was the responsibility of the ITA which also had many other responsibilities. There was a lack of ‘hype’ around the e-Government initiative in Oman which made it seem somewhat to not be a top priority for all government departments. Omani culture is essentially reserved or conservative with respect to propaganda and this might explain why promotion of the projects was not as effective as it was perceived initially to be in Singapore and Ireland. In essence there was a disconnect between the expectations of the policy leaders and what the implementers actually did.

The research shows that the strategy of e-Government implementation seemed to be optional only, with few ‘ceremonial inspections and evaluations’ which Meyer and Rowan (1977, p. 359) claimed to be the reason for policy-practice decoupling. In other words, government departments were encouraged to implement e-Government but were not forced to do so. Institutional theory (Meyer & Rowan 1977; Tolbert & Zucker 1983) posits that no matter the strength of institutional pressures to implement a new organisational structure, decoupling (Meyer & Rowan 1977) will increase if the implementation is only ceremonially inspected.

In the implementation of e-Government in Oman, government departments were given a period of time to implement their respective e-Government applications with no or minimal evaluation from the ITA. Then a first stage of evaluation started in 2010 as a result of the launch of His Majesty’s Award for Excellence in E-Government. During the competition for the Award, ITA evaluated the implementation of e-Government in many government departments and found that most of government departments did not qualify to compete for the Award. Specifically, only two government departments won four of the seven awards presented in the 2010 round of HM’s Award. Then, a second detailed evaluation was
conducted at the end of 2011 which determined that the implementation had not produced the desired outcomes; most of the available government electronic services were informational which qualifies the e-Government implementation in Oman to be at the first stage of development (cataloguing) according to the Layne and Lee’s (2001) e-Government development model.

According to almost all respondents who were interviewed in the period in March 2011 and in April 2011, the Government of Oman was expected to rejuvenate the e-Government initiative in order to increase the responsiveness and efficiency of public services. In 2011, the ITA conducted an assessment of the maturity of e-Government implementation. Although this assessment was partially based on the status of government e-Services, but it revealed that the implementation effort had failed to introduce any integrated e-Service, in which a citizen is not required to visit multiple government departments in order to attain a service. Therefore, the e-Government Transformation Plan (Information Technology Authority 2012c) was launched in late October 2012 with a predefined ultimate deadline of December 2015 for all government departments to reach the final stage of e-Government implementation.

The plan included new measures to mitigate the identified problems. These measures included the establishment of a new government-owned company in June 2012 to build a country-wide fibre-optic infrastructure. This infrastructure will be leased to local telecommunication operators. This action corresponded to the re-invigoration of the e-Government projects as it was seen as a solution to part of the problem that had stalled the original project. Also, government departments were required to develop clear strategies of implementing e-Government and integrating with other government departments no later than December 2015. Within this rejuvenation in 2012, the ITA was given the authority to budget for the overall implementation and to create a pool of consultants and IT experts to aid government departments in the implementation to meet the 2015 deadline; the ITA became directly annexed to the Council of Ministers which signified an upgrade in its status and formal authority.

The argument here is that this action represented a technical re-coupling which could be attributed to a need to address a temporary technical dysfunction in the implementation process. Bromley and Powell (2012, p.516) argued that ‘a new production system may require a period of time to become fully operational. Nevertheless, given the ability to
control, coordinate, and measure outputs in a technical system, instances of decoupling are likely to be short-lived’. This was the case in Oman and the corrective actions listed above were initiated. Only in 2015 will it be possible to evaluate the extent and effects of this decoupling and the effectiveness of efforts undertaken to correct it.

However, within this structural change no explicit law has been promulgated to enact collaboration between government departments in regard to e-Government implementation. Neither was there establishment of a professional-based unit within the structural boundaries of individual government departments, such as a CIO office to facilitate such collaboration. Bromley and Powell (2012) argued that organisations were most receptive to institutional pressures when they came in the form of rules and laws. In the case of Oman, except for the HEAC system, the government used what Bromley and Powell (2012) called ‘soft’ laws, such as rankings, which were manifested in His Majesty’s Award for Excellence. This research shows that prior to the introduction of the Award, ITA’s best way of motivating government departments to effectively collaborate and implement e-Government was through showing them the value of e-Government, which is equivalent to the deterministic view of the technology or the ‘if you build it, they will come’ idea. Heeks and Santos (2009) also found this to be ineffective in facilitating the adoption and implementation of an e-Government system in Brazil.

The original strategy has envisaged the creation of communities of interest, which is a concept of collaboration between government departments that depend on each other for process input. For example, a community of interest in the public education sector will involve the Ministry of Education, which oversees public schools, and the Ministry of Higher Education, which oversees higher education institutions within the country. However, this concept has not been implemented effectively through the creation of intermediary bodies that can coordinate such dependency. From an institutional perspective, Scott 2003 (p.887) stated that the physical existence of ‘communities of practice (Brown & Duguid 1991) … operate at the interface of organizational boundaries but are increasingly influential in determining the quality and development of the core competence of the organization’. However, in the case of e-Government implementation in Oman, a decoupling of resources available and policy intent led to incomplete policy implementation and a lack of policy institutionalisation.
Bromley and Powell (2012) argued further that decoupling could be also categorised as institutional decoupling or technical decoupling. Institutional decoupling is a form of loose coupling between policies and practices in order for an organisation to avoid institutional pressures. Technical decoupling occurs unintentionally due to technical deficiencies and ‘is likely to be episodic, have an observable negative effect on efficiency, and be correctible in a straightforward way’ (Bromley & Powell 2012, p. 516). The research shows that, in the case of e-Government implementation in Oman, decoupling was non-intentional, but rather was due to the lack of means to enforce extensive implementation. There appeared over the period of implementation a lessening of will to embed the policy, increasing the disconnect between policy and practice, creating decoupling in the process. Inevitably, the implementation stalled also as a result of a technical decoupling with a lack of appropriate technical means to reach the desired outcomes.

In summary, the variation in impact and effect resulting from the adoption and implementation process of the Omani e-Government project can be attributed to a non-international decoupling of the institutional and the technical environments involved which inhibited speedy progress of the implementation. The lack of legally-enforceable implementation procedures and structures, the lack of technical capacity and expertise to prepare an optimum implementation environment, the lack of fit between policy goals and current practices in relation to the orchestration and provision of public services, and the lack of authority and power at the centre of the government entity which coordinated the implementation represented a policy-practice decoupling, the implementation took off and progressed albeit slowly. The next chapter offers a conclusion of this thesis outlining the main findings and contributions to knowledge with an articulation of possible venues for future research.
Chapter 7 – Conclusion

7.1 Introduction

This thesis has described the motivations for, the story of, and the processes involved in the e-Government project in Oman (2000-2013) from the government’s perspective. The study focused initially on the motivating factors for adopting e-Government at the national policy level and then on the drivers for implementation. The study investigated the institutional, organisational, and technological challenges that contributed to the adoption, implementation, eventual stalling, and then the rejuvenating of the e-Government project in Oman.

In the development of the conceptual framework for this thesis, it was proposed that four sets of factors influenced motivation to adopt e-Government in Oman (see Figure 2.2 page 52). These were related to the institutional motives of policy practices, motives related to information quality, motives related to service quality, and country-specific motives affected by geography and culture. It was argued that using an analytical lens of institutional theory, any imbalance between institutional forces throughout the implementation process created scenarios where those involved re-contextualised policy (Bowe, Ball & Gold 1992), often creating a mismatch between the outcomes of actions driven by the policy. Where this happens a decoupling occurs between policy and practice – a scenario where policy also is re-negotiated (Corbitt et al. 2004) – inevitably stalling implementation. Decoupling can be intentional; that is, organisations do not have the will to implement what they formally adopt. Decoupling can also be non-intentional; that is, organisations have a strong will to implement changes, but lack the means (Cole 2012) or clear directions to do so (Bromley & Powell 2012). Increased decoupling means less implementation and decreased decoupling means more extensive implementation. In this chapter, the decoupling and re-contextualisation identified in the previous two chapters is developed further in an attempt to review the models commonly used to analyse e-Government and to derive a usable new framework for analysis.

7.2 Contributions to Knowledge

This study represents a clear understanding of e-Government adoption in Oman from a supply-side perspective (i.e. the government). It is one of the few studies that draw on both
the institutional and technical accounts of motivations to adopt e-Government. Similarly, this study goes beyond the common focus on the adoption process to investigate the details of implementation of e-Government over the period from 2000 to 2013.

In terms of methodology, this study is one of the few qualitative studies (Scholl 2009) which draw mainly on primary data with reference to previous descriptive studies of e-Government adoption in developing countries. Grönlund (2010) argued that there is an abundance of evaluative and descriptive studies that identifies motivating factors for adoption and other factors that facilitates the success of e-Government implementation in e-Government literature, but there is a lack of structured models that offer a deeper understanding of the relationships between these factors, and how can that assist in overcoming implementation challenges. This study considered the literature of IS/IT innovation adoption in the public sector in relation to e-Government adoption and implementation to offer a better understanding of the relationship between technology, government, and organisation dynamics. This investigation of the process of adoption and implementation of e-Government from its point of inception, to implementation, evaluation and finally to rejuvenation yielded a deeper understanding of the life cycle of e-Government development.

The data was collected from multiple government departments through interviews with government officials in different levels of management. These levels included policy making levels as well as implementation levels in relation to the e-Government initiative in Oman. This multi-perspective technique has enhanced the reliability and validity of the collected data. The data collection instrument was developed from the literature and validated through a panel of expert researchers who were natives of Oman. Secondary sources of data were used to triangulate the collected data. These included government documents, reports, and news clippings. Therefore, unlike many of the existing studies in the literature which focus on a single level of organisational analysis, this study attempted to offer a holistic view of the interplay between dynamics of the institutional environment as well as the technical environment across different government departments in regards to e-Government implementation in Oman.

In terms of the time factor, according to Kennedy and Fiss (2009), it is better to investigate the motivations of adoption at different points in time during the diffusion of innovation in order to produce better interpretations of the adoption process based on explicated motives.
rather than inferred ones. Therefore, this study examined the adoption motivations at the initial adoption stage, the implementation stage, and the rejuvenation stage.

In summary, results of this study provided support for the advantage of using Institutional Theory as a lens in explaining the wide spread failure of e-Government adoption and implementation with derived credibility and validity from the views of multiple members of the decision-making as well as implementing teams from different government units in Oman. Institutional Theory offers an alternative to the rational view of organisations with calls to utilise institutional theory in Information Systems research in general (Weerakkody, Dwivedi & Irani 2009) and in e-Government in particular (Fountain 2009). The rational view of organisations posits that organisational structures are designed to support the organisation in accomplishing its goals. However, the observed gap between rhetoric of e-Government and the reality of its outcomes necessitates a shift of focus from the rational view in order to offer a better understanding of why such a gap exist.

7.2.1 Omani e-Government Performance Drivers 2000-2013

The research shows that there are a series of factors that have influenced the degree of success of the Omani e-Government projects. These were:

- **External pressure**: institutional pressures from external multilateral organisations such as the United Nations, the World Bank, and the International Monetary Fund have motivated Oman to adopt and implement e-Government to show a favourable and competitive image of the country in international forums. The research confirms the important roles of multilateral organisations in the institutionalisation of innovations in the public sector such as e-Government. In the case of e-Government in Oman, these organisations provided catalyst motives for the adoption. They also provided impetus for continuous improvements during the implementation process through the use of annual surveys of implementation progress and ranking.

- **Internal political desire**: Omani officials viewed e-Government as a stimulator of economic growth through the creation of a platform for knowledge-based economy and reforming the bureaucratic procedures in the public sector to attract more foreign direct investment and elevate citizens’ satisfaction with public services.
• **Overall vision and strategy**: the original e-Government strategy was developed by a competent consulting firm, Gartner, and was carefully positioned within the overall socio-economic development strategy of the country.

The research also shows that the decoupling of policy and practice in the Omani e-Government context, was created by a lack of consistency across government departments, poor governance of the project, a gradual re-contextualisation of the importance of the project over time, a poor regulatory framework, and a poor ICT infrastructure. This decoupling of policy and practice eventually led to a stalling of the project.

This research shows that the stalling of the e-Government project in Oman was due to reasons different from what is in the extant literature. It was not an issue of lack of financial resources or political support. It was an issue of a non-intentional policy practice decoupling – what the policy intended to accomplish and what implementers actually did – resulting in a gap between the desired outcomes and the actual results of implementation. This gap was also a result of country-specific issues such as distractions of other priorities and the geography of the country.

Policy implementation can be adversely affected by decreasing interest over time, a long period of implementation, insufficient attention to infrastructure and a lack of control. The implementation of the e-Government project in Oman was affected in this way and after a decade is still incomplete. It is important to note that there was no failure of implementation of the Omani e-Government project. There were some functional e-Government projects in the country and the will to proceed with effective implementation still exist. After the realisation of a decade of e-Government implementation, it was understood that the implementation had stalled and needed to be rejuvenated. The e-Government initiative was officially rejuvenated in October 2012.

In summary, in relation to e-Government adoption and implementation in Oman, the country ‘wanted to look good’ and ‘wanted to do better’ at the same time. The motives for the government to adopt and implement e-Government, introduced in chapter 2 and discussed in chapter 5, were related to both the institutional and technical environments of the public sector motives. Identified motives in the institutional environment were related to the enhancement of the symbolic image and economic competitiveness of the country in the international community. Motives in the technical environment were related to improving public service quality, improving the efficiency and performance of the public sector to
stimulate economic diversification and growth. However, the means to these desired ends were lacking, which resulted in a decoupling of policy and practice.

Figure 7.1 (below) shows these groups of motivators with a gap between each group, which represents decoupling. It is proposed here that the wider the gap between these groups of motives, i.e. the greater the decoupling, the less the success of implementation. In the institutional environment in Oman, there was a close relationship between the motives of conforming to world standards and integrating with world economies and the country-specific needs of diversifying the economy and creating employment opportunities for an increasing number of local job seekers. However, the lack of a robust ICT infrastructure, the lack of integration between government departments, and the lack of the critical mass of IS/IT professionals widened the gap between these two motives and inhibited the realisation of these goals.

In the technical environment in Oman, the motives for efficiency, improved quality of information for governance, and improved quality of public services were closely related to each other and also related to institutional motives of conveying a favourable international image of the country and stimulating economic growth. However, the lack of laws and rules that instil dimensions of service quality and information quality contributed to widening the gaps between these motives. Also, the poor state of the ICT infrastructure inhibited integration between government departments which was essential in improving the quality of public services and information exchanged between government departments.
Figure 7.1 Framework of motivating factors for e-Government implementation in Oman

It was observed in this study that the lack of effective state intervention in bridging the gap between the institutional environment and the technical environment surrounding the implementation of e-Government in Oman has resulted in stalling of the implementation effort. This study proposes some measures to narrow the gap between motives related to the institutional environment and those related to the technical environment of implementation. These means are: public oversight, the availability of technical expertise, the availability of a sound and reliable ICT infrastructure, and the establishment of rules and laws that facilitate horizontal integration between various government departments. Some of these means are drawn from Heeks’s (2008) analysis of the factors that contribute to the success or failure of e-Government implementation in developing countries. These means are further detailed in the following:

(i) Public Oversight provides impetus for the progress of e-Government implementation and it is considered one of the important drivers of institutionalisation of new organisational structures (Frumkin &
Galaskiewicz 2004; Meyer & Rowan 1977). Since the public come into direct contact with government units on regular basis for the acquirement of public services, they can offer the best judgment on the quality of these services. Enabling the public to evaluate the performance of government units will make e-Government services more citizen-centric. Citizen-centricity has been identified as a critical success factor of e-Government implementation (Akther, Onishi & Kidokoro 2007; Eyob 2004; Kolsaker & Lee-Kelley 2006) as it relates to designing electronic services that fulfils citizens needs promptly without the need to involve the citizen in the various transactions that occur in the back office (Marche & McNiven 2003). In this view, government units will strive to integrate their systems of service delivery in order to improve their ability to offer seamless services to citizens. In Oman, a call centre was established in March 2012 and annexed to the Council of Ministers to receive to calls from ordinary citizens on the performance of public services. Being directly attached to the Council of Ministers, this call centre will give oversight power to the public over the performance of government organisations in relation the quality of their services. In institutional terms, this call centre will strengthen the technical environment of the government by strengthening evaluation aspect of public services.

(ii) Technical and Professional Expertise; the existence of qualified and skilled IS/IT experts in the technical environment of e-Government implementation is an essential success factor (Gil-Garcia & Martinez-Moyano 2007; Kim, Pan & Pan 2007). Professionals also create an institutional force towards the effective implementation of innovations (DiMaggio & Powell 1983; Greenwood, Hinings & Suddaby 2002; Powell 1991). This also assists in shifting the implementation style from being political-based to being professional-based where the strategy of implementation can be carried out effectively based on management tools such as BPR. In the rejuvenation strategy of e-Government in Oman, it was emphasised that government units will be supported with an adequate level of technical expertise and professional consultants and that the new implementation strategy will utilise Business Process Reengineering as an essential requirement for redesigning public services which is consistent with recommendations in
(Chircu & Lee 2005; Indihar Stemberger & Jaklic 2007; Mansar 2006). In this regard, this study recommends that public services in Oman are also transformed based on the dimensions of service quality (Grönroos 1988; Parasuraman, Zeithaml & Berry 1988) so that a new work culture of public service is instilled in the work routines of government units. Perhaps, the office of Customer Relation Management (CRM) which was created by Royal Directives in April 2011 in every government unit can be made responsible for introducing and implementing appropriate service quality models in Omani government departments.

(iii) Developing a robust and reliable infrastructure is an essential component to the success of e-Government implementation (Mansar 2006; Schware & Deane 2003; United Nations 2008). The lack of an effective ICT infrastructure discourages government departments from adopting and implementing e-Government because they are unable to observe effective results. In turn, this affects the degree of institutionalisation of e-Government and the overall progress of implementation. Therefore, the development of a capable ICT infrastructure is an essential first step of e-Government implementation. This is corroborated by Fountain (2001) and King et al. (1994) who argued that ICT infrastructure is an essential component to facilitate collaboration, integration, and information sharing between government organisations. Parallel to building a robust ICT infrastructure, it is also essential to build the capacities and skills of government employees and the general public. However, in a country like Oman which lacks the critical mass of IS/IT and system architecture expertise, depending on foreign expertise becomes necessary. Conversely, this can be a viable opportunity of knowledge transfer where local human resources can gain tacit knowledge through being handled by foreign experts.

(iv) Rules and Laws that ensures institutional rearrangement and coordinated practices between government departments are as essential as an ICT infrastructure for the success of e-Government implementation (Fountain 2001). State laws and rules are the most powerful forms of institutional pressures to ensure the institutionalisation of new organisational structures (Bromley & Powell 2012; Oliver 1991; Scott 1987). In the absence of such
explicit laws, government departments operate autonomously which creates an institutional challenge for the successful implementation of e-Government (Gil-Garcia & Pardo 2005). From an institutional perspective, Hironaka and Schofer (2002) argued that weak horizontal links between various organisational units is a form of institutional decoupling which may result in poor realisation of desired outcomes (Bromley & Powell 2012). This study argues the absence of explicit laws related to e-Government implementation is the most contributor to the stalling of e-Government implementation over the period from 2000 to 2013 because scrutiny, evaluation, and accountability measures in the public sector cannot be enforced without binding laws and legal rules of collaboration and data exchange between government organisations.

It is argued in this study, in relation to implementing e-Government, that to bridge the gap between the motivating factors within the institutional environment and those within the technical environment of the government these environments should be strengthened by introducing four measures. The enhancement of the role of public oversight and the introduction of rules and laws that enforce the integration between government departments and institutionalise e-Government in the structures of these departments are essential measures in order to strengthen the institutional environment. Specifically, the introduction of rules, laws and increasing the role of public oversight will increase coercive pressure within the institutional environment to not decouple from the desired outcomes of e-Government implementation. Formal state rules and laws and public opinion are one of the most important mechanisms of institutionalisation of new practices (Meyer & Rowan 1977). An important measure in this regard is the establishment of an entity within every government department equivalent to the Chief Information Officer (CIO) to manage the implementation of e-Government and the integration with other government departments, preferably, based on the value-added model of information systems discussed in section 5.6.

The availability of technical and professional expertise and the availability of a robust and reliable ICT infrastructure will strengthen the technical environment. Normative institutional pressures are functional only if they are recognised to exist by managers (Yildiz 2004). Therefore, a non-IT oriented manager will not recognise normative pressures to excel in the implementation of e-Government in their respective government departments. Specifically, transforming the implementation process based on professional aspects such as BPR and
service quality dimensions will improve the normative and cognitive institutional pressures within the technical environment to become stronger and less likely to decouple from the desired outcomes.

Similarly, the existence of a sound and robust ICT infrastructure designed based on value-added processes of information system will facilitate the sedimentation phase of institutionalisation of e-Government through enabling the showcasing of e-Government outcomes and the physical integration between government departments. The application of such means that strengthen both the institutional and technical environment also contributes to the re-coupling between both environments and improve the success of e-Government implementation.

7.2.2 Theoretical Contributions to Knowledge

This is the first study that focuses on the supply-side of e-Government in Oman; therefore, adding to the scarce literature on e-Government adoption and implementation in developing countries especially in the Middle East region. In this study, data was collected from 9 different government departments through listening to the stories of individuals at the policy as well as implementation level of the e-Government initiative. The findings of this study serve as a starting point for future research in e-Government in Oman and in other developing countries.

This study adds to the literature of e-Government research by providing new connections of theoretical elements from the fields of sociology, administrative science, organisation studies, and information systems. These connections between theoretical elements of institutional theory, service quality models, value-added processes of information systems, and information quality provide a better insight into the adoption and implementation of e-Government. This research shows that service and information quality models can be utilised as means to strengthen the technical environment of e-Government implementation and, by extension, reduce the possibilities of decoupling between policy and outcomes.

Service and information quality models are professional tools which, when adapted to the work routine, can form a positive normative and cognitive institutional pressure towards the successful implementation of e-Government. Normative and cognitive pressures are subjective pressures which operate only if they are recognised by the implementation
managers (Yildiz 2004). Managers who are not oriented on the potential of service and information quality tools are more likely not to recognise the normative pressures. However, managers who are oriented in the potential of such tools as well as BPR are more likely to recognise this pressure. The strength of the technical environment is increased with the increase in the normative and cognitive pressures that exist in the environment. In short, service and information quality measures create a form of control on the quality and efficiency of products (public services) within the technical environment and pave the way for extensive implementation of e-Government as an enabler of service and information quality.

Similarly, value-added processes of information system model can be utilised to enhance the design of the physical network of e-Government implementation. This recommendation has emerged from the analysis of data of this research. Value-added processes of information system is a valid model to design intranet networks in the case of e-Government since the majority of government functions is mainly dependent on processing information. This model which was proposed by Robert Taylor in 1986 adds value to data to become valid information and knowledge for decision makers and service providers. It also improves the quality of exchanged information between government departments and between them and constituents. Therefore, it adds to the reliability of the underlying ICT infrastructure which is the most essential layer of e-Government implementation and leverages the effect of the technology infrastructure on the successful implementation of e-Government. A reliable and robust ICT infrastructure can better showcase the value of e-Government which, by extension, will enhance the sedimentation phase of e-Government institutionalisation.

Overall, the relationships between the theoretical constructs from institutional theory, service and information quality model, and value added processes of information systems in the context of e-Government offers a deeper understanding of why e-Government implementation succussed or fails.

Another theoretical contribution of this research is in the form of extending the use of theoretical constructs of Institutional Theory to the context of e-Government adoption and implementation to offer a better understanding of what influences the adoption and implementation of e-Government. This understanding formed the basis for developing an explanation of the observed mismatch between the rhetoric of formal e-Government policy and the outcomes of implementation. This explanation was based on the concept of means-
ends institutional decoupling which also forms a new addition to the e-Government adoption literature.

This also exposes the important roles of multinational organisations such as the United Nations, the World Bank, and the International Monetary Fund in the institutionalisation of innovations in the public sector such as e-Government. In the case of e-Government in developing countries, these organisations provide catalyst motives for the adoption as well as an impetus for continuous improvements during the implementation process through the use of annual surveys of implementation progress and ranking. Therefore, the role of multinational organisations is an important determinant of e-Government adoption especially in developing countries.

This study offers an ample view of both dimensions of e-Government: electronic and government. This holistic treatment is in itself a contribution to the field of e-Government research in that it attempts to abridge the often incomplete or single-sided treatment of e-Government as either a technology innovation or a public administration innovation. By relating e-Government to seminal and contemporary research in innovation adoption and diffusion in the public sector, this study adds to our understanding that e-Government cannot always be categorised as a “management fashion” (Abrahamson 1991), rather as a complex transformative innovation which requires effective institutional and technological infrastructures in order to succussed.

This study offers a multi-perspective understanding of the motives behind the extensive implementation of e-Government in the developing world. It does so by identifying motivating factors for the adoption of e-Government in many developing countries. These motives were distilled from a review of the literature of e-Government adoption and from mission and vision statements published in e-Government portals of some of these countries. The selection of these countries was not totally arbitrary, but designed to be representative of different geographic regions of the developing world. These factors were then traced to their original theoretical roots and were integrated in a single framework. The framework was kept flexible to accommodate for country-specific factors. There are three main differences between this framework and existing adoption frameworks and models.

First, this framework is purely built on experiences from the developing world whereas most of the existing frameworks are developed from experiences in the developed world. Heeks (2001) argued that the observed high rate of e-Government failure in the developing world is
due to the fact that e-Government is predominantly a western concept originated in the developed world. This, he argues, results in a gap between the design of e-Government and the realities of the context of implementation which increases the risks of failure in implementation. Therefore, the framework of motivating factors developed in this study was contextualised to the context of the developing world.

Second, this framework is not built on existing adoption theories such as TAM or DOI which normally treat adoption at the individual level. This framework focuses on the supply-side of e-Government rather than the common focus on demand-side. Therefore, it adds to our understanding of how e-Government, as a policy, is developed and adopted at a national government level.

Third, and most importantly, the focus of this framework is on the factors that drove the initial adoption; rather than the factors that facilitated the success or failure of adopted innovations. This is important since the success of innovation adoption and implementation is determined by the underlying motivations. This also adds to our understanding on how the initial motives for adoption can be synchronised to the desired outcomes in order to mitigate the risks of e-Government failure.

Although the empirical phase of this study was based on the Omani public sector, it contributes to advancing the scarce knowledge of e-Government adoption and implementation in the developing world especially in the Middle East region. It offers a building block for a broader understanding of e-Government adoption within certain broader contexts. The contextualising of this study to the Omani context also adds to the pronounced need for more localised research in e-Government. Results from single case study can be regards as building blocks of theory generation (Eisenhardt 1989) in the wider context of e-Government research.

Unlike many of the previous studies on e-Government adoption which were predictive in nature, this research goes a step further to the implementation level in order to understand the actual effects of adoption motives on the extent of implementation. This was attained through the investigation of these motives at the national policy level as well as at the practice level within government departments in Oman. It was found that the decision of e-Government adoption in Oman was conjointly influenced by motives of institutional conformity as well as motives of efficiency. However, the extent of implementation depended on the strength of the institutional and technical environments of implementation. Therefore, this research informs
us that e-Government success is not only dependent on the strength of motivating factors but also on the strength and capacity of the implementation environments.

Similarly, this study has also revealed that, contrary to common beliefs within the e-Government research, lack of financial resources is not always the determining factor of the failure of e-Government adoption in developing countries. In the case of Oman, sufficient financial resources were available for the implementation. However, the implementation process was slow due to weaknesses in the institutional, technological and management infrastructures. A weakness in any of these infrastructures may have significant effect on other infrastructures and, therefore, affect the progress of the implementation. Since e-Government is a carrier of context (Heeks 2005), it becomes a prerequisite to update the context or environment of implementation prior to adoption because e-Government implementation will not succeed in a weak institutional or technical environment.

This study offers an insight of e-Government implementation in Oman using institutional theory as a theoretical lens. It also offers theoretical explanation of why e-Government implementation fails. Specifically, this study shows that failure of implementation is not always a deliberate act. The concept of decoupling was used to explain the observed mismatch between policy and practice in e-Government adoption in Oman and it was found that although e-Government adoption was driven by strong institutional and technical needs, the country lacked the capacity to put the adoption goals into practice. However, these strong driving forces have continued to fuel the implementation process which led the government to adopt corrective measures and rejuvenate the implementation process in October 2012.

As for lessons for developing countries, this study supports conclusions from previous studies on the essentiality of the availability of robust and reliable ICT infrastructure for the success of e-Government implementation. Of the same importance is the availability of sufficient IS/IT knowledge to drive the successful implementation. It is also essential to perform appropriate institutional rearrangement to facilitate integration between different government departments and support the institutionalisation of e-Government based on state laws and rules.
7.2.3 Implications for Government Policy Makers

This study shows that consistent intervention from the government is needed in order for the implementation of e-Government to succeed. Such intervention is needed in the area of strengthening the institutional environment to allow for horizontal integration and collaboration among government departments. This intervention in the forms of explicit laws and rules is needed because public sector activities are mainly based on institutionalised laws and rules (Teicher, Hughes & Dow 2002).

The study shows that technology determinism view is not appropriate in the case of e-Government. E-Government, as a technological innovation, is not capable of enacting change in organisations structures. It is also recommended that a proactive role is taken to enhance the authority of the ITA, which oversees and coordinates the implementation effort in Oman, in order to enforce standards and timelines of implementation. This has been incorporated in the new transformational plan of e-Government in Oman which was officially launched in October 2012.

This study shows that measures of service quality and information quality are capable of strengthening the technical environment of government. Therefore, it is recommended that work routines in regards to public service provision are transformed to be based on service quality models which would pave the way for a successful implementation of e-Government based on a solid platform of quality service delivery. This will create a more professional culture of service delivery, and, by extension, increase the normative pressure among government departments in Oman to follow in.

Similarly, this study shows that the value-added processes of information systems model is an appropriate model for the design of intranets that connect government departments together. This model is concerned with the enhancement of the quality of information in order to facilitate the creation of credible knowledge for decision-making based on such information. This can be further facilitated by the establishment of data exchange offices at the boundary of government departments to ensure seamless collaboration and data exchange.
7.3 Study Limitations and Recommendations for Future Research

One of the common limitations of single case studies is the inability to immediately and directly generalise the results to other contexts. However, important lessons can be learnt and the results of this study can be compared with results from similar contexts such as member states of the Gulf Cooperation Council (GCC) that share similar economic and social conditions. Future research may be in the form of cross-case analysis of results from this study and studies within other regional contexts to identify variances and similarities in adoption motives at the regional level, rather than at the country level.

Although the attempt made within this study was determined to be holistic in identifying motivating factors that reflect the reality of e-Government adoption in the developing world, the sample chosen for this study might have not been thoroughly representative. Future research may extend the scope of investigation to other countries which were omitted in this study due to time limitations. Also, a possible avenue for future research could be related to more specific categorisations of developing countries in terms of upper and lower income categories in order to identify variations of adoption and implementation of e-Government against the economic status of the country and also comparing that to the developed world.

One of the findings of this study that contradicts the findings of many similar studies in the literature is the issue of having sufficient financial resources. In Oman, finance was readily available for e-Government projects. However, this was not a determinant of the success of implementation. A possible question worthy of future research is whether or not too much funding can spoil the implementation of e-Government. For example, the availability of an ‘open budget’ could have distracted implementers from essential objectives and timeframes of the implementation plan.

Also, an investigation of the relationship between different motivators such as ‘cause-effect’ relationships can be of interest for future research. This can reveal if some motivators for adoption are actually overoptimistic, and thereby, can be avoided in order to increase the success rate of the implementation.

This study has examined the process of adoption and implementation of e-Government in Oman over the period from 2000 to 2013. Although effort was made by the researcher to make the study as comprehensive as possible, it is by no mean exclusive of all events that occurred during the implementation process.
With the re-launch of e-Government implementation in Oman, future research could investigate the effectiveness of the new policy in light of the new knowledge advanced in this study. Also, another possible avenue for future research is to examine the perception of e-Government implementers at the organisation level in regards to the structure of the new policy of implementation to ascertain whether or not there is sincere support for the initiative, which would certainly affect its success. In this regard, there is one observable deficiency with the new policy, which is the seemingly over-optimistic deadline of implementation set for December 2015. A critical analysis of the current state of e-Government prerequisites in Oman is needed to determine whether or not such a deadline is attainable.

7.4 Conclusion

This thesis is a study of e-Government adoption and implementation in Oman from a government perspective. The research shows that, at the surface, e-Government adoption in Oman and possibly many developing countries is initially driven by the desire to conform to international standards, or more precisely, as a ‘me-too’ syndrome. However, e-Government is a far more complex enterprise that can attend to institutional, economic and societal ends only if the appropriate means are carefully mobilised to reach these ends. This mobilisation requires attentive collaboration between experts in the government institutional arena and those experts in the technical arena of e-Government, coupled with consistent oversight from stakeholders.

E-Government in Oman was defined at the policy level as an integral part of an ecosystem of moving the country to a knowledge-based economy. This research shows that the implementation of this ecosystem equated to the establishment of value-added processes. Whilst this were ideal for the implementation of e-Government, it did not materialise because of institutional, technological, and management challenges. However, the availability of adequate finance was not an issue that contributed to the stalling of e-Government implementation in Oman.

Therefore, it is difficult to categorise e-Government adoption as a way of window-dressing as there may be a genuine will for extensive implementation which gets impeded by obstacles that cannot be overcome immediately with the available resources. As the implementation is effectively evaluated, the original genuine will for implementation persists to push for corrective measures and prevent the initiative from being stagnated. Implementation of e-
Government can stall because government departments become reluctant to participate in the implementation due to lack of observable outcomes. It is important that during the implementation of e-Government flagship projects are created with sufficient propaganda to provide cognitive institutional support for the implementation.

The observed anomalies between the motives for implementation within the institutional environment and those within the technical environment could be explained using the concept of institutional decoupling. Only through investigation of adoption motives within both environments can we understand whether or not such decoupling is intentional or non-intentional. This study shows that decoupling that emerged in the implementation of the e-Government project in Oman was non-intentional. Specifically, it was attributed to a technical decoupling caused by the lack of institutional integration among government departments, the lack of a robust and reliable ICT infrastructure in many parts of the country, the lack of IS/IT skilled human resources, inappropriate management style that was based on political aspects, rather than professional aspects of implementation, and the lack of appropriate authority to enforce project control. Since the decoupling was non-intentional, corrective measures were undertaken to mitigate the sources of this decoupling and refocus the implementation process.

E-Government in the Omani context was driven by a desire in Oman to change the economic foundations of the country. Despite detailed planning and investment, the opportunities available from that project were never realised to the extent desired. This study had shown that, over time, the forces that enable outcomes to be achieved decouple and project implementation became more and more a requirement of compliance, rather than being institutionalised in practices. Policy and practice have to remain connected for policy to be effective. In Oman, at least, there was a realisation that policy and practice were diverging and in 2012, rectification began.
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Appendix A - Consent Forms (English and Arabic)

Prescribed Consent Form for Persons Participating in Research Projects Involving Interviews

**COLLEGE OF**  
**SCHOOL/CENTRE OF**  
**Business IT & Logistics**

Name of Participant: ________________________________

Project Title: Motivating Factors for Implementing E-Government in the Sultanate of Oman.

Name(s) of Investigators: Qasim Al-Mamari

Phone: +(61 3) 9925 1115

1. I have received a statement explaining the interview/questionnaire involved in this project.

2. I consent to participate in the above project, the particulars of which - including details of the interviews or questionnaires - have been explained to me.

3. I authorise the investigator or his or her assistant to interview me or administer a questionnaire.

4. I give my permission to be audio taped: ☐ Yes ☐ No

5. I give my permission for my name or identity to be used: ☐ Yes ☐ No

6. I acknowledge that:

   (a) Having read the Plain Language Statement, I agree to the general purpose, methods and demands of the study.

   (b) I have been informed that I am free to withdraw from the project at any time and to withdraw any unprocessed data previously supplied.

   (c) The project is for the purpose of research and/or teaching. It may not be of direct benefit to me.

   (d) The privacy of the information I provide will be safeguarded. However should information of a private nature need to be disclosed for moral, clinical or legal reasons, I will be given an opportunity to negotiate the terms of this disclosure.

   (e) The security of the research data is assured during and after completion of the study. The data collected during the study may be published, and a report of the project outcomes will be provided to RMIT University. Any information which may be used to identify me will not be used unless I have given my permission (see point 5).

**Participant’s Consent**

Name: ________________________________ Date: ________________________________

(Participant)

Name: ________________________________ Date: ________________________________

(Witness to signature)

Where participant is under 18 years of age:

I consent to the participation of ________________________________ in the above project.

Signature: (1) ________________________________ (2) ________________________________ Date: ________________________________

(Signatures of parents or guardians)

Name: ________________________________ Date: ________________________________

(Witness to signature)

Participants should be given a photocopy of this consent form after it has been signed.

Any complaints about your participation in this project may be directed to the Chair, Business College Human Ethics Advisory Network, College of Business, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is (03) 9925 5598 or email address rdu@rmit.edu.au. Details of the complaints procedure are available from http://www.rmit.edu.au/browse/ID=2jqrnb7hnpvo
استمارة موافقة على المشاركة في المقابلة الشخصية لمشروع بحث دكتوراة

عنوان الدراسة: العوامل المحفزة لتطبيق الحكومة الإلكترونية في سلطنة عمان.

أوافق أنا الموقع逃离 أسمى أذهان على المشاركة في مشروع البحث المقدم من الباحث / قاسم العمري من جامعة آر إم إيه تولايا فيكتوريا بقارة أستراليا. حيث أن مشروع البحث قد تم شرحه لي من الباحث وقرأت الرسالة التوضيحية للبحث والتي احتفظ بنسخة منها في مجلتي، كما وإنني أعلم بأن هذا البحث يهدف إلى تطوير تطبيقات الحكومة الإلكترونية وزيادة نجاح هذه التطبيقات في السلطة.

كما إنني على دراسة كاملة بأن موافقتين على المشاركة في هذا البحث تضمن:

1. أنني قُللت رسالة دعوة للمشاركة في مقابلة خاصة بدراسة الباحث، وأوافق على ما ذكر فيها.
2. استعدادي للقيام بمقابلة شخصية لمدة تتراوح بين ساعة وساعتين دقيقة.
3. موافقتين على تسجيل المقابلة صوتياً: نعم أوافق، لا أوافق.
4. المعلومات سوف تستخدم هذا البحث فقط وسوف تحجز بسرية ثابتة وسيتم اتفاقها بعد الانتهاء من البحث.
5. أن أعتبر الصحفي لإستخدام اسم أوب أو اسم منشئ بشكل عام.
6. أوافق على التالي:
   a. أن４ قرأت تعليمات التعرف بالبحث، وأوافق على ما جاء فيها بشكل عام.
   b. أنني نسبت تطبيقات وأعمال الأدوات من المشاريع بناءً على التزامات ترتيب على ذلك.
   c. أنني ليس لي مصلحة مباشرة من مشروع البحث.
   d. البيانات المستخلصة سوف تحاول بسرية تامة بعدم ذكر أي بيانات تشير إلى هوية المشارك أو الإدارة التي يتبعها في حالة نشر نتائج الدراسة.
   e. أن أي من المعلومات الشخصية لن تستخدم أو يفهم منها إلا لو أطعت ترخيص سابق بذلك (كما في الفقرة 5)

موافقة المشارك:

الاسم: ............................................................
التاريخ: ...........................................................
التوقيع: ..........................................................

الشاهد:

الاسم: ............................................................
التاريخ: ...........................................................
التوقيع: ..........................................................

وفي حالة الرغبة لتقدم بشكوى حول كيفية إدارة المقابلة الشخصية أمل الاتصال على اللجنة الدائمة لأخلاق البحوث على العنوان التالي:

Business College Human Ethics Advisory Network, College of Business, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is +61 (03) 9925 5598 or email address rdu@rmit.edu.au. Details of the complaints procedure are available from http://www.rmit.edu.au/browse;ID=2jqrnb7hnpyo
Appendix B – Plain Language Statements (English and Arabic)

INVITATION TO PARTICIPATE IN A RESEARCH PROJECT

Project Title:

Investigators:
- Mr. Qasim Al-Mamari (Business Information System, PhD candidate, +( 61 3) 9925 1115
- Professor Brian Corbitt (Senior Supervisor, PhD FACS Head of School of Business IT & Logistics, Brian.corbitt@rmit.edu.au, +61-3-99255808)

Dear Participant,

Your participation in this research is deeply appreciated. You are invited to participate in a one-to-one interview which will last for an approximate of 90 minutes and will be tape-recorded if your permit. This interview is the main research activity for my PhD degree in Business Information Systems at the School of Business Information Technology & Logistics, at the RMIT University in Melbourne, Victoria, Australia. The title of this study is Motivating Factors for Implementing E-Government in the Sultanate of Oman and is under the supervision of Professor Brian Corbitt. This research has received ethical clearance from the RMIT Business College Human Ethics Advisory Network. Should you have any concerns or complaints about your participation in this research, please do not hesitate to contact the RMIT Business College Human Ethics Advisory Network at the following address:

Chair, Business College Human Ethics Advisory Network
College of Business, RMIT.
GPO Box 2476V, Melbourne, 3001.
Phone: (+61)-3-399255598 or email address rdu@rmit.edu.au.
Details of the complaints procedure are available from http://www.rmit.edu.au/browse;ID=2jqmb7hnpyo

Electronic government (e-Government) is one of the technological offspring of the rapid advancement in the Information and Communication Technology (ICT) during the last decade. E-Government is defined by the World Bank as “the use by government agencies of ICT that have the ability to transform relations with the citizens, businesses, and other arms of government” (World Bank 2004). It is claimed that e-Government in the next wave of technology application in the public sector after e-commerce and e-business has reached the maturity stage in the private sector.

E-Government in Oman is at the early stages of implementation and implementers can benefit from the outcome of this research at this stage. This study aims at identifying the factors that motivate the Omani government to adopt e-Government projects. The main research question of this study is: what influenced the adoption and implementation of e-government projects in Oman? The researcher will collect information from Omani ministries that are involved in the national e-Government project. An estimate of 30 interviews will be conducted with officials involved in the decision making of implementing e-Government in the Information Technology Authority, Ministry of Education,
Ministry of Higher Education, Ministry of National Economy, Ministry of Finance, and Ministry of Civil Services. Your organization has been selected to be included in this research from the list of public organizations offering e-Government services at the Omani Official e-Government Services Portal www.oman.om. Your contact information has been obtained from your organization’s public directory. You are being approached to participate because you are considered as one of the executives of implementing e-Government in this organization. Your participation is greatly valuable to this study. The interviews aim at exploring the key factors that motivate public organizations in Oman to implement e-Government projects. Data collected through interviews will be analysed to identify and classify motivating factors of the implementation of e-Government projects in Oman. Examples of interview questions are:

- In your opinion, why did your organization pursued e-Government projects?
- What are the benefits expected from implementing e-Government in your organization?
- What were the aims of implementing e-Government in your organization?
- What are the external and internal factors that affected the implementation of e-Government in your organization?

Should you decide to participate, please be assured that all information obtained during the interview will be kept confidential and that none of your personal or organization’s information will be released unless if (1) it is considered mandatory to release such information to protect you and/or others from harm, (2) a court order is issued to disclose this information, (3) a written permission is obtained from you. A written consent is provided to you with this statement along with a list of the actual interview questions. All information obtained from the interview will be used for research purposes only, and will be stored in a locked filing cabinet in my office at the university for a period of five years as prescribed by RMIT University regulations. Only my supervisor and I will have access to this data. If you have any questions or concerns about this interview, please feel free to contact any of the investigators; their contact information is provided above.

I would like to inform you that your participation in this study is voluntary. The findings of this study might be published, but no identifying information about you will be released. As a participant, you have the rights to:

- Withdraw your participation at any time, without prejudice.
- Have any unprocessed data withdrawn and destroyed, provided it can be reliably identified, and provided that so doing does not increase the risk for you.
- Have any questions about the interview answered at any time.
- Have time to discuss off-topic issues after concluding the interview.
- Choose not to answer any of the interview questions.
- Request that audio recording be terminated at any stage during the interview.

If you have any questions or would like to receive a copy of the summary of findings of this research please call me on the following phone number +(61 3) 9925 1115 or E-mail at or contact my senior supervisor Professor Brian Corbitt on +61-3-99255808 or E-mail at Brian.corbitt@rmit.edu.au.

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Senior Supervisor</th>
</tr>
</thead>
</table>
| Qasim Al-Mamari  
Business Information Systems, PhD Candidate | Professor Brian Corbitt  
PhD FACS Head of School of Business IT & Logistics |

Signature:  
Signature:

Any complaints about your participation in this project may be directed to the Chair, Business College Human Ethics Advisory Network, College of Business, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is (03) 9925 6598 or email address rdu@rmit.edu.au. Details of the complaints procedure are available from http://www.rmit.edu.au/browse;ID=2jqrnb7hnpyo.
رسالة دعوة للمشارك في بحث مع شرح لمشروع البحث

عنوان مشروع البحث:
العلاوام المحفزة لتطبيق الحكومة الإلكترونية في سلطنة عمان

الباحثون:
الب: قمري، درجة الدكتوراه عمان

المشرف على البحث:
البروف. براين كوربت، والمشرف ورئيس قسم

عزيزي المشارك

السلام عليكم ورحمة الله وبركاته

أفيدكم علماً أنا الطالب قاسم المعمري، المبتعث حالياً لحضور درجة الدكتوراه في علوم الحاسب والنظم المعلومات من جامعة Imam AY (RMIT). يشرف على البحث البروف. براين كوربت.

لا يمكنني الاستماع إلى تعليقات أو ملاحظات أو أسئلة من أي نوع ما في هذه المحاولة دون تأكد من أنك تريد مشاركة في هذا البحث.

وبالنظر إلى ذلك، يرجى الإجابة على أسئلة البحث عن طريق الرد على السؤال الرئيسي للبحث وهو: ما هي العوامل التي تحفز حكومة السلطنة لتطبيق أنظمة الحكومة الإلكترونية؟

لقد تم اختياركم بصفتكم أحد المسؤولين أو ذو العلاقة بقطاع الحكومة الإلكترونية في السلطنة بشكل عام و في هذه الوزارة بشكل خاص. إذا كان مهتماً بمشاركتكم في هذا البحث، فهذا سيعتبر س علاوة على أسئلة المقابلات والتي تراوح مدتها ما يقارب 90 دقيقة، فما إذا كنت مهتماً بموضوع البحث حيث أن إجابتك سوف تساعد في فهم الطرق التي تعود إلى إثراء البحث العلمي والممتلكة العامة للدراسة والمرتبطة بالسلطنة خاصة. كما أود أن أوضح لكم أن نوعية الأسئلة لن تسبب أي إزعاج أو مخاطر ممكنة لكم.
والمعلومات المستخلصة من المقابلات سوف تستخدم لأغراض البحث العلمي فقط ولن يطلع عليها سوى الباحث والمشرفين على البحث. وسوف يتم تخزينها لمدة لا تقل عن خمس سنوات، ومن ثم إتلافها طبقاً لنظام جامعة (RMIT)، وفي حالة نشر نتائج هذه الدراسة سوف يتم المحافظة على سرية المعلومات الشخصية بحيث تضمن عدم ذكر (الاسم، العنوان، اسم الجهة) في نتائج الدراسة أو أي معلومات أخرى قد تتنفس على شخصيته. وللأحق فيما يلي:

- الانسحاب من المقابلة في أي وقت دون موافقة أو شرط.
- سحب أي مواد تم توفيرها لغرض البحث قبل استخدامها.
- الإجابة على استفساراتكم فيما يتعلق بال مقابلة في أي وقت خلال المقابلة.
- الحصول على وقت كافٍ للتحدث عن أي شيء بخصوص المقابلة بعد المقابلة مباشرة.
- إيقاف التسجيل الصوتي ورسسه أو تسجيل في أي مرحلة من مراحل اللقاء.
- اختيار عدم الإجابة على أي سؤال من الأسئلة المطروحة.

إن مساهمكم في هذه الدراسة مفيد ومهم لإكمال دراستي وتعارفنا تحكم مجال احترامي وتقديرني وسيتم التنشئة عن مدى استنادي في رسالة الدكتوراه المكتوبة، وسوف يتم تقييم الوضع في حالة الرفض. وفي حالة الموافقة أرجو إبلاغي عبر بيانات الاتصال المذكورة أعلاه وتحديد موعد ومكان المقابلة المناسب وتعين الاستمارة المرفقة.

وتقبلوا خالص التحية وجل التقدير والاحترام،

<table>
<thead>
<tr>
<th>Investigator الباحث</th>
<th>Senior Supervisor المشرف على البحث</th>
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</thead>
<tbody>
<tr>
<td>Qasim Al-Mamari مرشح للحصول على درجة الدكتوراة</td>
<td>Professor Brian Corbitt بروفسور بران كوربيت</td>
</tr>
<tr>
<td>Business Information System, PhD Candidate</td>
<td>PhD FACS Head of School of Business IT &amp; Logistics</td>
</tr>
<tr>
<td>التوقع:</td>
<td>التوقع:</td>
</tr>
</tbody>
</table>

لاستفسار عن نتائج الدراسة أو لمزيد من المعلومات يمكن الاتصال خلال هذه الفترة على رقم الهاتف (5925 613) أو مراسلتي على البريد الإلكتروني qasim.almamari@rmit.edu.au. وفي حالة الرغبة للتقديم بشكوى حول كيفية إدارة المقابلة الشخصية أمل الاتصال على اللجنة الدائمة لإجراءات البحوث على العنوان التالي:

Business College Human Ethics Advisory Network, College of Business, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is (03) 9925 5598 or email address rdu@rmit.edu.au. Details of the complaints procedure are available from http://www.rmit.edu.au/browse;ID=2jqrnb7hnpyo.
### Appendix C – List of literature surveyed for the extraction of e-Government adoption motives in developing countries.

Factor: Increase citizen participation in decision making (Political Sphere)

<table>
<thead>
<tr>
<th>Paper Reference</th>
<th>Year</th>
<th>Country</th>
<th>Motives</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Stoltzfus 2005)</td>
<td>2005</td>
<td>Namibia</td>
<td>The e-Government initiative was focused on establishing an easy tool for citizens to participate in public consultation in regards to the provisioning or amendment of new laws.</td>
<td>The government launched a website of the parliament with a feature which allows all citizens to provide their comments on proposed laws. This is related to the political sphere of governance.</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>Armenia</td>
<td>As part of the e-Government initiative, the government established a web portal for public consultation.</td>
<td>This is also related to increasing trust in the government and improving the participatory function of governance.</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>Jamaica</td>
<td>The Jamaican government is providing citizens with education in the necessary computer skills to use the new technology to participate in national decision making.</td>
<td>Improving the knowledge of citizens in how to use computer technologies is an essential prerequisite of e-Government success. Otherwise, e-Government services will not be used due to lack of capacity to use them on the citizens’ part.</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>Pakistan</td>
<td>The government developed websites to list the names of officials involved in government corruption and encouraged citizens to participate and react to public legislations.</td>
<td>Increased trust in government can directly affect political stability.</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>China</td>
<td>China started digitalizing the services offered by national and local governments to convey the message that it was receptive and responsive to citizens’ needs in the new technological era.</td>
<td>This is also related to improving the international image and legitimacy of the country.</td>
</tr>
<tr>
<td>Reference</td>
<td>Year</td>
<td>Country</td>
<td>Description</td>
<td>Additional Information</td>
</tr>
<tr>
<td>----------------------------</td>
<td>------</td>
<td>---------</td>
<td>------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>(Ochara 2009)</td>
<td>2009</td>
<td>Kenya</td>
<td>One of the main motives of the Kenyan e-Government initiative was related to creating a convenient and accessible forum for citizens participation in decision making.</td>
<td>This is also related to improving democracy and representation of citizens’ opinions in decision making.</td>
</tr>
<tr>
<td>(Furuholt &amp; Wahid 2008)</td>
<td>2008</td>
<td>Indonesia</td>
<td>The initiative was mainly focused on enabling the decentralization of decision making.</td>
<td>Decentralisation of decision making is also related to improving democratic practices.</td>
</tr>
<tr>
<td>(Rose 2004)</td>
<td>2004</td>
<td>Indonesia</td>
<td>To support good governance in general.</td>
<td>Good governance is a term that has been promoted by multilateral organisations such as the UN and the World Bank.</td>
</tr>
<tr>
<td>(Heeks 2001)</td>
<td>2001</td>
<td>Uganda</td>
<td>E-Government adoption was considered as a tool of improving democratic and parliamentary functions.</td>
<td>This is related to the improvement of representation of citizens needs in the parliamentary avenues.</td>
</tr>
<tr>
<td>(Kunstelj &amp; Deman 2005)</td>
<td>2005</td>
<td>Slovenia</td>
<td>To improve the decision-making processes by increasing citizens participation.</td>
<td>This is related to the political sphere of government especially the constituent representation feature.</td>
</tr>
<tr>
<td>(Lee &amp; Lee 2009)</td>
<td>2009</td>
<td>Korea</td>
<td>To increase democracy and promote participatory government.</td>
<td>Same as the above (S/A).</td>
</tr>
<tr>
<td>Paper Reference</td>
<td>Year</td>
<td>Country</td>
<td>Summary</td>
<td>Remarks</td>
</tr>
<tr>
<td>----------------------------</td>
<td>------</td>
<td>------------</td>
<td>-------------------------------------------------------------------------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>(Zhou 2004)</td>
<td>2004</td>
<td>China</td>
<td>The use of ICT in public service delivery was perceived as enhancing to the country’s international image.</td>
<td>Improve country’s international image.</td>
</tr>
<tr>
<td>(Ochara 2009)</td>
<td>2009</td>
<td>Kenya</td>
<td>Increase the competitiveness of the Kenyan economy through improving information quality and timeliness and reforming public services</td>
<td>Improve economic competitiveness.</td>
</tr>
<tr>
<td>(Gupta &amp; Jana 2003)</td>
<td>2003</td>
<td>India</td>
<td>Broadcast a legitimate image of the country and maintain a level of competitiveness by being up to date with the technology.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Yildiz 2003)</td>
<td>2003</td>
<td>Turkey</td>
<td>Many e-Government initiatives were introduced to convey a favourable image of organisations.</td>
<td>Concerns over national and international legitimacy of public sector organisations.</td>
</tr>
<tr>
<td>(Sharifi &amp; Zarei 2004)</td>
<td>2004</td>
<td>Iran</td>
<td>To maintain a level of competitiveness of the country.</td>
<td>International economic competitiveness.</td>
</tr>
<tr>
<td>(Mofleh 2008)</td>
<td>2008</td>
<td>Jordan</td>
<td>E-Government was considered as an apparatus of transforming the economy to become a knowledge-based economy and to make Jordan the IT hub of the Middle East.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Faniran &amp; Olaniyan 2009)</td>
<td>2009</td>
<td>Nigeria</td>
<td>External pressure from international community to combat fraud in passport system</td>
<td>Coercive institutional pressure.</td>
</tr>
<tr>
<td>(Kostopoulos 2004)</td>
<td>2004</td>
<td>Arabian Gulf</td>
<td>Attract foreign investment through transparency and accountability.</td>
<td>Improve the competitive advantage of these countries.</td>
</tr>
</tbody>
</table>
### Factor: Seeking Legitimacy and Financial Competitiveness (Institutional Theory)

<table>
<thead>
<tr>
<th>Paper Reference</th>
<th>Year</th>
<th>Country</th>
<th>Summary</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Balci et al. 2008)</td>
<td>2008</td>
<td>Turkey</td>
<td>Conforming to EU standards in order to join the EU.</td>
<td>Conformity to international standards.</td>
</tr>
<tr>
<td>(Çayhan 2008)</td>
<td>2008</td>
<td>Turkey</td>
<td>Conform to EU standards to satisfy the objectives of the Lisbon Strategy.</td>
<td>Conformity to international standards.</td>
</tr>
<tr>
<td>(Sambuu, Tudevdagva, &amp; Erdene 2008)</td>
<td>2008</td>
<td>Mongolia</td>
<td>To enhance the competitiveness of the national economy.</td>
<td>International economic competitiveness.</td>
</tr>
<tr>
<td>(Chan, Lau, &amp; Pan 2008)</td>
<td>2008</td>
<td>Singapore</td>
<td>To utilise the potentials of ICTs technologies in transforming the economy to become a world-class knowledge-based economy.</td>
<td>To transform the economy to become knowledge-based economy.</td>
</tr>
</tbody>
</table>

### Factor: Enhance Accountability, Efficiency and Cost-Effectiveness / Administrative Performance Reform

<table>
<thead>
<tr>
<th>Paper Reference</th>
<th>Year</th>
<th>Country</th>
<th>Summary</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Lee &amp; Lee 2009)</td>
<td>2009</td>
<td>Korea</td>
<td>To improve record management mechanisms benefiting from the modern developments of ICTs.</td>
<td>Improve the efficiency and productivity of government functions.</td>
</tr>
<tr>
<td>(Yildiz 2004)</td>
<td>2004</td>
<td>Turkey</td>
<td>To improve the functions of expenditure control.</td>
<td>Enhance accountability and reduce operation costs.</td>
</tr>
<tr>
<td>(Sharifi &amp; Zarei 2004)</td>
<td>2004</td>
<td>Iran</td>
<td>To streamline collaboration activities between government departments in relation to public service delivery.</td>
<td>To improve performance of the government after the president requested for the supply of digitized information.</td>
</tr>
</tbody>
</table>
### Factor: Enhance Accountability, Efficiency and Cost-Effectiveness / Administrative Performance Reform

<table>
<thead>
<tr>
<th>Study Details</th>
<th>Year</th>
<th>Country</th>
<th>Objectives</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Blakemore &amp; Dutton 2003)</td>
<td>2003</td>
<td>Jordan</td>
<td>Increase availability of information related to government activities which will also increase transparency.</td>
<td>Reduce time and cost of service delivery and attainment for both the government and citizens.</td>
</tr>
<tr>
<td>(Doychinov 2002)</td>
<td>2002</td>
<td>Bulgaria</td>
<td>To reform the public sector and use modern tools in public administration</td>
<td>Efficiency was to be improved through facilitating the seamless and timely flow of information between government departments.</td>
</tr>
<tr>
<td>(H. Kim, Pan, &amp; Pan 2007)</td>
<td>2007</td>
<td>South Korea</td>
<td>To improve the flow of information between government departments and streamline government functions.</td>
<td>Improve the efficiency and performance of government departments.</td>
</tr>
<tr>
<td>(Furuhol and Wahid 2008)</td>
<td>2008</td>
<td>Indonesia</td>
<td>To improve accountability, transparency, and good governance.</td>
<td>This is related to the political and administrative sphere of governance.</td>
</tr>
<tr>
<td>(Owei, Bada, &amp; Aniebonam 2006)</td>
<td>2006</td>
<td>Senegal</td>
<td>To facilitate good governance.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Macueve 2006)</td>
<td>2006</td>
<td>Mozambique</td>
<td>To facilitate public administrative reform.</td>
<td>This is related to the administrative sphere of governance.</td>
</tr>
<tr>
<td>(Ndou 2004)</td>
<td>2004</td>
<td>Jamaica, Philippines, &amp; Guatemala</td>
<td>To improve the function of tax administration.</td>
<td>This is related to the economic sphere of governance.</td>
</tr>
<tr>
<td>(Joia 2004)</td>
<td>2004</td>
<td>Brazil</td>
<td>To facilitate cost reduction in government operations and improve collaboration between government departments</td>
<td>To increase the responsiveness of government departments to requests from constituents.</td>
</tr>
<tr>
<td>(ElKadi &amp; Alabdlsalam 2007)</td>
<td>2007</td>
<td>Egypt</td>
<td>To enhance the development of a decision support system.</td>
<td>Increase the efficiency and effectiveness of economic decision making.</td>
</tr>
<tr>
<td>(Al-shehry, Rogerson, Fairweather, &amp; Prior 2006)</td>
<td>2006</td>
<td>Saudi Arabia</td>
<td>To facilitate public sector reform.</td>
<td>This is related to the administrative sphere of governance.</td>
</tr>
<tr>
<td>(Schuppan 2009)</td>
<td>2009</td>
<td>Ghana</td>
<td>To improve the bureaucracy of government functions</td>
<td>S/A</td>
</tr>
<tr>
<td>(Schuppan 2009)</td>
<td>2009</td>
<td>Tanzania</td>
<td>To increase the efficiency of the taxation system</td>
<td>This is related to the economic and civil society spheres of governance.</td>
</tr>
<tr>
<td>(Bwalya 2009)</td>
<td>2009</td>
<td>Zambia</td>
<td>To improve interactions with citizens and improve effectiveness of the healthcare system.</td>
<td>This is related to the civil society sphere of governance.</td>
</tr>
<tr>
<td>(C. Dreyfuss 2002)</td>
<td>2002</td>
<td>Brazil</td>
<td>To boost competition between the government’s private vendors, thereby reducing cost of public procurement.</td>
<td>This is related to the economic sphere of governance.</td>
</tr>
<tr>
<td>(Phusavat &amp; Anussornnitisarn 2008)</td>
<td>2008</td>
<td>Thailand</td>
<td>To reform the public sector and improve its performance.</td>
<td>This is related to the administrative sphere of governance.</td>
</tr>
<tr>
<td>(Kaaya 2004)</td>
<td>2004</td>
<td>Kenya</td>
<td>To enhance the transparency and accountability of the government.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Kaaya 2004)</td>
<td>2004</td>
<td>Uganda</td>
<td>Improve collaboration between government departments.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Kaaya 2004)</td>
<td>2004</td>
<td>Tanzania</td>
<td>To promote good governance</td>
<td>This is related to the political, administrative, and economic spheres of governance.</td>
</tr>
<tr>
<td>(Faniran &amp; Olaniyan 2009)</td>
<td>2009</td>
<td>Nigeria</td>
<td>To improve the efficiency of public service.</td>
<td>This is related to the civil society sphere of governance.</td>
</tr>
<tr>
<td>(Mahmood 2007)</td>
<td>2007</td>
<td>Dubai</td>
<td>To reduce government operations costs and benefit from ICTs tools used in the private sector.</td>
<td>This is related to the economic sphere of governance.</td>
</tr>
<tr>
<td>Study</td>
<td>Year</td>
<td>Country</td>
<td>Objective</td>
<td>Sectors Impacted</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
<td>---------</td>
<td>-----------</td>
<td>-----------------</td>
</tr>
<tr>
<td>(Al-Shafi &amp; Weerakkody 2007)</td>
<td>2007</td>
<td>Qatar</td>
<td>Improve government transactions based on a common platform of collaboration between various government departments.</td>
<td>This is related to the administrative sphere of governance.</td>
</tr>
<tr>
<td>(Waema &amp; Mitullah 2007)</td>
<td>2007</td>
<td>Kenya</td>
<td>To promote productivity of civil service employees.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Adhikari 2009)</td>
<td>2009</td>
<td>Nepal</td>
<td>Improve information sharing between government departments</td>
<td>This is related to information quality.</td>
</tr>
<tr>
<td>(Sambuu et al. 2008)</td>
<td>2008</td>
<td>Mongolia</td>
<td>To improve the efficiency and transparency of the government.</td>
<td>This is related to the political and administrative spheres of governance.</td>
</tr>
<tr>
<td>(Naranmandakh 2009)</td>
<td>2009</td>
<td>Mongolia</td>
<td>To improve transparency, accountability and efficiency of public service delivery.</td>
<td>This related to the political, administrative, civil society spheres of governance.</td>
</tr>
<tr>
<td>(Saha 2009)</td>
<td>2009</td>
<td>Singapore</td>
<td>To improve the efficiency and effectiveness of government services.</td>
<td>This is related to the administrative and civil society spheres of governance.</td>
</tr>
<tr>
<td>(Kaliannan, Awang, &amp; Raman 2007)</td>
<td>2007</td>
<td>Malaysia</td>
<td>Improve the productivity of government departments and enhance the efficiency of service delivery.</td>
<td>This is related to the administrative and civil society spheres of governance. It is also related to information quality.</td>
</tr>
<tr>
<td>(Bhuiyan 2009)</td>
<td>2009</td>
<td>Kazakhstan</td>
<td>To improve the efficiency of public services.</td>
<td>This is related to the civil society spheres of governance.</td>
</tr>
<tr>
<td>(Kaaya 2009)</td>
<td>2009</td>
<td>Tanzania</td>
<td>To support decision making through the supply of accurate and timely information.</td>
<td>This is related to the administrative sphere as well as information quality.</td>
</tr>
<tr>
<td>(Heeks 2001)</td>
<td>2001</td>
<td>Egypt</td>
<td>To reduce the cost of government operations.</td>
<td>This is related to the economic sphere of governance.</td>
</tr>
<tr>
<td>(Heeks 2001)</td>
<td>2001</td>
<td>Tanzania</td>
<td>To improve the management of government process performance.</td>
<td>This is related to the administrative sphere of governance.</td>
</tr>
<tr>
<td>Reference</td>
<td>Year</td>
<td>Country</td>
<td>Objective</td>
<td>Relation to Spheres of Governance</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>------</td>
<td>---------</td>
<td>---------------------------------------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>(Heeks 2001)</td>
<td>2001</td>
<td>China</td>
<td>To improve collaboration between various government departments</td>
<td>Related to the administrative sphere.</td>
</tr>
<tr>
<td>(Kumar 2003)</td>
<td>2003</td>
<td>India</td>
<td>To support seamless collaboration between government departments.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Kettani, Moulin, Gurstein, &amp; El Mahdi 2008)</td>
<td>2008</td>
<td>Morocco</td>
<td>To improve governance practices.</td>
<td>Related to the three spheres of governance: political, administrative, and civil society.</td>
</tr>
<tr>
<td>(Çayhan 2008)</td>
<td>2008</td>
<td>Turkey</td>
<td>To reduce the digital divide and improve the efficiency and productivity of government functions.</td>
<td>S/A</td>
</tr>
<tr>
<td>(de Vasconcellos &amp; das Graças Rua 2005)</td>
<td>2005</td>
<td>Brazil</td>
<td>Improve the efficiency and productivity of the national tax filing system.</td>
<td>Related to the administrative sphere.</td>
</tr>
<tr>
<td>(Ma, Chung, &amp; Thorson 2005)</td>
<td>2005</td>
<td>China</td>
<td>To enable administrative reform.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Chan et al. 2008)</td>
<td>2008</td>
<td>Singapore</td>
<td>Reducing cost of paper-based processing and improve collaboration between government departments</td>
<td>Related to the administrative and economic spheres of governance. It is also related to the information quality dimension.</td>
</tr>
<tr>
<td>(Al Nagi &amp; Hamdan 2009)</td>
<td>2009</td>
<td>Jordan</td>
<td>Improve the efficiency of public services.</td>
<td>Related to the civil society sphere.</td>
</tr>
<tr>
<td>(Terpsiadou &amp; Economides 2009)</td>
<td>2009</td>
<td>Greece</td>
<td>To improve the processes of the Ministry of Finance</td>
<td>Related to the administrative sphere.</td>
</tr>
<tr>
<td>(Lee &amp; Lee 2009)</td>
<td>2009</td>
<td>Korea</td>
<td>Improve government transparency</td>
<td>Related to the administrative and civil society spheres of governance.</td>
</tr>
<tr>
<td>(Klischewski &amp; Abubakr 2010)</td>
<td>2010</td>
<td>Egypt</td>
<td>To improve the efficiency of resource allocations to different projects within the government and save operation costs.</td>
<td>Related to the administrative and economic spheres of governance.</td>
</tr>
</tbody>
</table>
### Factor: Enhance Accountability, Efficiency and Cost-Effectiveness / Administrative Performance Reform

<table>
<thead>
<tr>
<th>Paper Reference</th>
<th>Year</th>
<th>Country</th>
<th>Summary</th>
<th>Remarks</th>
</tr>
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<tbody>
<tr>
<td>(Abdelsalam &amp; ElKadi 2007)</td>
<td>2007</td>
<td>Egypt</td>
<td>Reform government processes based on business process re-engineering.</td>
<td>This is related to the administrative sphere of governance.</td>
</tr>
<tr>
<td>(Darwish, 2008)</td>
<td>2008</td>
<td>Egypt</td>
<td>To reform government processes based on enterprise resource planning</td>
<td>S/A</td>
</tr>
<tr>
<td>(Abusin 2007)</td>
<td>2007</td>
<td>Sudan</td>
<td>To improve the accountability of government departments enhance inclusiveness</td>
<td>This is related to the administrative and the civil society spheres of governance.</td>
</tr>
<tr>
<td>(Eldresi, Adams, &amp; Sweisi 2008)</td>
<td>2008</td>
<td>Libya</td>
<td>To improve government accountability and citizens’ trust.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Ouerghi 2007)</td>
<td>2007</td>
<td>Tunisia</td>
<td>To facilitate collaboration between government agencies.</td>
<td>This is related to the administrative sphere of governance. It is also related to service quality.</td>
</tr>
<tr>
<td>(Gasmelseid 2009)</td>
<td>2009</td>
<td>Sudan</td>
<td>Increase the quality and production of government agencies.</td>
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### Factor: Enhance citizens’ satisfaction/trust in government/control corruption

<table>
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<tr>
<th>Paper Reference</th>
<th>Year</th>
<th>Country</th>
<th>Summary</th>
<th>Remarks</th>
</tr>
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<tbody>
<tr>
<td>(Zheng 2007)</td>
<td>2007</td>
<td>China</td>
<td>Improve citizens’ trust.</td>
<td>This is related to the civil society sphere of governance.</td>
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<tr>
<td>(Bhattarai &amp; Gupta 2008)</td>
<td>2008</td>
<td>Nepal</td>
<td>To use e-Government as a building block of a Knowledge-Based society</td>
<td>This is related to the economic sphere of governance.</td>
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<tr>
<td>(Blakemore &amp; Dutton 2003) (Basu 2004)</td>
<td>2003</td>
<td>Jordan</td>
<td>Improving the means of interactions with citizens and reducing time for public service attainment.</td>
<td>This related to the civil society sphere of governance as well as service quality.</td>
</tr>
<tr>
<td>(H. Kim et al. 2007)</td>
<td>2007</td>
<td>South Korea</td>
<td>Improve the efficiency and effectiveness of public services.</td>
<td>S/A</td>
</tr>
<tr>
<td>Year</td>
<td>Country/Region</td>
<td>Goals</td>
<td>Comments</td>
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<tr>
<td>2002</td>
<td>Chile</td>
<td>To promote the use of knowledge in decision making.</td>
<td>This is related to the administrative sphere of governance and quality of information.</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>India, Brazil &amp; China</td>
<td>Enhance Service delivery to citizens and businesses.</td>
<td>This is related to the economic and civil society spheres of governance.</td>
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<tr>
<td>2004</td>
<td>Columbia</td>
<td>Empower citizens through improving accessibility to information</td>
<td>This is related to the civil society sphere of governance.</td>
<td></td>
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<tr>
<td>2007</td>
<td>Zambia</td>
<td>Create more jobs and leverage poverty</td>
<td>S/A</td>
<td></td>
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<tr>
<td>2003</td>
<td>India</td>
<td>Improve the quality of public services</td>
<td>This is related to service quality and the civil society sphere of governance.</td>
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<tr>
<td>2008</td>
<td>India</td>
<td>Enhance the transparency and reliability of public services.</td>
<td>This is related to the service quality and the civil society sphere of governance.</td>
<td></td>
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<tr>
<td>2006</td>
<td>Saudi Arabia</td>
<td>To meet citizen’s needs.</td>
<td>This is related to service quality.</td>
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<tr>
<td>2009</td>
<td>Tanzania</td>
<td>To enhance the interaction between citizens and the government.</td>
<td>This is related to the civil society sphere of governance.</td>
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<tr>
<td>2009</td>
<td>Kenya</td>
<td>Empower citizens through allowing them to report corruption anonymously.</td>
<td>This is related to the civil society as well as economic spheres of governance.</td>
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<tr>
<td>2009</td>
<td>Zambia</td>
<td>To improve citizens’ involvement in decision making.</td>
<td>This is related to the civil society sphere of governance.</td>
<td></td>
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<tr>
<td>2008</td>
<td>Thailand</td>
<td>To increase citizen’s participation in measuring the performance of government agencies.</td>
<td>Increase public accessibility of government organizations’ information.</td>
<td></td>
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<tr>
<td>2004</td>
<td>Kenya</td>
<td>To improve the efficiency of public service delivery</td>
<td>This is related to service quality and the civil society sphere of governance.</td>
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<tr>
<td>Factor: Enhance citizens’ satisfaction/trust in government/control corruption</td>
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<td></td>
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<tr>
<td>(Faniran &amp; Olaniyan 2009)</td>
<td>2009 Nigeria</td>
<td>To improve public service delivery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Al-Shafi &amp; Weerakkody 2007)</td>
<td>2007 Qatar</td>
<td>To improve accessibility of public services.</td>
<td></td>
<td></td>
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<tr>
<td>(Balci et al. 2008)</td>
<td>2008 Turkey</td>
<td>To improve citizen satisfaction with public services and to improve inclusiveness.</td>
<td></td>
<td></td>
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<tr>
<td>(Waema &amp; Mitullah 2007)</td>
<td>2007 Kenya</td>
<td>To improve the efficiency of service and information delivery to citizens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Adhikari 2009)</td>
<td>2009 Nepal</td>
<td>To improve the efficiency of service delivery to citizens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Sambuu et al. 2008)</td>
<td>2008 Mongolia</td>
<td>To increase participation of citizens in decision making and to enhance quality of civil services.</td>
<td></td>
<td></td>
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<tr>
<td>(Naranmandakh 2009)</td>
<td>2009 Mongolia</td>
<td>Increase the trust between government and citizens.</td>
<td></td>
<td></td>
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<tr>
<td>(Bhuiyan 2009)</td>
<td>2009 Kazakhstan</td>
<td>To offer fast and quality access to public services.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Bhuiyan 2009)</td>
<td>2009 Kazakhstan</td>
<td>To enhance economic growth and leverage poverty.</td>
<td></td>
<td></td>
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<tr>
<td>(Heeks 2001)</td>
<td>2001 Honduras</td>
<td>To strengthening the relationship between the civil society and the government.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Kaaya 2009)</td>
<td>2009 Tanzania</td>
<td>To empower citizens and improve their interaction with the government.</td>
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<tr>
<td>(Heeks 2001)</td>
<td>2001 South Africa</td>
<td>To empower citizens and meet their needs.</td>
<td></td>
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<tr>
<td>(Heeks 2001)</td>
<td>2001 South Korea</td>
<td>To improve the interaction and communication with citizens.</td>
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<td>Factor: Enhance citizens’ satisfaction/trust in government/control corruption</td>
<td>Year</td>
<td>Country</td>
<td>Purpose</td>
<td>Notes</td>
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<td>---</td>
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<tr>
<td>(Heeks 2001)</td>
<td>2001</td>
<td>Chile</td>
<td>Improving the quality of public services</td>
<td>This is related to service quality and the civil society sphere of governance.</td>
</tr>
<tr>
<td>(Kumar 2003)</td>
<td>2003</td>
<td>India</td>
<td>To establish an online one-stop-shop for government services.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Kettani, et al. 2008)</td>
<td>2008</td>
<td>Morocco</td>
<td>To meet citizens needs and improve communication with citizens.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Çayhan 2008)</td>
<td>2008</td>
<td>Turkey</td>
<td>To provide the citizens and businesses with better and faster public services.</td>
<td>S/A</td>
</tr>
<tr>
<td>(de Vasconcellos &amp; das Graças Rua 2005)</td>
<td>2005</td>
<td>Brazil</td>
<td>To provide convenient and more accessible public services.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Kunstelj &amp; De man 2005)</td>
<td>2005</td>
<td>Slovenia</td>
<td>To improve community development and to improve the living standards of citizens.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Al Nagi &amp; Hamdan 2009)</td>
<td>2008</td>
<td>Jordan</td>
<td>To facilitate social development</td>
<td>S/A</td>
</tr>
<tr>
<td>(Terpsiadou &amp; Economides 2009)</td>
<td>2009</td>
<td>Greece</td>
<td>To provide better and faster public services.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Klischewski &amp; Abubakr 2010)</td>
<td>2010</td>
<td>Egypt</td>
<td>To develop an online one-stop-shop of public services.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Abdelsalam &amp; ElKadi 2007)</td>
<td>2007</td>
<td>Egypt</td>
<td>To improve the accessibility and quality of public services.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Darwish 2008)</td>
<td>2008</td>
<td>Egypt</td>
<td>To use electronic channels for public service delivery.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Ouerghi 2007)</td>
<td>2007</td>
<td>Tunisia</td>
<td>To support the accessibility of government services to citizens.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Tunisia 2010)</td>
<td>2010</td>
<td>Tunisia</td>
<td>To improve the relationship between citizens and the government.</td>
<td>This is related to the civil society sphere of governance.</td>
</tr>
<tr>
<td>(Gasmelseid 2009)</td>
<td>2009</td>
<td>Sudan</td>
<td>To improve the delivery of information to citizens.</td>
<td>This is related to the civil society sphere of governance as well as information quality.</td>
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<td>----------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>(Yildiz 2004)</td>
<td>2004</td>
<td>Turkey</td>
<td>To curb corruption.</td>
<td>This is related to the inspectability element of the administrative sphere of governance.</td>
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<tr>
<td>(Sharifi &amp; Zarei 2004)</td>
<td>2004</td>
<td>Iran</td>
<td>To increase control over government departments processes.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Jenkins 2002)</td>
<td>2002</td>
<td>India</td>
<td>To control revenue leakage.</td>
<td>This is related to the inspectability element of the administrative sphere of governance.</td>
</tr>
<tr>
<td>(S. Kim, Kim, &amp; Lee 2009)</td>
<td>2009</td>
<td>South Korea</td>
<td>To control corruption</td>
<td>S/A</td>
</tr>
<tr>
<td>(Ndou 2004)</td>
<td>2004</td>
<td>Philippines, Argentina &amp; Chile</td>
<td>To control Corruption.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Al-shehry, et al. 2006)</td>
<td>2006</td>
<td>Saudi Arabia</td>
<td>To eliminate Corruption</td>
<td>S/A</td>
</tr>
<tr>
<td>(Schuppan 2009)</td>
<td>2009</td>
<td>Kenya</td>
<td>To enable citizens to report on corruption.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Faniran &amp; Olaniy 2009)</td>
<td>2009</td>
<td>Nigeria</td>
<td>To control passport fraud and corruption.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Bhuiyan, 2009)</td>
<td>2009</td>
<td>Kazakhstan</td>
<td>To combat corruption.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Terpsiadou &amp; Economides 2009)</td>
<td>2009</td>
<td>Greece</td>
<td>To eliminate tax evasion</td>
<td>S/A</td>
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<tr>
<td>(Klischewski &amp; Abubakr 2010)</td>
<td>2010</td>
<td>Egypt</td>
<td>To control corruption</td>
<td>S/A</td>
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## Factor: Mimicking other governments or organisations

<table>
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<th>Year</th>
<th>Country</th>
<th>Summary</th>
<th>Remarks</th>
</tr>
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<tbody>
<tr>
<td>(Yildiz 2004)</td>
<td>2004</td>
<td>Turkey</td>
<td>Mimicking other countries of the European Union</td>
<td>This is related to institutional mimetic institutional isomorphism.</td>
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<tr>
<td>(S. Kim, et al. 2009)</td>
<td>2009</td>
<td>South Korea</td>
<td>Mimicking progress in private organisations to improve transparency.</td>
<td>S/A</td>
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<tr>
<td>(Al-shehry et al. 2006)</td>
<td>2006</td>
<td>Saudi Arabia</td>
<td>To match advances in other countries.</td>
<td>S/A</td>
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<tr>
<td>(Balci, et al. 2008)</td>
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<td>To adhere to the EU standards</td>
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## Factor: Economic Development

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<th>Year</th>
<th>Country</th>
<th>Summary</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>(Zheng 2007)</td>
<td>2007</td>
<td>China</td>
<td>To facilitate effective communication between the government and businesses.</td>
<td>This is related to the economic sphere of governance. It is also specific to the country’s needs.</td>
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<tr>
<td>(S. Kim, et al. 2009)</td>
<td>2009</td>
<td>South Korea</td>
<td>To improve transparency.</td>
<td>S/A</td>
</tr>
<tr>
<td>(Silva &amp; Figueroa 2002)</td>
<td>2002</td>
<td>Chile</td>
<td>To promote e-commerce and e-business.</td>
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<tr>
<td>(Owei, et al. 2006)</td>
<td>2006</td>
<td>Senegal</td>
<td>To support Economic Growth</td>
<td>S/A</td>
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<tr>
<td>(Weerakkody et al. 2007)</td>
<td>2007</td>
<td>Zambia</td>
<td>To enhance social and economic development.</td>
<td>S/A</td>
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<tr>
<td>(Gupta &amp; Jana 2003)</td>
<td>2003</td>
<td>India</td>
<td>To facilitate economic growth and revenue generation.</td>
<td>S/A</td>
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<tr>
<td>(Al-shehry et al. 2006)</td>
<td>2006</td>
<td>Saudi Arabia</td>
<td>To enhance economic growth.</td>
<td>S/A</td>
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<tr>
<td><strong>(Kanaan, Fidler, Rogerson, Date, &amp; Exports 2008)</strong></td>
<td>2008</td>
<td>Jordan</td>
<td>E-Government was related to an economic growth strategy.</td>
<td>S/A</td>
</tr>
<tr>
<td><strong>(Bwalya 2009)</strong></td>
<td>2009</td>
<td>Zambia</td>
<td>To improve the experience of travellers visiting Zambia.</td>
<td>S/A</td>
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<tr>
<td><strong>(C. Dreyfuss 2002)</strong></td>
<td>2002</td>
<td>Brazil</td>
<td>To reduce the cost of government procurement.</td>
<td>S/A</td>
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<tr>
<td><strong>(Waema &amp; Mitullah 2007)</strong></td>
<td>2007</td>
<td>Kenya</td>
<td>To create more jobs to citizens.</td>
<td>This is related to the economic sphere and the civil society spheres of governance.</td>
</tr>
<tr>
<td><strong>(Adhikari 2009)</strong></td>
<td>2009</td>
<td>Nepal</td>
<td>To improve economic conditions of rural communities.</td>
<td>S/A</td>
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<tr>
<td><strong>(Heeks 2001)</strong></td>
<td>2001</td>
<td>Philippines</td>
<td>To facilitate better communication between the government and business firms.</td>
<td>S/A</td>
</tr>
<tr>
<td><strong>(Heeks 2001)</strong></td>
<td>2001</td>
<td>India</td>
<td>To improve the development of rural communities.</td>
<td>S/A</td>
</tr>
<tr>
<td><strong>(de Vasconcellos &amp; das Graças Rua 2005)</strong></td>
<td>2005</td>
<td>Brazil</td>
<td>To stimulate voluntary tax compliance.</td>
<td>S/A</td>
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<tr>
<td><strong>(Ma, et al., 2005)</strong></td>
<td>2005</td>
<td>China</td>
<td>To promote economic growth</td>
<td>This is related to the economic sphere of governance.</td>
</tr>
<tr>
<td><strong>(Al Nagi &amp; Hamdan 2009)</strong></td>
<td>2009</td>
<td>Jordan</td>
<td>To improve economic growth.</td>
<td>S/A</td>
</tr>
<tr>
<td><strong>(Tunisia 2010)</strong></td>
<td>2010</td>
<td>Tunisia</td>
<td>To improve the competitiveness of the Tunisian’s economy</td>
<td>S/A</td>
</tr>
<tr>
<td><strong>(Gasmelseid 2009)</strong></td>
<td>2009</td>
<td>Sudan</td>
<td>To create jobs for citizens</td>
<td>This is related to the economic sphere and the civil society spheres of governance.</td>
</tr>
</tbody>
</table>
Appendix D - Interview Questions (English)

1. In your opinion, why did your organisation pursue e-Government projects?
2. What are the benefits expected from implementing e-Government in your organization?
3. Do you consider these benefits as a driver for implementing e-Government and/or improving its use in your organisation?
4. What were the aims of implementing e-Government in your organization?
5. How was the implementation of e-Government in your organisation planned? (Vision and mission statements).
6. What are the external and internal factors that affected the implementation of e-Government in your organization?
7. In your opinion, what are the factors that would motivate your organisation and other public organisations to implement e-Government?
8. Has there been any change in the direction of adopting e-Government in your organisation throughout the course of implementation and for what reasons?
9. How do you evaluate implementation progress in your organisation as compared to implementation efforts in other public organisations?
10. In your opinion, why do you think the Omani government, in general, is interested in implementing e-Government?
11. Is your organisation required to share information electronically or manually with other public organisations?
12. Is your organisation mandated to implement e-Government services? And is the implementation evaluated by other organisations?
13. How is e-Government implementation in your organisation different from other Information Technology projects?
14. In your opinion, do implementation plans of e-Government change when the project leader is changed? Or does it remain unchanged within the general activities of the organisation?
15. How does the adoption of e-Government relate to the political, economic, and civil society sphere of the government?
16. In your opinion, are there any factors specific to Oman as compared to other countries which motivated the government to implement e-Government?
17. Finally, how do you see e-Government in Oman 5 years from now?