A Case Study of Drivers and Barriers to E-Government Initiative in Jordan

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List of Abbreviations

ATM: Automated Teller Machine
B2B: Business to Business
B2C: Business to Citizen
B2E: Business to Employee
B2G: Business to Government
BPR: Business Process Re-engineering
C2C: Citizen to Citizen
C2G: Citizen to Government
CERT: Computer Emergency Response Team
CIO: Chief Information Officer
CJI: Connecting Jordanians Initiative
E-commerce: Electronic commerce
E-conferences: Electronic conferences
E-democracy: Electronic democracy
E-dreams: Electronic dreams
E-governance: Electronic governance
E-government: Electronic government
E-inclusion: Electronic inclusion
E-initiatives: Electronic initiatives
E-laws: Electronic laws
E-mails: Electronic mails
E-management: Electronic management

E-services: Electronic services

G2B: Government to Business

G2C: Government to Citizen

G2E: Government to Employee

G2G: Government to Government

G2N: Government to Non-profit

G2NGO: Government to Non-Governmental Organizations

G2NPO: Government to Non-Profit Organizations

GAM: Government Adoption Model

GDP: Gross Domestic Product

I-governance: Integrated governance

ICDL: International Computer Driving License

ICT: Information and Communication Technologies

IEE: Intra-government internal Efficiency and Effectiveness

IMF: International Monetary Fund

IS: Information Systems

IT: Information Technology

ITPOSMO: Information, Technology, Processes, Objectives and values, Staffing and skills, Management systems and structures, Other resources

JD: Jordanian Dinar

JDS: Jordan Data Systems
JITCC: Jordan Information Technology Community Centres

MENA: Middle East and North Africa

MoI: Ministry of Industry and Trade

MoICT: Ministry of Information and Communication Technologies

MoP: Ministry of Planning

N2G: Non-profit to Government

NGO: Non Government Organization

NPM: New Public Management

PC: Personal Computer

PESTLE: Political, Economical, Social, Technological, Legal, Environmental

PhD: Doctor of Philosophy

REACH: Regulatory framework; Estate; Advancement programmes; Capital; Human resources development

RFP: Request For Proposal

SGN: Secured Government Network

SMS: Short Message Service

STS: Specialized Technical Services

UK: United Kingdom

US: United States

USA: United States of America

USD: United States Dollars

WAP: Wireless Application Protocol

WTO: World Trade Organization
Abstract
The University of Manchester
Sahar Safwan Khasawneh-Jalghoum
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A Case Study of Drivers and Barriers to e-government initiative in Jordan
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E-government, in both developed and developing countries, has become the focus of governments’ agenda because it offers enormous opportunities to reform the public sector and improve its performance. However, the evolution of e-government initiatives in developing countries is not at a satisfactory level which indicates that there are still enormous barriers and concerns that need to be addressed and solved.

The major aim of this research is to investigate the supply-side stakeholders’ perspectives of drivers and barriers forces that stimulate or impede the development of e-government initiative in Jordan and recommend strategies to e-government leaders on how to overcome and manage the encountered forces.

This is a case study based qualitative research that employs semi-structured interviews as the primary source for data collection. In addition, template analysis approach and NVivo qualitative software have been used to analyze the gathered data. Moreover, a novel conceptual framework was initially developed by the researcher in order to be used as a helpful guide in the process of data collection and analysis. The framework was then applied to the research context to establish an overall view of the key drivers and barriers that influence the implementation of e-government at national level in Jordan.

Research findings indicate that there are various drivers and barriers that affect the development of e-government initiative in Jordan. Most of the research findings confirmed what was already revealed by previous studies. However, this study added new and unique findings that were not discovered before including; The Holy Month of Ramadan, Ministers Reshuffling, Religious Beliefs, Preach Without Practicing, Wasta, and Improper Use of Technology. These new findings emerged distinctively from the Jordanian, Arabic and Islamic contexts. Finally, various recommendations have been proposed to demonstrate how challenges could be handled in practice.

The value of this study is threefold. First, it contributes as new reference in e-government literature with respect to drivers and barriers to e-government in developing countries in general and in Arab nations in particular. Second, it proposes a conceptual framework that could be used as a tool to understand drivers and barriers that affect the development of e-government and their correlation to e-government initiatives success or failure. Third, it motivates changes in practice as it provides practical recommendations and guidance for practitioners and leaders of e-government in Jordan on how they should take actions to overcome and manage the encountered forces in order to reduce the possibility of the initiative failure and enhance the chance of its success.
Declaration

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning

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1) Chapter One, Area of Concern

1.1 Introduction

The remarkable question these days is not who has a website but it is simply who doesn’t? One of the extraordinary phenomena occurring recently is that the ubiquitous Internet is encroaching upon every part of our lives and causing fundamental changes in both private and public sectors. It is consequently very apparent that various institutions have been transforming the way they are functioning and shifting from the traditional brick and mortar approach to the electronic click and mortar one. Mainly with governments the urge to launch a dynamic website that provides e-services to all types of stakeholders has become significantly crucial.

In fact, many governments around the world –in either developed or developing countries- have taken advantage of the digital revolution and are already utilizing the Internet and Information and Communication Technology (ICT) features in their departments, with the purpose of reinventing their structure and transforming towards what is so-called electronic government (e-government) (Steyaert 2000; West 2000; Sharifi and Zarei 2004; Chen et al 2006; Wand and Liao 2008; Gauld et al 2009; Shareef et al 2011).

According to Gil-Garcia and Pardo (2005, p.187,188), e-government is “the intensive or generalized use of information technologies in government for the provision of public services, the improvement of managerial effectiveness, and the promotion of democratic values and mechanisms”.

Chen et al (2006, p.24) perceive e-government as “a permanent commitment made by government to improve the relationship between the private citizen and the public sector through enhanced, cost-effective, and efficient delivery of services, information, and knowledge”

Diverse scholars have discussed the many drivers behind the adoption and implementation of e-government initiatives around the globe. These include reforming the public sector (Carbo and Williams 2004), reducing bureaucracy (Ndou 2004),
reducing service costs (Tung and Rieck 2005), improving services delivery, empowering citizens, increasing accuracy and privacy of information (Brewer et al 2006), increasing accountability, enhancing transparency (Meijer and Thaens 2010), attaining competitive advantage (Sharifi and Zarei 2004), adding value to stakeholders (Montagna 2005), as well as the desire not to be left behind other countries (Al-Shehry et al 2006) and many others.

The various benefits that could be generated from the implementation of e-government systems motivate institutions to be aware of and think of ways to overcome the potential risks and challenges that might hinder their implementation efforts (Gil-Garcia and Pardo 2005). As a matter of fact, unless governments are capable of handling the challenges connected with the adoption of huge public IT projects like the e-government one, their e-dreams will turn into nightmares (Sarantis et al 2011).

Therefore, this research investigates the key drivers and barriers that affect the progress of e-government initiatives, at national level, in Jordan and provides recommendations to e-government managers on how to overcome and manage the encountered challenges.

This chapter aims to delineate why this research is worth conducting and what the researcher expects to glean from it. It starts by presenting the research background which includes a general background and background to the research context, followed by identifying the research significance and motivations for conducting this research. Then the research principal aim and associated objectives are addressed, followed by addressing the research questions. Finally an overview of the thesis chapters is outlined.

1.2 Research Background

This section covers the background to the research topic. It starts by providing a general background and proceeds to discuss the background of the research context (e-government in Jordan).
1.2.1 General Background

Undoubtedly, the affect of ICT on organizations cannot be denied (Van Dijk 1996; Navarro et al 2007). It has changed the characteristics of interaction in all areas including politics, human relations, public administration and economy (Sudoh 2001; Akman et al 2005) and has altered the way government communicate with its environment (van Engers et al 2002).

Many academics agree that the advent of the ICT and the Internet along with the explosive growth of e-commerce in the private sector, has encouraged the idea of reforming the public sector and replacing the old traditional model of bureaucracy, characterized by inefficiency, repetitive processes and hierarchy with the new electronic modernize model that is more flexible, competitive, integrated and innovative, known as e-government (Ho 2002; Ndou 2004).

Various studies indicate that, during the last decade, an increasing number of governments around the world are investing in e-government to modernize their countries (Sharifi and Zarei 2004; Sarantis et al 2011), change their outdated bureaucracies, improve public sector performance, enhance services delivery as well as increase citizens participation and democracy (Rowley 2011).

However, the critical query which comes to mind is that even with all the benefits associated with the utilization of the information and communication technologies in governments, several e-government initiatives, especially in developing nations, fail (Heeks 2003a, b; Ndou 2004; De’ 2005; Chen et al 2006; Esteves and Joseph 2008; Mofleh et al 2008; Sarantis et al 2011) or are still in their infancy stage of development (Layne and Lee 2001; Gupta and Jana 2003; Ebrahim and Irani 2005).

Evidences show that e-government success or failure is not restricted on one aspect only (i.e. technology), rather it is contingent on other issues such as cultural, social (Al-Shehry et al 2006; Shareef et al 2011), organizational (Sharifi and Zarei 2004), political, managerial, legal, (Gil-Garcia and Pardo 2005), and economical aspects (Huang 2006; Al-Mashari 2007). Consequently, this research aims not to focus on a specific aspect alone and neglect others; rather it attempts to capture a holistic view of all aspects that lead to the success or failure of the e-government initiative in Jordan.
Many studies have been conducted to identify the various forces that affect the development of e-government projects around the world. From what is found in previous literature, e-government initiatives are subject to two types of forces; drivers and barriers.

In this thesis, drivers are defined as the forces that push, facilitate, stimulate or positively influence the progress of e-government initiative and consequently lead to its success, whereas barriers are defined as the forces that delay, obstruct, impede, or negatively influence the progress of e-government initiative and consequently lead to its failure.


Despite the availability of large number of literature that recognize the drivers and barriers for successful e-government implementation, the development of e-government initiatives in developing countries is not at a satisfactory level which indicates that there are still massive barriers and challenges that need to be addressed and resolved.

Thus, this is a holistic research that will explore the key drivers and barriers that stimulate or impede the development of the e-government initiative, at national level, within the context of a developing country (Jordan), and will provide strategies to e-government leaders on how to overcome and manage the encountered challenges.
The following section will provide background information for the e-government initiative in Jordan.

**1.2.2 Background to the Research Context**

According to the Department of Statistics [DOS] (2009) and Central Intelligence Agency [CIA] (2010) Jordan is located in the heart of the Middle East. The majority of its total land area which is 89,342 sq km is desert. Jordan is considered among the comparatively small populated countries, with a population of 6,269,285 people in which nearly 2,000,000 of them live in the capital Amman. The vast majority of the population are Arabs. The official religion in Jordan is Islam. Arabic language is the official language of Jordan and the currency is the Jordanian Dinar.

Jordan’s government started moving towards e-government in 2001, after his majesty King Abdullah II launched the e-government initiative by assigning the Ministry of Information and Communications Technology (MoICT) to be in charge of implementing the e-government project throughout the country, aiming at transforming the government towards a customer centric approach by delivering services to people, regardless of their location, economic status, education or ICT abilities (Ministry of Information and Communication Technology [MoICT] 2006).

In fact the actual implementation was in 2003. During the period 2001-2003, they were working on converting such initiative into a programme. Some American consultants from international companies were involved in designing the structure of the programme, many studies and strategies were prepared, a plan was set and they developed a roadmap to guide the implementation of the e-government project. Based upon the priorities defined in the roadmap, they identified 5 governmental institutions to be the focal entities in launching e-services. This project was called ‘Fast Tracks’. The five governmental institutions were: Ministry of Trade and Industry, the Telecommunications Regulatory Commission, the Drivers and Vehicles Licensing Department, Income Tax Department, and Department of Lands and Survey (MoICT, 2006). Fast tracks project was supposed to be completed within 1 or 2 years but was dragged for 3 years.
The original strategy, which was adopted in light of the American consulting team recommendations, was largely based on the experience of a developed country (USA). Therefore, it did not fit in practice with the Jordanian context as a developing country. This concurs with Chen et al. (2006, p.23) who declare that “Most, if not all, currently published e-government strategies are based on successful experiences from developed countries, which may not be directly applicable to developing countries”.

However, in 2006, as things did not go on as expected, they were forced to rethink their strategy and come up with re-strategized plan that was approved by the prime ministry. The new strategy was set to cover the period 2006-2011 and included 116 projects that they are still in the process of evaluation and implementation. Additional details about the research context are in chapter two, section twelve (2.12).

The next two sections are presented to highlight the importance of the research topic.

1.3 Research Significance

This section puts emphasis on the significance of the research subject.

The researcher came across various studies that identify the drivers and barriers that affect the development of e-government initiatives in both developing and developed countries (i.e. Heeks 2003a; Ndou 2004; Weerakkody and Choudrie 2005; eGovernment Unit 2006; Reffat 2006; van Dijk et al 2008; Bwalya 2009; Schuppan 2009; Sarantis et al 2011; Shareef et al 2011).

However, she found relatively few and recent studies that determine the drivers and barriers to e-government initiatives within the context of Arab countries (UNDP 2006; Al-Shafi and Weerakkody 2007; Al-Fakhri et al 2008; Al-Rashidi 2010; Al-Sobhi and Weerakkody 2010).

Of those that are focussed on the Arab countries, a small amount of them have empirically investigated the barriers that impede the development of the e-government initiative in Jordan (Ciborra and Navarra 2005; Abu-Samaha and Abdel Samad 2007; Al-Jaghoub et al 2010), whereas none of them explored the driving forces that push towards the development of e-government in Jordan.
Having reviewed the literature about drivers and barriers of e-government implementation in Jordan, it appeared that a significant number of literature has been exclusively based on prescriptive and rhetorical studies only (Elsheikh et al 2008; Al-Nagi and Hamdan 2009; Almarabeh and AbuAli 2010; Obeidat and Al-Shanab 2010).

It also appeared that a considerable amount of literature has paid greater attention on exploring the demand-side (citizens) views of e-government adoption in Jordan (Ibrahim et al 2005; Alomari et al 2010; Al-Jaghoub et al 2010), whereas relatively few and old studies have explored supply-side stakeholders’ perceptions (Ciborra and Navarra 2005; Abu-Samaha and Abdel Samad 2007). Once again, driving forces were completely neglected in the reviewed studies.

This research is of a significant value because it is one of the preliminary studies that empirically explore both the drivers and barriers that affect the development of the e-government initiative in Jordan based on the perspectives of supply-side stakeholders.

The next section will describe in details the choice of this particular field of study.

1.4 Research Motivations
This section justifies the researcher decision of selecting this particular subject.

1.4.1 Reasons for Selecting The E-Government Topic

E-government, nowadays, is one of the new evolving research topics in the field of Information systems (IS). It has been classified as a high priority subject on various governments’ agenda. It also has become a global phenomenon that caught the attention of many scholars, universities and political leaders around the world (Chen et al 2006).

Therefore, the Jordanian government decided to launch the e-government initiative in order not to be left behind other developed and developing countries that are already investing heavily in e-government projects. Following this decision, e-government has become one of the most interesting and important subjects in Jordan. As a matter of fact, it has become the focus of the whole country including King Abdullah II as well as ministers, leaders, governmental employees, citizens and the private sector.
This growing interest in e-government at international as well as national levels along with the fact that the researcher background is in Information Systems are major reasons that motivated the researcher to conduct this study about e-government.

Moreover, e-government offers enormous opportunities to remake the relationship between government and its stakeholders as well as the potential to reform and modernize the public sector (West 2000). It also brings many benefits to the country including economical and social growth (Ndou 2004; Schuppan 2009). Considering the various benefits that are associated with the presence of effective e-government systems, there should be sufficient studies that provide guidelines for people in charge of e-government initiatives on issues that assist them to understand the requirements on how to implement a successful e-government project. That is an additional reason that justifies the choice of this topic.

Shannak and Al-Debei (2005) believe that launching e-government in Jordan will definitely increase the adoption of e-commerce by Jordanians. Considering the affect of e-government on the e-commerce readiness stage in Jordan, it is essential to examine the e-government initiative and all the opportunities and challenges that are correlated to it. This is also another reason that makes this study about Jordanian e-government worth to be conducted.

The next section will justify the choice of Jordan.
1.4.2 Reasons for Selecting Jordan

The following facts (see table 1-1) grant Jordan unique and competitive characteristics above other countries in the region.

<table>
<thead>
<tr>
<th>Facts about Jordan</th>
<th>Reference(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oasis of tranquillity and stability</td>
<td>(Int@j 2009)</td>
</tr>
<tr>
<td>Ranked second in the Middle East and in the top 10 globally for outsourcing destinations; Jordan is a major supplier of qualified workforces for regional and global countries</td>
<td>(Int@j 2009; Oxford Business Group 2010)</td>
</tr>
<tr>
<td>Adult literacy rate amongst the highest regionally (91.1%)</td>
<td>(UN 2008)</td>
</tr>
<tr>
<td>A young King with a vision</td>
<td></td>
</tr>
<tr>
<td>Young population (58.89% under the age of 25)</td>
<td>(DOS 2009)</td>
</tr>
<tr>
<td>Teenagers are well equipped with basic computer literacy</td>
<td>(CIA 2010)</td>
</tr>
<tr>
<td>ICT sector is the fastest growing sector (30% growth rate) in Jordan’s economy. It contributes about 10%-12% to GDP</td>
<td>(Int@j 2009)</td>
</tr>
<tr>
<td>Private sector companies with high reputations and potentials to turn into industry leaders</td>
<td>(Int@j 2009)</td>
</tr>
<tr>
<td>More than 35 agreements with developed and developing countries, such as the Free Trade Agreement with the United States of America</td>
<td>(Ciborra and Navarra 2005; Ministry of Industry &amp; Trade [MoIT] 2010)</td>
</tr>
</tbody>
</table>

Table 1-1 Facts about Jordan
As a matter of fact, Ciborra and Navarra (2005) perceive Jordan as a developing country that has the potential to become the Singapore of the Middle East in its attempts of implementing and adopting ICT.

However, Jordan’s economy is considered amongst the smallest in the region. According to UNDP (2010), Jordan has scarce natural resources and it relies heavily on foreign assistance. Jordan also faces many challenges such as the high poverty rate (13.3%), large poverty gap between urban and rural regions and between the governorates, high unemployment rate (12.2%), relatively high corruption rate, low individual annual income and large budget deficits.

It is very apparent that even though Jordan does have many of the capabilities and requirements that could facilitate and push towards the development of e-government in the country, it still faces various environmental, demographical, social and economical challenges that could impede the development of the e-government project. Therefore, it is worth to be examined as one of the developing nations in the Arab world.

The next section will explain the choice of drivers and barriers.

1.4.3 Reasons for Selecting Drivers and Barriers

In spite of the several ambitious initiatives and academic conferences on the subject of e-government, and despite the fact that e-government is a powerful driver of economic and social growth, developing countries are still not able to reap the full benefits of e-government projects due to several problems and barriers that are facing these initiatives (Ndou 2004; Mofleh et al 2008; Schuppan 2009). However, if governments wish to exploit the utmost advantages of e-government systems, they should be aware of those barriers and well prepared to overcome them (Gil-Garcia and Pardo 2005; Sarantis et al 2011). The previously mentioned reasons are motives to undertake this research in order to find out the major obstacles that could stand in the way of Jordan making the most out of its e-government programme.

In addition, although e-government programmes appear to be quite similar all over the world, the truth is that different countries work at a different pace on their way to implement e-government and that is why several countries are far ahead whereas others lag behind (Meijer and Zouridis 2004). Learning about the various forces that could
slow or accelerate the development of the e-government initiative in Jordan, is another motive that pushed the researcher to choose the subject of drivers and barriers. Recognition of potential drivers and barriers that affect the development of the Jordanian e-initiative represents an opportunity for e-government leaders. They can increase the chance of a successful implementation of the project by working on sustaining, enhancing, and improving the identified drivers. They also can reduce the possibility of the initiative failure by trying to search for solutions to overcome or decrease the identified barriers.

Another justification for the researcher decision of investigating e-government drivers and barriers is that governments throughout the world invest a huge amount of resources in e-government projects, yet they struggle to make their attempts succeed (Esteves and Joseph 2008; Park 2008). As a matter of fact, various studies in different developed countries show that despite the availability of electronic channels, the usage levels of traditional service channels is still very high (Ebbers et al 2008). This is a serious issue that governments should consider before getting involved in transforming towards e-government. It is even more critical for developing countries including Jordan that are already limited with resources.

The fact that 95% of the Jordanian government’s budget is derived from external donors, grants and loans (Ciborra and Navarra 2005), does not allow the government to take the risk of implementing a huge IT project such as the e-government one and then fail or not to be utilized up to its potential. E-government is considered the largest IT project in Jordan. This means that it can easily consume a huge amount of the government budget in order to provide the needed infrastructure which includes many things such as hardware, software, training workshops, awareness campaigns...etc. Therefore, to avoid wasting the country’s scarce resources while implementing this huge project, people in charge at the government must not only be aware of all the great opportunities that such project could bring, but also with the many challenges that follow, so they can be better prepared to overcome these challenges. Thus, the Jordanian government would greatly appreciate a study which identifies many of the key forces that have tremendous effect on the success or failure of the e-government initiative. A study that could assist them in saving some of the money being invested in the
implementation of the e-government project as well as prevent them from wasting their energy, time, and efforts needlessly.

Moreover, the fact that only 15% of e-government initiatives in developing countries succeed whereas 50% of them end up with partial failures and 35% end up with total failures (Heeks 2003b), pushed the researcher to undertake this study to reveal the forces that could either stimulate or impede the development of the e-government initiative in Jordan. As it is quite possible that the decision to move from the traditional model of bureaucracy to e-government in Jordan, was based on rational justifications such as the multi benefits that can be gained through the implementation of this new innovation, without taking into consideration for example the obstacles and the challenges that might delay the evolution of the initiative or cause its failure. The researcher believes that if barrier forces override driving forces, the Jordanian government, in their journey towards e-government, could be at risk if they do not think of ways to solve and overcome such barriers; they could encounter either partial or total failure. This is an additional reason that encouraged the researcher to study the drivers and barriers to the e-government initiative in Jordan.

Furthermore, Ebrahim et al (2004) state that perceived drivers and barriers are one of the most essential factors that have an effect on the IT adoption process. Therefore, better understanding of potential drivers and barriers to e-government initiative in Jordan could assist in reducing the possibility of the initiative failure and enhancing the chance of its success.

The next section will present personal motivations for undertaking this research.

1.4.4 Personal Motivations

- The researcher’s strong personality as well as the fact that she speaks Arabic fluently, she has the same culture background, familiar with how things get done in Jordan as she lived most of her life there, and her family’s status and involvement in the government are all assets that give her an edge above many researchers to conduct this study.
Holding a PhD degree could develop the researcher academic career especially that she used to be a full-time lecturer in the Management Information systems Department at Al-Ahliyya Amman University.

A simple personal attempt that might integrate with other individuals, groups or institutions attempts to assist in improving Jordan.

The research main aim, specific objectives, and research questions are described next.

### 1.5 Research Principal Aim and Associated Objectives

The principal aim of this research is:

To investigate the key drivers and barriers that stimulate or impede the development of the e-government initiative in Jordan and recommend strategies to e-government leaders in Jordan on how to overcome and manage the encountered forces in order to reduce the possibility of the initiative failure and enhance the chance of its success.

To accomplish this aim, the researcher focussed on achieving the following three research objectives:

- To identify the key drivers and barriers that either stimulate or impede the development of the e-government initiative in Jordan.
- To propose a conceptual framework that portrays the key drivers and barriers that affect the development of e-government initiative in Jordan.
- To recommend strategies to e-government leaders in Jordan on how to overcome and manage the encountered forces in order to reduce the possibility of the initiative failure and enhance the chance of its success.

### 1.6 Research Questions

To accomplish the research aim, the following three research questions have to be answered:

- What are the key drivers that support the implementation of e-government initiative in Jordan?
- What are the key barriers that hinder the progress of e-government initiative in Jordan?
• How do e-government leaders in Jordan attempt to overcome the encountered barriers?

The final section of this chapter will briefly outline the thesis chapters.

1.7 An Overview of the Chapters

This section delineates the chapters that are included in this thesis.

Chapter One, Introduction: introduces the research topic and illustrates the importance of the research focus. It also outlines the research aim and objectives as well as the research questions.

Chapter Two, Literature Review: presents a review of pre-existing studies about the research topic. It starts by an overview of public sector reform and explains about the transformation towards e-government. It then proceeds to compare between e-government, e-commerce, information systems and information technology. It also illustrates the many definitions of e-government along with its stakeholders and stage models. It also discusses the key drivers and barriers that affect the development of e-government initiatives around the world. It also presents a critical review of different conceptual frameworks that deal with e-government drivers and barriers. Then the researcher proposes a new framework that is used in this study. It finally provides detailed background to the research context.

Chapter Three, Research Methodology: presents a general review on research methodologies. It starts by reviewing the philosophical paradigms in information systems research, followed by describing different research approaches, methods and data collection sources. It also provides rationale justifications for the selected methodology for this research.

Chapter Four, Research Procedures: Data Collection and Analysis: describes in detail the data collection procedures that were undertaken and demonstrates how and why template analysis and Nvivo were chosen to analyze data in this research.

Chapter Five, Research Findings and Discussions: describes the detailed findings resulting from the empirical fieldwork. It also presents a discussion of the research
findings. It demonstrates that all research objectives have been covered and that all research questions have been answered.

Chapter Six, Conclusions: reports the conclusions related to this research. It also addresses the research contributions, limitations and finally provides recommendations for future research opportunities. Figure 1-1 displays the thesis structure.
2) Chapter Two, Literature Review

2.1 Introduction

The aim of this chapter is to review the pre-existing literature about the research subject. Therefore, five bodies of literature are to be examined. The first (comprises sections 2.2, 2.3, 2.4 and 2.5) involves an overview of public sector reform and the transformation towards e-government, in addition to critical discussions of various topics that are correlated with the e-government phenomenon. Topics such as e-commerce, information technology and information systems. The second body of literature (comprises section 2.6) provides a detailed overview of the e-government context. It looks at the many definitions of e-government, it outlines e-government stakeholders, and it also points out the different stage models of e-government. The third (comprises sections 2.7, 2.8, and 2.9) involves a discussion of the various benefits, features and drivers of e-government adoption in both developed and developing countries. Then it describes reasons behind the failure of some e-government initiatives especially in developing countries and discusses the several barriers that face e-government projects within developing and developed countries. It overviews diverse debates and approaches towards e-government implementation. Attention is given primarily to authors whose works have been widely cited within the field of e-government. It also proposes core categories of e-government drivers and barriers which the researcher extracted from pre-existing studies. The fourth body of literature (comprises sections 2.10 and 2.11) provides an overview of relevant conceptual frameworks and models that exist in the current e-government literature, and then it presents a new conceptual framework, developed by the researcher, for this particular study.

Alongside the large literature on e-government, the fifth body of literature (comprises section 2.12) highlights the research context. It examines various characteristics of Jordan and provides essential background information to Jordan including its history, political system, economy, resources and culture. Moreover, it gives background knowledge about the ICT in Jordan. It lays emphasis on the development of the ICT and
the ICT infrastructure, as well as the national ICT strategy. Last in this part is a discussion of the e-government initiative in Jordan.

### 2.2 An Overview of Public Sector Reform and E-Government

A significant movement to reform public management has taken place within the last thirty years. This movement has been driven by political, social, economical and institutional forces and was based on six core pillars, which are (Kettl 2005): (1) Productivity: governments need to offer more services to citizens with less cost to taxpayers. (2) Marketization: governments need to eliminate bureaucracy by imitating the private sector marketing strategies. (3) Service orientation: governments are trying to follow the footsteps of the private sector in connecting with customers by adopting a citizen-centric approach. (4) Decentralization: governments attempt to better distribute power which allows more responsive services for the need of its citizens. (5) Policy: governments focus on policy making rather than trying to deliver these policies through its bureaucratic system by bringing on a third party to deliver these services under the supervision of the government. (6) Accountability: governments need to concentrate on the outcome instead of the processes by substituting the top-down, rule-based scheme with a bottom-up, results-driven scheme.

According to Pollitt and Bouckaert (2004, p.8), public management reform is “deliberate changes to the structures and processes of public sector organizations with the objective of getting them (in some sense) to run better”. Likewise, Kraemer and King (2005, p.3) define public administrative reform as “efforts to bring about dramatic change or transformation in government, such as a more responsive administrative structure, greater rationality and efficiency, or better service delivery to citizens”.

Many models have been presented for public sector administration reform. Kettl (2005) suggests three models. The first is the Westminster reform model, which means government needs to downsize its operations and scope by contracting a third party that is capable of doing the job or by privatizing different projects. The second is the American reform model, which means government seeks efficiency rather than downsizing its scope. The third is the Hybrid style model, which means shifting the Westminster style to build up financing while keeping the government scope as it is.
The remarkable reform to the public sector has widely spread and accelerated by the emergence of the Internet and as a result of the information and communication technology revolution (digital revolution), a massive transformation in public management occurred within the past two decades (Ho 2002; Saxena 2005). The first was the innovation called new public management (NPM) and the second was e-governance. NPM transformed management from merely ‘administration’ into qualified and specialized management practices encompassing, quality of services, performance and risk management. On the other hand, with the emergence of e-governance, and the fact that it involves the use of information and communication technologies to conduct government transactions, the public sector could enhance the relationship between government and citizens in addition to the delivery of services (Saxena 2005).

Fang (2002) believes that e-governance embraces e-democracy, e-voting and citizen participation in political activities. Likewise, Heeks (2001a) identifies e-governance as the utilization of information and communication technologies to keep up good governance. He demonstrates that e-governance involves: (1) E-administration: associated with many benefits such as cutting costs, control performance, create empowerment and build strategic relationships within government. (2) E-citizens and e-services: associated with enhancing public services and improving relationship between citizens and government through communicating with citizens, supporting democracy and accountability. (3) E-society: associated with improving government relationship with businesses, creating government partnerships and developing civil societies.

Okot-Uma (2001 cited in Saxena 2005) also illustrates that e-governance is a broad concept that entails two subsets; e-democracy and e-government. Clift (2002) describes e-democracy as a terminology that is associated with internet usage for politics and elections. E-government is defined as the electronic delivery of government services to the public (citizens, organizations or other stakeholders) (Sharma and Gupta 2003).

It is crucial to clarify that even though some scholars use both terms e-governance and e-government synonymously, others differentiate between them. For example Keohane and Nye JR. (2000) consider governance as all formal and informal processes and institutions that control interactions among the public, whereas Saxena (2005) considers
government as the institution itself which acts with authority. The next section will highlight the transformation process towards e-government.

2.3 Advancement Towards E-Government

Due to the fact that government is the predominant user of information technology and the largest single entity that owns public information, it is considered the major contributor to the economical and social development in any country. Therefore, the use of information technology by the government became essential for public sector administration and management development (United Nations [UN] 1995).

Furthermore, the rapid growth in internet usage, the advent of the digital connectivity and the explosive development of e-commerce in the private sector, are other reasons that increased the pressure on the public sector to replace the old traditional bureaucratic paradigm, characterized by inefficiency, repetitive processes and hierarchy with a new electronic modernize paradigm that is more flexible, competitive, integrated and innovative. This new paradigm is known as e-government (Ho 2002; Ndou 2004).

Since the late 1990s, many governments have identified implementing e-government projects as a top priority issue on their public agenda (Chen et al 2006) aiming at delivering better services and offering information and services electronically to businesses and citizens (Torres et al 2005). The e-government paradigm connects new digital technologies with the old traditional systems internally as well as with the government database infrastructures externally (Tapscott 1996).

Ho (2002, p.437) compares and contrasts between the traditional bureaucratic paradigm and the modernize e-government paradigm (see table 2-1).
<table>
<thead>
<tr>
<th></th>
<th>Bureaucratic Paradigm</th>
<th>E-Government Paradigm</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Orientation</strong></td>
<td>Production cost-efficiency</td>
<td>User satisfaction and control, flexibility</td>
</tr>
<tr>
<td><strong>Process Organization</strong></td>
<td>Functional rationality, departmentalization, vertical hierarchy of control</td>
<td>Horizontal hierarchy, network organization, information sharing</td>
</tr>
<tr>
<td><strong>Management Principle</strong></td>
<td>Management by rule and mandate</td>
<td>Flexible management, interdepartmental team work with central coordination</td>
</tr>
<tr>
<td><strong>Leadership Style</strong></td>
<td>Command and control</td>
<td>Facilitation and coordination, innovative entrepreneurship</td>
</tr>
<tr>
<td><strong>Internal Communication</strong></td>
<td>Top down, hierarchical</td>
<td>Multidirectional network with central coordination, direct communication</td>
</tr>
<tr>
<td><strong>External Communication</strong></td>
<td>Centralized, formal, limited channels</td>
<td>Formal and informal direct and fast feedback, multiple channels</td>
</tr>
<tr>
<td><strong>Mode of Service Delivery</strong></td>
<td>Documentary mode and interpersonal interaction</td>
<td>Electronic exchange, non face-to-face Interaction</td>
</tr>
<tr>
<td><strong>Principles of Service Delivery</strong></td>
<td>Standardization, impartiality, equity</td>
<td>User customization, personalization</td>
</tr>
</tbody>
</table>

Table 2-1 Shifting Paradigms in Public Service Delivery

Hence, it is very apparent that all governments around the world are capitalizing on the digital revolution and are pushing forward for the use of the Internet and information
and communication technologies in their operations (Gil-Garcia and Martinez-Moyano 2007; Al-Sobhi and Weerakkody 2010).

Although e-government has coincided with digitalization of several public organizations, its implementation remains the biggest challenge of public sector administration in the 21st century (Fang 2002) since it is considered a necessity nowadays rather than just being a trend or an option (Gupta and Jana 2003).

As various ‘E’ terms have appeared during the digital revolution, and specially the e-commerce term which has been argued that it encompasses the entire information system infrastructure and the electronic world with all organisational processes (Rayport and Jaworski, 2003), debates among academics accelerated in either to consider e-government a follow-on from e-commerce or not.

While Stahl (2005) asserts that the advancement of the e-government paradigm appears to act in accordance to the e-commerce paradigm, others argue that e-commerce is a subset of e-government (Cook et al 2002; Fang 2002; Turban et al 2000).

Scholl et al (2009) claim that the existing comparative literature on e-government and e-commerce is very few; hence, the next section will try to shed some light on these debates through examining the similarities and differences between e-government and e-commerce.

2.4 E-Government Vs E-Commerce

It is very apparent that the private sector (commerce) has been an earlier adopter to the internet and has successfully benefited from the information and communication technology revolution while the public sector (government) has been slower and less successful (Wimmer et al 2001; Ho 2002; Montagna 2005; Stahl 2005).

To distinguish between e-government and e-commerce, one should start with defining both terms. E-government has been defined from various perspectives (see section 2.6.1 of this chapter). One of the definitions refers e-government to the utilization of information and communication technologies to improve service delivery, efficiency, effectiveness and accountability between government and stakeholders (Tambouris et al 2001).
E-commerce as well does not have a universally accepted definition, therefore it has been defined in various ways by diverse scholars. As defined by Carter and Belanger (2004, p.2) “e-commerce is the commercial use of Internet technology to sell and purchase goods or services”. Likewise, Awad (2007) defines e-commerce as the process of buying and selling products and services online. Whereas Chen (2001) believes that e-commerce is the digital or electronic exchange of information. Similarly, Cook et al (2002, p.3) identify e-commerce as “the exchange of money for goods and services over the Internet”. Rowley (2002) too declares that e-commerce is a way to conduct business electronically with the whole organization. Furthermore, Laudon and Traver (2009) believe that e-commerce is the utilization of the web and the Internet to conduct business.

It can be realized that the aforementioned definitions of e-commerce have gathered four main perspectives (Kalakota and Whinston 1997): (1) An online perspective: represents the trading of products and services online. (2) A communication perspective: represents the delivery of information, services and payments by electronic means. (3) A business process perspective: represents the adoption of technology in business interactions. (4) A service perspective: represents the improvements of services delivery, enhancements of services quality and cost reduction.

Various scholars clarified that e-government is similar to e-commerce in many respects; since both terms rely upon internet technology to support the exchange of goods, services and information among two or more parties (Carter and Belanger 2004), improve electronic transactions (Fang 2002; Al-Mashari 2007), enhance communication, accessibility, flexibility and reduce cost (Stahl 2005).

In addition, Barzilai-Nahon and Scholl (2007) emphasize the importance of e-government and e-commerce as methods of improving economies of scale, reducing time and cost, increasing efficiency and enhancing service levels. Moreover, retain stakeholder relations, usability, ease of use, cost savings, process improvements, process integration, increase responsiveness, enhance service quality, information sharing, leadership support, standardization efforts as well as vertical and horizontal integration are all important factors that are found similar in both e-government and e-commerce (Barzilai-Nahon and Scholl 2007; Scholl et al 2009). Furthermore, in
successful e-government, citizens must notice that they are getting better value from the usage of electronic government services rather than the traditional government services (Park 2008). Similarly, in successful e-commerce, users must notice that they are getting better product value from the usage of the internet rather than the traditional commerce (Torkzadeh and Dhillon 2002).

Another similarity is that just like e-government (see section 2.6.2 of this chapter), e-commerce has different categories. These are (Turban et al 2000; Laudon and Laudon 2009):

- Business to Business (B2B): refers to the economic transactions of goods and services between institutions.
- Business to Customer (B2C): refers to the trading of goods and services between the institutions and individual customers.
- Customer to Customer (C2C): refers to the process of buying and selling between customers.
- Business to Employee (B2E): refers to the delivery of information, products and services between institutions and individual employees.

In spite of all the above mentioned similarities between e-government and e-commerce; there are still several differences between both terms. According to Warkentin et al (2002) and Barzilai-Nahon and Scholl (2007), the main purpose behind the adoption of e-government seems to be political, while it is mainly economical for the adoption of e-commerce. In addition, Carter and Belanger (2004) mention that e-government interacts with the public sector that is burdened with rules and legislations, while e-commerce interacts with the private sector that is more flexible.

Warkentin et al (2002) also cite another distinction between e-government and e-commerce; that is the mandatory relationships that exist in e-government, while relationships in e-commerce are of a voluntary nature. This is reinforced with Stahl (2005) who differentiates between citizens of e-government and customers of e-commerce. From the e-government perspective, citizens remain citizens plus they cannot choose the country and the place they wish to live in. On the other hand, companies in the e-commerce field can select the customers they wish to deal with and
customers also have the option to choose between suppliers. Additionally, government has control over its citizens while companies control over customers is very limited, if any. Moreover, government and citizens rely on each other, whereas companies and customers are independent of each other.

Moreover, Barzilai-Nahon and Scholl (2007) identify the role of the citizen/customer as a key difference between e-government and e-commerce. They believe that e-government treats citizens as active actors and try to understand their requirements and involve them in the decision making process, while e-commerce treats customers as passive actors. The interest in customers’ needs in e-commerce is mainly driven by the companies’ desire to increase profit and generate revenue.

This is in line with Al-Mashari (2007) and Fang (2002) who state that e-government differ from e-commerce in its relationship with its stakeholders (citizens, businesses, employees, government) which aims to enhance their participation and involvement in the system. In the same direction, Scholl et al (2009) believe that business models in e-government and e-commerce vary in several ways; e-government business model is founded on laws, policies and regulations and offers stakeholders access to information and many services in addition to its role in outlining intergovernmental relationships, whilst e-commerce business model main goal is to increase profit by adding value to customers.

Similarly, Cook et al (2002) define e-government as the use of information technologies to deliver services and engage citizens. This implies that e-government aims at delivering services without expecting to generate profit, while e-commerce is the use of the Internet to exchange money for goods and services. This implies that e-commerce mainly aims at generating profit. Furthermore, Carter and Belanger (2004) assert that in government, the power is dispersed and as a result the decision making process is less centralized than in private sector, which hinders the advancement of new governmental services.

However, Scholl et al (2009) assure that the digital divide (i.e. equal access, literacy, infrastructure, language...etc) is very vital in e-government practices, while it is of a less importance in e-commerce practices. Additionally, Scholl et al (2009) mention that
drivers and motivations differ in both systems. They illustrate that public sector main
driver is the legal liability aspect whereas private sector main driver is technical aspects.
They further note that stakeholder expectations is another distinction; while e-
government is less concerned about delivering positive experiences to customers, this
issue is a top priority of companies in the e-commerce field.

emphasis on the knowledge and information sharing feature which occurs in e-
government but does not exist in e-commerce. Government agencies are required by
law to share information with stakeholders whereas e-commerce companies are not
obligated to do so.

Montagna (2005) mentions that the structure of both systems differs. Government
transformation towards e-government is slow due to the fact that its structure is not
ready for new changes, while the private sector structure is well prepared to deal with
new changes and provide quick response. He also stated that e-commerce companies
interact in a competitive environment, whereas e-government faces no competition.

Table 2-2 summarizes some of the major differences between e-government and e-
commerce.
The main driver behind the adoption is political
Interacts with the public sector which is burdened with rules and legislations
- Relationship is mandatory
  - Government and citizens are dependent on each other
  - Government have control over citizens
  - Citizens cannot choose between countries
Citizens are active actors
The business model main goal is to offer stakeholders access to information and services based on laws, policies and regulations
The decision making process is less centralized
Agencies are required by law to share information with stakeholders
Transformation is slow due to the unprepared structure
Agencies interact to serve public interests

The main driver behind the adoption is economical
Interacts with the private sector which is more flexible
- Relationship is voluntary
  - Companies and customers are independent of each other
  - Companies have limited control over customers
  - Customers can choose between suppliers
Customers are passive actors
The business model main goal is to increase profit by adding values to customers
The decision making process can be centralized
Companies are not obligated to share information with stakeholders
Transformation is fast due to the well prepared structure
Companies interact in a competitive environment

<table>
<thead>
<tr>
<th>E-government</th>
<th>E-commerce</th>
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<tr>
<td>The main driver behind the adoption is political</td>
<td>The main driver behind the adoption is economical</td>
</tr>
<tr>
<td>Interacts with the public sector which is burdened with rules and legislations</td>
<td>Interacts with the private sector which is more flexible</td>
</tr>
<tr>
<td>- Relationship is mandatory</td>
<td>- Relationship is voluntary</td>
</tr>
<tr>
<td>- Government and citizens are dependent on each other</td>
<td>- Companies and customers are independent of each other</td>
</tr>
<tr>
<td>- Government have control over citizens</td>
<td>- Companies have limited control over customers</td>
</tr>
<tr>
<td>- Citizens cannot choose between countries</td>
<td>- Customers can choose between suppliers</td>
</tr>
<tr>
<td>Citizens are active actors</td>
<td>Customers are passive actors</td>
</tr>
<tr>
<td>The business model main goal is to offer stakeholders access to information and services based on laws, policies and regulations</td>
<td>The business model main goal is to increase profit by adding values to customers</td>
</tr>
<tr>
<td>The decision making process is less centralized</td>
<td>The decision making process can be centralized</td>
</tr>
<tr>
<td>Agencies are required by law to share information with stakeholders</td>
<td>Companies are not obligated to share information with stakeholders</td>
</tr>
<tr>
<td>Transformation is slow due to the unprepared structure</td>
<td>Transformation is fast due to the well prepared structure</td>
</tr>
<tr>
<td>Agencies interact to serve public interests</td>
<td>Companies interact in a competitive environment</td>
</tr>
</tbody>
</table>

**Table 2-2 Major Differences between E-Government and E-Commerce**
The researcher agrees with the arguments proposed by the above quoted scholars that despite the similarities between e-government and e-commerce, both terms differ from one another in many ways. Therefore life examples that are based on the experiences of e-commerce are hard to implement in the public sector, since many issues have to be taken in consideration such as cultural, organizational, environmental, human and social. This is reinforced by what Montagna (2005, p.205) mentions “that it is quite hard to directly transfer results obtained in other environments to the case of public administration. There are social factors, organizational structures and processes, beliefs, cultures, values, norms, etc. that are completely different and this does not allow for generalizing results, for example, from e-commerce”.

Another topic that the researcher found vital to be addressed is the correlation between e-government, information technology and information systems. These topics will be the centre of discussion to follow.

2.5 E-Government, Information Technology and Information Systems

The question that comes to mind is whether e-government is an information technology project or an information system project?

Information technology is defined as the use of computers, communication technologies and software to collect, process, store and distribute information. Its usage has widely spread among the public sector organizations and has been evolved into two dimensions; the first is office automation which involves increasing the efficiency and productivity of office functions. It comprises of three parts; word/text processing technology (i.e. printers, scanners, word processors, mass storage support...etc), data processing and calculation (i.e. data base and spreadsheet software) and communication technologies (i.e. e-mails, e-conferences, facsimile machines...etc). The second is information systems which involve increasing the effectiveness, efficiency and productivity of the whole institution. Information systems aspire to organize, file, store and retrieve information to assist in decision making and policy development for administration and management. It comprises of two options; tangible (i.e. hardware, software and communication methods) and intangible (i.e. management and organizational issues). (UN 1995). Hence, it is clear that information technology can be
viewed as a tool that generates precise and reliable information through the growth of information systems (Elpez and Fink 2006), and that information systems are neither technical systems nor social systems alone, but a combination of both (Symons 1991).

West (2001, p.3) defines e-government as “the delivery of government information and services online through the Internet or other digital means”. Deloitte Research (2000, p.1) also refers e-government to “the use of technology to enhance the access to and delivery of government services to benefit citizens, business partners and employees”.

However, e-government is not merely about technology, nor is it only about delivering services and enhancing relationships with stakeholders, rather it is a core enabler for building good governance. E-government is about policy formulation, society involvement and a change of culture. It entails socio-economic innovations as well as political-administrative institutional changes. E-government initiatives affect all aspects of the government organization; therefore they should be viewed by governments from both technological and change management perspectives (Leitner, 2003).

Additionally, Montagna (2005) argues that having the technical basis alone is not sufficient for governments to be connected to the society, but there should be managerial and organizational support that assists in integrating the processes, activities and cultures as well. Furthermore, Brewer et al (2006) state that design decisions for e-government information systems (hardware and software) can neither be purely technical nor purely administrative; rather they are political decisions that have a huge affection on public administration and democracy.

From the above critical discussion, one can reach an understanding that although e-government initiative has primarily been driven by technologies, it cannot remain technology-centred or seen as purely information technology project; rather it falls under the discipline of information systems; since e-government as a term covers diverse cultural, managerial, organizational and technological aspects.

The following section will highlight the context of e-government.
2.6 E-Government Context

This section focuses on the context of electronic government. It initiates by looking at the many definitions of e-government, it then illustrates its stakeholders, and proceeds to examine e-government stage models.

2.6.1 E-Government Definitions

Electronic government (e-government) has caught the attention of many scholars and the concept has various definitions in the existing literature due to the diverse perspectives of scholars.

Sprecher (2000), Schware and Deane (2003) and Al-Mashari (2007) define e-government from a techno-centric perspective as the use of ICT to transform government institutions and processes into IT-based enablers. On the other hand, a citizen-centric perspective was proposed by Burn and Robins (2003) and Banerjee and Chau (2004) who highlight the importance of e-government as a tool that improves the relationship with citizens via offering information and electronic services.

Indeed, another broad definition which combined the above mentioned two perspectives and adjoined another view which is the communication perspective was illustrated by Tambouris et al (2001), Fang (2002), Carter and Belanger (2004) and Wang and Liao (2008); e-government is the implementation of ICT to enhance all government transactions with all stakeholders’ categories (within government, between government agencies, businesses and citizens).

A very significant perspective which highlighted the value of the relationship was proposed by van Engers et al (2002) who assure that the key factor that distinguishes e-government from traditional government is the innovative relationship which emerges between e-government and its stakeholders. Also Chen et al (2006, p.24) view e-government from a relationship perspective, as they defined e-government as “a permanent commitment made by government to improve the relationship between the private citizen and the public sector through enhanced, cost-effective, and efficient delivery of services, information, and knowledge”.

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Additionally, Schedler and Scharf (2001, p.776) believe that e-government could be viewed from an interaction perspective. They defined e-government as “a form of organization that integrates the interactions and the interrelations between government and citizens, companies, customers, and public institutions through the application of modern information and communication technologies”.

Furthermore, Lieber (2000 cited in Whitson and Davis 2001) characterises e-government as an adoption of cost-effective models to facilitate conducting online business transactions for stakeholders, consequently revealing a business process perspective. However, Lenk and Traunmuller (2001) present a more political perspective in defining e-government as a vision that renovates the public administration.

In another direction, Carbo and Williams (2004) identify e-government from a social perspective. They considered e-government as the utilization of the Internet and information technologies with the aim of delivering convenient and cost effective information and services and engaging citizens in the democratic and decision making processes. Moreover, Cook et al (2002) disclose four dimensions in their definition of e-government. These are: e-services (delivery of electronic services and information over the internet), e-management (enhancement of government management through the use of information technology), e-democracy (the usage of electronic means of communication to accelerate citizens involvement in the decision making process) and e-commerce (electronic trading of goods and services).

It appears that although diverse definitions were proposed for e-government, there is still no comprehensive agreement on one definition of e-government amongst scholars. In fact, while there are similarities in some of the above mentioned definitions, differences also occur in many others.

However, the concept of e-government in this thesis refers to the use of information and communication technologies for delivering information and services to various government stakeholders (citizens, businesses, employees, government) aiming at transforming the traditional way government conduct business, improving governmental management and increasing stakeholders participation.
E-government stakeholders are to be discussed next.

2.6.2 E-Government Stakeholders

Public sector environment is complex and therefore it involves multiple and diverse stakeholders (Boyne 2002). Coakes and Elliman (1999) identify a stakeholder in the field of Information Systems as an individual or group who can have practical influences on the system. Another definition of stakeholders in the Information System discipline was proposed by Elpez and Fink (2006) as persons who eventually will use the system (end users) and who deliver the system.

According to the stakeholders’ relationship to the system, they can belong to either one or both of the two following categories (De’ 2005):

- Supply-side: who support, build, execute, maintain and sponsor the system
- Demand-side: who benefit from the services provided by the system

In the case of e-government, two key parties are involved with the system design, these are: suppliers (i.e. public managers) and demanders (i.e. citizens and businesses) (Gil-Garcia and Martinez-Moyano 2007).

However, Ndou (2004) and Siau and Long (2005) refer to four major groups of e-government stakeholders which are: Government to Citizen (G2C), Government to Business (G2B), Government to Government (G2G) and Government to Employee (G2E). These groups are described below:

Government to Citizen G2C: this involves electronic services delivery to citizens and allows citizens to access information and services (such as benefits, loans, taxes...etc) provided by the government by various channels such as mobile phones or personal computers as well as it allows citizens to participate and be involved in the decision making process (Ndou 2004; Siau and Long 2005).

Government to Business G2B: this involves offering better service, reducing costs (Siau and Long 2005), restructuring practices and providing e-initiatives such as e-procurement and e-marketplace to facilitate conducting governmental transactions through the electronic means of communication (Fang 2002).
Government to Government G2G: this involves exchanging electronic information between government departments and agencies in order to enhance collaboration and cooperation as well as to improve the efficiency and effectiveness of government transactions by reducing duplication and redundancy (Evans and Yen 2005).

Government to Employee G2E: this aims at offering e-learning and encouraging knowledge sharing amongst government employees. It includes information about training, compensation and civil laws (Ndou 2004). G2E objective is to enhance government administration by adopting best practices and providing diverse services to government employees such as training and reimbursement (Siau and Long 2005).

Taking in consideration the interactions perspective, Sharifi and Zarei (2004) and Wang and Liao (2008) list three major categories of e-government interactions and services, which are:

- G2B: Government to Business communication; this involves all electronic practices between government and private sectors.
- G2C: Government to Citizen communication; this involves the accessibility of governmental services to citizens.
- G2G: Government to Government communication; this involves sharing data and information among government departments.

Seifert (2003) argues that G2E group involves intra-agency interactions, therefore it should not be addressed separately but should be considered a subset of the G2G group. In addition, Evans and Yen (2005) have added a fourth category to the above mentioned interactions which is the Intra-government internal Efficiency and Effectiveness (IEE). IEE category provides the opportunity for government to control its administrative costs (such as billing and ordering) and its supply chain more effectively by keeping inventories and prices at the minimum. However, the researcher believes that IEE should not be considered as an independent category as it could be part of the G2G category.

Furthermore, Montagna (2005) argues that other two types of interactions can be added to the aforementioned types which are: G2NGO (Government to Non-Governmental Organizations) and G2NPO (Government to Non-Profit Organizations). Whereas, Fang
(2002) have added four types to the above mentioned types, these are: C2G (Citizen to Government), B2G (Business to Government), G2N (Government to Non-profit) and N2G (Non-profit to Government).

However, Larsen and Milakovich (2005) and Siau and Long (2005) declare that the four major groups of e-government stakeholders fall into either an external domain (G2B and G2C) or an internal domain (G2G and G2E). Another form of classification to the major categories of e-government interactions was presented by Siau and Long (2005) who state that G2C and G2E interactions involve a relationship between government and individuals, while G2B and G2G interactions involve a relationship between government and organizations.

E-government stage models will be the centre of discussion next.

**2.6.3 E-Government Stage Models**

Various researchers have characterized e-government development by dividing the e-government implementation process into multiple stages. This section compares and contrasts several models which imply the evolution stages of e-government as proposed by different authors. E-government is neither a one-step process nor a single project. It is an evolutionary phenomenon that comprises different stages and levels (Layne and Lee 2001).

E-government stage models were put forth either by individual scholars (Layne and Lee 2001; Moon 2002; Siau and Long 2005; Belanger and Hiller 2006) or by institutions (Baum and Di Maio 2000 cited in Siau and Long 2005; Deliotte Research 2000; United Nations and American Society for Public Administration [UN-ASPA] 2002). These models are discussed below:

Based on managerial, organizational and technical feasibilities, Layne and Lee (2001) suggest four stages model for e-government evolution as follows:

- **Catalogue:** This stage involves presenting basic government information through websites.
- **Transaction:** This stage enables citizens to perform some simple online transactions.
• Vertical integration: This stage moves towards the transformation of
governmental services rather than automating the existing processes only. It
means integrating government tasks at diverse levels.
• Horizontal integration: This stage involves integrating multiple tasks from
different systems.

Moon (2002) proposes a five stage model for e-government development which reflects
the level of interaction with stakeholders. The five stages are described below:

• Simple information dissemination (one-way communication): This stage
involves posting government information on the websites.
• Two-way communication (request and response): This stage allows citizens to
electronically communicate with government via requesting and receiving
information and services.
• Service and financial transaction: This stage allows for all financial transactions
and services to be completed online.
• Vertical and horizontal integration: This stage involves integrating various
functions at different levels and from different systems.
• Political participation: This stage means promoting for political participation
through web-based services such as online opinion surveys and online voting.

Siau and Long (2005) come up with a new comprehensive model that covers the general
vision of e-government. This new model has the following stages:

• Web presence: This stage refers to posting simple government information on
the websites.
• Interaction: This stage allows for simple interactions to occur between
stakeholders and the government. This includes forms downloads and search
engines.
• Transaction: This stage makes it possible for both citizens and businesses to
carry out complete online transactions such as tax filing and licensing
applications.
• Transformation: This stage refers to both vertical and horizontal integration. It
involves transforming the way services are provided by the government.
- E-democracy: This is a long-term objective for e-government evolution that attempts to encourage political participation and enhance e-democracy.

Symonds (2000 cited in Belanger and Hiller 2006) identifies a four stage model to e-government comprising one-way communication, two-way communication, exchanges, and finally portals. Belanger and Hiller (2006) adopted Symond’s four stage model and enhanced it by adding a fifth stage. The stages in their framework are:

- Information: This stage includes posting information on websites.
- Two-way communication: At this stage, stakeholders are able to communicate with the government by making some requests such as email exchanges.
- Transaction: This stage allows for conducting complete online transactions such as paying fines and renewing licenses.
- Integration: This stage means that all services are integrated on a single portal where stakeholders can use to access and retrieve these services.
- Participation: This stage entails providing unique online features such as registration and voting online.

Baum and Di Maio (2000 cited in Siau and Long 2005) propose the Gartner four stages model that demonstrates the development of e-government in the associated environment. These stages are:

- Web presence: In this stage government agencies set up a website in which they post basic information to the public.
- Interaction: This stage allows stakeholders to communicate with government agencies through the websites.
- Transaction: This stage means that stakeholders can complete an entire online transaction such as license application.
- Transformation: This stage involves transforming the existing processes in order to offer integrated and personalized services.

Deliotte Research (2000) concludes that e-government evolution will pass through six dynamic stages which were introduced in the Deliotte model. These stages are:
- Information publishing/dissemination: In this stage government departments create a website that provides basic information about them to the public.
- Official two-way transactions: This stage allows users to conduct online transactions such as claiming income support and housing benefits.
- Multi-purpose portals: This stage involves a creation of a portal which is a single point of entry for users to send and receive information as well as to process electronic transactions amongst several departments.
- Portal personalization: This stage empowers users by giving them the chance to customize portals according to their requirements and needs.
- Clustering of common services: In this stage governments attempt to improve collaboration by providing services as a unified package.
- Full integration and enterprise transformation: In this stage government has transformed into a unified, complete and personalized service centre.

The UN-ASPA (2002) presents a five stage model for e-government progression. These are:

- Emerging presence: This stage includes establishing a web presence through few government websites in order to provide static organizational or political information for stakeholders.
- Enhanced presence: This stage entails an acceleration of the number of the websites. It also means that websites provide more dynamic, specialized and updated information and services such as government publications and search features.
- Interactive presence: This stage refers to a more formal and sophisticated level of interactions between stakeholders and service providers. It allows users to download applications and search specialized databases.
- Transactional presence: This stage allows users to completely conduct secured transactions and pay for them too. Transactions such as obtaining passports or driving licenses.
- Seamless or fully integrated presence: This stage involves having all services on a unified portal that stakeholders will be able to access directly.
It appears that even though the proposed models differ in terms of the number of stages they entail, but there are several similarities between them. For example, all authors agree on the first stage which e-government should pass through during its evolution; that is posting government information on a web site. This stage goes by different phrases such as cataloguing, web presence, information, information publishing, or emerging presence. All authors also perceive completely conducting online transactions as a common stage for e-government development, despite the different names they used to describe it (i.e. transaction, service and financial transaction, official two-way transactions and transactional presence). Additionally, integration, vertical integration, horizontal integration, vertical and horizontal integration, transformation, full integration and enterprise transformation as well as seamless or fully integrated presence are all phrases used by all authors to express an essential stage of e-government evolution.

On the other hand, there are some differences between the preceding models. For example, some authors; Baum and Di Maio (2000 cited in Siau and Long 2005), Moon (2002), UN-ASPA (2002), Siau and Long (2005) and Belanger and Hiller (2006) have mentioned a stage which refers to the communication process between stakeholders and the government. They assigned different names to it (i.e. two-way communication, interaction and interactive presence). While other scholars Moon (2002), Siau and Long (2005) and Belanger and Hiller (2006) have added a stage that attempts to involve citizens in the decision making process. They called this stage political participation, e-democracy and participation, respectively.

In short, there is no agreement amongst authors on the number of stages of e-government evolution or on the usage of a universal model of e-government that is applicable to all countries. That is due to the diverse maturity levels of e-government in different countries, as well as to the evolutionary nature of e-government.

The following sections will shed light on the various benefits that are generated from the implementation of e-government initiatives as well as the diverse barriers that hinder the successful implementation of e-government projects in both developed and developing countries.
2.7 Drivers of Electronic Government Implementation

A variety of scholars state that the adoption of the internet and various ICT technologies offer enormous potentials and extensive possibilities for governments to improve services delivery (Al-Kibsi et al 2001; Chen 2002; Fang 2002; Moon 2002; Relyea 2002; Jaeger 2003; Monragna 2005; Al-Shehry et al 2006; Brewer et al 2006), enhance service quality, reduce bureaucracy (Ndou 2004), increase availability by interacting with stakeholders through creating new ways of communication such as emails, mobile phones, web TV and online voting (Kalakota and Whinston 1996; Chen 2002; Fang 2002, Moon 2002; Relyea 2002; Jaeger 2003; Reffat 2006; Al-Mashari 2007), increase accessibility by providing services 24/7 (Al-Kibsi et al 2001; Fang 2002; Relyea 2002; Jaeger 2003; Abie et al 2004; Carter and Belanger 2004; Saxena 2005; Zhang et al 2005; Abie et al 2006), increase accountability, increase transparency (Lenk and Traunmuller 2001; Tambouris et al 2001; Moon 2002; Jaeger 2003; Tung and Rieck 2005; Zhang et al 2005; Barzilai-Nahon and Scholl 2007; Gorla 2008; Meijer and Thaens 2010), greater convenience (Al-Kibsi et al 2001; Carter and Belanger 2004; Tung and Rieck 2005), effectiveness, efficiency (Lenk and Traunmuller 2001; Heeks 2003b; Carter and Belanger 2004; Al-Shehry et al 2006; Gorla 2008; Park 2008; Meijer and Thaens 2010), achieve economic and social advancements (Okot-Uma 2000), reduce service costs (Kalakota and Whinston 1996; Al-Kibsi et al 2001; Fang 2002; Huang and Bwoma 2003; Jaeger 2003; Ndou 2004; Irani et al 2005; Saxena 2005; Tung and Rieck 2005; Al-Shehry et al 2006), reduce corruption (Fang 2002; The Economist 2003 cited in Jaeger 2003; Tung and Rieck 2005), decrease time wasted on repetitive tasks (Jaeger 2003), reduce errors (Al-Kibsi et al 2001), increase accuracy and privacy of information (Moon 2002; Abie et al 2004; Brewer et al 2006), increase citizens participation (Heeks and Davies 1999; Lenk and Traunmuller 2001; Macintosh et al 2003; Tung and Rieck 2005; Chen et al 2006), citizens empowerment (Fang 2002; Brewer et al 2006), improve CzRM: Citizen Relationship Management (Larsen and Milakovich 2005; Al-Mashari 2007), increase the acceptance and satisfaction of government stakeholders (Kalakota and Whinston 1996; Abie et al 2004), and also to add value to stakeholders (Al-Kibsi et al 2001; Montagna 2005; Al-Mashari 2007). It should be noted that this paragraph has been summarized in table 2-3.
Additionally, Chen et al (2006) argue that e-government will support the integration of
government services and will also assist in eliminating jurisdictional barriers. Al-Kibsi
et al (2001) and Scholl (2006) also clarify that e-government push towards a
transformation of business processes. They believe that government agencies need to
reorganize and streamline their processes and services. In addition to the previous point,
Barzilai-Nahon and Scholl (2007) add other benefits of e-government. These are:
process acceleration, enhance information sharing, improve internal efficiency, bring
citizens closer and develop service levels. Likewise, Zhang et al (2005) and Al-Mashari
(2007) declare that the adoption of e-government will improve knowledge and
information sharing.

Moreover, Grimsley and Meehan (2007) cite that e-government initiatives aim at
improving efficiency and effectiveness, accountability, transparency, supporting social
inclusion, meeting citizens’ expectations, increasing citizens satisfaction and also
adding value to citizens. Furthermore, Carbo and Williams (2004) believe that the
advantages of e-government projects include improve service quality, enhance internal
efficiencies, improve law enforcement, develop education, promotion, safety and
security, trust, transparency, accountability, increase citizens’ participation in the
democratic process, availability of information through various channels, improve
communication and partnership within government agencies and with private sector,
connect with citizens in language they can understand and reform the public sector.

Stahl (2005) points out that e-government is the best medium that will alleviate
weaknesses (i.e. the high level of bureaucracy, the lack of communication between
departments that leads to duplication of efforts and the lack of response) that occur in
the traditional bureaucratic paradigm. Cook et al (2002) as well outline various benefits
for e-government adoption. These are: increase efficiency through streamlining business
processes, improve internal communication, provide better services, meet citizens’
expectations and promote for government services. They also delineate some critical
success factors that are vital when planning and implementing e-government initiatives.
Factors such as strong leadership, learn from others, availability of skilled employees,
create partnerships with private sector, acknowledge political differences, improve
consistency, information sharing, protect privacy, get buy in from stakeholders, overcome resistance as well as training and education.

Barzilai-Nahon and Scholl (2007) assert that a critical factor for e-government success is top management support. Similarly, Moon (2002) and Al-Mashari (2007) highlight the importance of leadership support and political commitment from high levels of authorities. Also Ebrahim and Irani (2005) believe that the availability of a compatible IT infrastructure, advanced technologies for protecting security, business processes reengineering and strong leadership are all essential aspects for e-government success.

Ho (2002) states that the emergence of e-commerce in the private sector has been one of the vital forces influencing the implementation of e-government projects. Moreover, Jaeger (2003) believes that e-government benefits can be classified in terms of the three major interactions between citizens, businesses and departments of government. He illustrates that G2C interactions facilitate in connecting citizens with the government, delivering enormous amount of information and services to citizens as well as it allows citizens to be more aware of government policies and rules and hence will be able to participate and get involved with the government. Whereas G2B interactions lead to cost savings, develop awareness of opportunities to conduct business with the government and also increase efficiency in procurement processes and conducting transactions. G2G interactions assist in improving communication, efficiency, consistency, information sharing and enhancing transactions speed.

This is in agreement with Reffat (2006) who also describes three perspectives of a successful e-government. First is the citizen perspective which means greater convenience, accessibility, availability, providing alternative means of communication, increasing citizens’ participation as well as meeting citizens’ requirements and needs. Second is the business perspective which means reducing cost of services, reducing bureaucracy, creating new opportunities, speeding up process, increasing partnership as well as providing added value services. Third is the government perspective which means gaining public trust, enhancing quality of services, reducing time wasted on non-customer activities as well as empowering government employees by equipping them with appropriate skills and knowledge.
Similarly, Seifert (2003) outlines potential drivers and opportunities of e-government such as efficiency, new improved services, increase citizens’ participation and improve national information infrastructure. Moon (2002) as well identifies several perceived benefits of e-government. These are: cost savings, downsizing, entrepreneurial activities, changing work environment as well as general efficiency and effective procurement. Moon (2002) highlighted the importance of economical support, technical support, organizational and managerial commitment for a successful implementation of e-government projects.

In another study, Al-Mashari (2007) specifies the various driving forces for adopting e-government. He stated the following drivers: having a clear vision and specified objectives, e-readiness as well as human and ICT infrastructure, availability of new rules, regulations and legal framework, economical support, technological support, social and cultural awareness, establishment of agencies, councils, and committees to supervise the e-government project and assist in organizing, managing, and implementing it successfully, launching several projects that support the execution of e-government project and complete the fundamental infrastructure needed for it, increase communication between all government agencies, providing alternative means of communications and also bridging the digital divide by educating stakeholders about the e-government project and improving computer skills for all government stakeholders.

In the same direction, Montagna (2005) identifies that e-readiness and availability of good ICT infrastructure and internet penetration, human support, organizational and managerial support, technical support and dedicated budgets are all motivations for the adoption and implementation of e-government initiatives. Furthermore, Tung and Rieck (2005) reveal three main perspectives for the decision of adopting an e-government project: technological (perceived benefits), organizational and inter-organizational (external pressure and social influence). They declared that users’ perceptions of e-government programme benefits are one of the main reasons for the adoption. They argued that technology, availability of appropriate resources that support technology such as training, time or money (facilitating conditions), in addition to management readiness are key issues to e-government development. They also asserted that efficient e-government will benefit all organizations, participant or not in the adoption, although
the more participation in the process will lead to more success of e-government programme which they called it reaching the ‘critical mass’.

Csetenyi (2000) as well lists several potentials of e-government such as availability of information, improve delivery of information and services, offer innovative ways of interacting with citizens, tailor services to individuals’ requirements, involve citizens in the policy making, improve e-participation, empower citizens, reduce digital divide as well as decrease transaction costs. Another study carried out by Gilbert et al (2004) reveals benefits of using e-government services: increase citizens’ control and empowerment, greater convenience, reduce cost, save time, personalization and avoid personal interaction. A study conducted by Weerakkody and Choudrie (2005) discloses that technological advancements and improved services are the two positive factors that are encouraging e-government adoption in the United Kingdom. However, Heeks (2001a) relates the success of e-government initiatives in developing countries with their e-readiness level.

Ndou (2004) come up with seven major reasons behind the transformation towards e-government upon analyzing the e-government programmes in nine different developing countries (China, India, Brazil, Chile, Argentina, Columbia, Philippines, Guatemala and Jamaica). First, cost reduction and efficiency gains. Second, quality of service delivery to businesses and customers. Third, transparency, anticorruption, accountability. Fourth, increase the capacity of government. Fifth, network and community creation. Sixth, improve the quality of decision making. Seventh, promote use of ICT in other sectors of the society.

Heeks (2003a) also explains several factors that support success of e-government initiatives in developing countries. He mentioned external pressure, political will, overall vision and strategy, effective project management, effective change management, effective design, essential competencies as well as an adequate technological infrastructure.

According to Al-Shehry et al (2006), e-government development in Saudi Arabia has been motivated by the following nine factors: (1) Economical: aims at increasing return on investment. (2) Geographical: Saudi Arabia is a geographically large country;
therefore, e-government programme assists in connecting geographically isolated citizens who are scattered throughout the country with governmental services.

(3) Social and Cultural: Saudi Arabia is a deeply religious country and is considered the centre of the Muslim world; it gets about 2 million pilgrims every year, which is one of the motivations for the government to seek out a solution to facilitate and organize pilgrims stay in the country. In addition, the religious factor interferes between a direct mixing and relationship between men and women in Saudi society; e-government facilitates overcoming this issue of interaction through the internet and new technologies.

(4) Reform the public sector: aims to help in managerial aspects in order to reduce bureaucracy and increase productivity.

(5) Technical: technology helps in improving services, reducing wasted time and effort.

(6) Demographical: the fact that a large percentage of Saudi population is under the age of 25 and very familiar with new technologies and mobile phones; pushes toward the implementation of e-government.

(7) Political: there are a lot of interests from the king and political leaders in adopting an e-government programme.

(8) Regional comparisons: the desire not to be left behind neighbouring countries in the Gulf region.

(9) Citizens' expectations: aims at meeting citizens requirements and needs.

E-government drivers have been summarized from pre-existing studies in table 2-3 below:

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<tr>
<th>Drivers</th>
<th>References</th>
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<tbody>
<tr>
<td>Improve services development and delivery</td>
<td>(Csetenyi 2000; Al-Kibsi et al 2001; Chen 2002; Cook et al 2002; Fang 2002; Moon 2002; Relyea 2002; Bonham and seifert 2003; Jaeger 2003; Seifert 2003; Monragna 2005; Weerakkody and Choudrie 2005; Al-Shehry et al 2006; Brewer et al 2006; Reffat 2006; Barzilai-Nahon and Scholl 2007; Park 2008; Bwalya 2009)</td>
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<td>Objective</td>
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<td>Improve CzRM</td>
<td>(Jaeger 2003; Larsen and Milakovich 2005; Reffat 2006; Al-Mashari 2007)</td>
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<td>Increase the satisfaction and acceptance of stakeholders</td>
<td>(Kalakota and Whinston 1996; Cook et al 2002; Abie et al 2004; Grimsley and Meehan 2007)</td>
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<tr>
<td>Enhance service quality</td>
<td>(Lenk and Traunmuller 2001; Moon 2002; Carbo and Williams 2004; Ndou 2004; Zhang et al 2005; Reffat 2006; Park 2008)</td>
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<td>Reduce bureaucracy</td>
<td>(Ndou 2004; Stahl 2005; Chen et al 2006; Reffat 2006)</td>
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<td>Increases accessibility</td>
<td>(Al-Kibsi et al 2001; Layne and Lee 2001; Fang 2002; Relyea 2002; Jaeger 2003; Abie et al 2004; Carbo and Williams 2004; Carter and Belanger 2004; Saxena 2005; Zhang et al 2005; Chen et al 2006; Reffat 2006; Park 2008;</td>
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<td>Feature</td>
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<td>Increase availability</td>
<td>(Csetenyi 2000; Carbo and Williams 2004; Reffat 2006)</td>
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<td>Increase transparency</td>
<td>(Lenk and Traunmuller 2001; Tambouris et al 2001; Fang 2002; Moon 2002;</td>
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<td>Increase accountability</td>
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<td>Carbo and Williams 2004; Ndou 2004; Tung and Rieck 2005; Zhang et al 2005;</td>
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<td>Barzilai-Nahon and Scholl 2007; Grimsley and Meehan 2007; Gorla 2008;</td>
</tr>
<tr>
<td></td>
<td>Bwalya 2009)</td>
</tr>
<tr>
<td>Save Time and Effort</td>
<td>(Gilbert et al 2004)</td>
</tr>
<tr>
<td>Avoid Personal Interaction</td>
<td>(Gilbert et al 2004)</td>
</tr>
<tr>
<td>Increase efficiency and</td>
<td>(Lenk and Traunmuller 2001; Cook et al 2002; Moon 2002; Heeks 2003b;</td>
</tr>
<tr>
<td>effectiveness</td>
<td>Jaeger 2003; Seifert 2003; Carbo and Williams 2004; Carter and Belanger 2004; Ndou 2004; Al-Shehry et al 2006; Barzilai-Nahon and Scholl 2007; Grimsley and Meehan 2007; Gorla 2008; Park 2008; Meijer and Thaens 2010)</td>
</tr>
<tr>
<td>Description</td>
<td>References</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Increases trust, accuracy, privacy and security of information exchanged</td>
<td>(Layne and Lee 2001; Cook et al 2002; Moon 2002; Relyea 2002; Abie et al 2004; Carbo and Williams 2004; Ebrahim and Irani 2005; Brewer et al 2006; Reffat 2006; Park 2008; Al-Sobhi and Weerakkody 2010)</td>
</tr>
<tr>
<td>Integration of government services</td>
<td>(Fang 2002; Chen et al 2006)</td>
</tr>
<tr>
<td>Reengineering business processes</td>
<td>(Al-Kibsi et al 2001; Cook et al 2002; Fang 2002; Moon 2002; van Engers et al 2002; Bonham and seifert 2003; Gupta and Jana 2003; Carbo and Williams 2004; Ebrahim and Irani 2005; Scholl 2006; Al-Sobhi and Weerakkody 2010)</td>
</tr>
<tr>
<td>Process acceleration</td>
<td>(Jaeger 2003; Reffat 2006; Barzilai-Nahon and Scholl 2007)</td>
</tr>
<tr>
<td>Clear vision, agenda and specified objectives</td>
<td>(Gupta and Jana 2003; Heeks 2003a; Al-Mashari 2007)</td>
</tr>
<tr>
<td>E-readiness and availability of good ICT</td>
<td>(Heeks 2001a; Ebrahim and Irani 2005; Montagna 2005; Weerakkody and</td>
</tr>
<tr>
<td>Infrastructure and internet penetration</td>
<td>Choudrie 2005; Al-Mashari 2007; Al-Sobhi and Weerakkody 2010</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>--------------------------------------------------------------</td>
</tr>
<tr>
<td>Political support, top management readiness, strong leadership and commitment from high levels of authorities</td>
<td>(Cook et al 2002; Moon 2002; Bonham and seifert 2003; Gupta and Jana 2003; Heeks 2003a; Sharma and Gupta 2003; Ebrahim and Irani 2005; Krishna and Walsham 2005; Tung and Rieck 2005; Al-Shehry et al 2006; Huang 2006; Al-Mashari 2007; Barzilai-Nahon and Scholl 2007; Bwalya 2009; Al-Sobhi and Weerakkody 2010)</td>
</tr>
<tr>
<td>Issuing new rules, policies and legislations</td>
<td>(Gupta and Jana 2003; Al-Mashari 2007)</td>
</tr>
<tr>
<td>Organizational and managerial support</td>
<td>(Layne and Lee 2001; Moon 2002; Relyea 2002; Sharifi and Zarei 2004; Ebrahim and Irani 2005; Montagna 2005; Al-Shehry et al 2006; Elliman et al 2007)</td>
</tr>
<tr>
<td>Economical motivations</td>
<td>(Okot-Uma 2000; Moon 2002; Sharma and Gupta 2003; Al-Shehry et al 2006; Huang 2006; Reffat 2006; Al-Mashari 2007)</td>
</tr>
<tr>
<td>Geographical</td>
<td>(Al-Shehry et al 2006)</td>
</tr>
<tr>
<td>Social and cultural awareness and support</td>
<td>(Okot-Uma 2000; Gupta and Jana 2003;</td>
</tr>
<tr>
<td>Issue</td>
<td>References</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Meet citizens’ expectations, personalization</td>
<td>Csetenyi 2000; Cook et al 2002; Heeks 2003a; Gilbert et al 2004; Tung and Rieck 2005; Al-Shehry et al 2006; Reffat 2006; Grimsley and Meehan 2007; Park 2008</td>
</tr>
<tr>
<td>Availability of administrations, agencies, councils, boards and committees</td>
<td>Gupta and Jana 2003; Al-Mashari 2007</td>
</tr>
<tr>
<td>Increase communication between all government agencies</td>
<td>Lenk and Traunmüller 2001; Cook et al 2002; Relyea 2002; Jaeger 2003; Carbo and Williams 2004; Stahl 2005; Al-Mashari 2007</td>
</tr>
<tr>
<td>Benefit</td>
<td>Sources</td>
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<tr>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Provide value added services</td>
<td>(Al-Kibsi et al 2001; Montagna 2005; Reffat 2006; Al-Mashari 2007; Grimsley and Meehan 2007)</td>
</tr>
<tr>
<td>Effective change management</td>
<td>(Heeks 2003a; Leitner 2003; Montagna 2005)</td>
</tr>
<tr>
<td>Greater convenience</td>
<td>(Al-Kibsi et al 2001; Carter and Belanger 2004; Gilbert et al 2004; Tung and Rieck 2005; Reffat 2006)</td>
</tr>
<tr>
<td>Reduce errors</td>
<td>(Al-Kibsi et al 2001)</td>
</tr>
<tr>
<td>Justified Framework</td>
<td>(Gupta and Jana 2003; Al-Mashari 2007)</td>
</tr>
<tr>
<td>Reform public sector</td>
<td>(Carbo and Williams 2004; Al-Shehry et al 2006)</td>
</tr>
<tr>
<td>External pressure</td>
<td>(Heeks 2003a; Tung and Rieck 2005; Al-Shehry et al 2006)</td>
</tr>
<tr>
<td>Reduce corruption</td>
<td>(Fang 2002; The Economist 2003 cited in Jaeger 2003; Ndou 2004; Tung and Rieck 2005)</td>
</tr>
<tr>
<td>Decrease time wasted on repetitive tasks and duplication of efforts</td>
<td>(Moon 2002; Jaeger 2003; Gilbert et al 2004; Stahl 2005; Reffat 2006)</td>
</tr>
<tr>
<td>Emergence of e-commerce in the private sector</td>
<td>(Ho 2002)</td>
</tr>
<tr>
<td>Improve consistency</td>
<td>(Cook et al 2002; Jaeger 2003)</td>
</tr>
<tr>
<td>Downsizing and decrease staff numbers</td>
<td>(Moon 2002)</td>
</tr>
<tr>
<td>Increase the capacity of government</td>
<td>(Ndou 2004)</td>
</tr>
<tr>
<td>Promote the use of ICT in the society</td>
<td>(Ndou 2004)</td>
</tr>
<tr>
<td>Allocated budgets</td>
<td>(Montagna 2005; Tung and Rieck 2005; Al-Sobhi and Weerakkody 2010)</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------</td>
</tr>
<tr>
<td>Bridging the digital divide (skills, access, education, language...etc)</td>
<td>(Csetenyi 2000; Cook et al 2002; Relyea 2002; Heeks 2003a; Carbo and Williams 2004; Tung and Rieck 2005; Reffat 2006; Al-Mashari 2007; Grimsley and Meehan 2007; Scholl et al 2009; Al-Sobhi and Weerakkody 2010)</td>
</tr>
<tr>
<td>Comprehensive and competent portal</td>
<td>(Fang 2002; Gupta and Jana 2003)</td>
</tr>
<tr>
<td>Enhance Performance</td>
<td>(Gupta and Jana 2003)</td>
</tr>
<tr>
<td>Effective project management</td>
<td>(Heeks 2003a)</td>
</tr>
<tr>
<td>Regional comparisons and learn from others</td>
<td>(Cook et al 2002; Al-Shehry et al 2006)</td>
</tr>
<tr>
<td>Availability of training and skilled IT staff</td>
<td>(Cook et al 2002; Ebrahim and Irani 2005; Tung and Rieck 2005; Reffat 2006; Al-Sobhi and Weerakkody 2010)</td>
</tr>
<tr>
<td>Create new business opportunities</td>
<td>(Jaeger 2003; Reffat 2006)</td>
</tr>
<tr>
<td>Improve law enforcement</td>
<td>(van Engers et al 2002; Carbo and Williams 2004)</td>
</tr>
<tr>
<td>Increase responsiveness</td>
<td>(Layne and Lee 2001; Relyea 2002; Montagna 2005; Barzilai-Nahon and Scholl 2007; Bwalya 2009; Gauld et al 2009; Scholl et al 2009)</td>
</tr>
</tbody>
</table>

Table 2-3 E-Government Drivers Summarized from Pre-Existing Studies
Based on the above critical review from pre-existing studies, the researcher believes that e-government drivers can be classified into eight core categories. Table 2-4 demonstrates these categories.

<table>
<thead>
<tr>
<th>Core Category</th>
<th>Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Political</strong></td>
<td>Reduce bureaucracy, Increase citizens’ participation and empowerment, Political support, top management readiness, strong leadership and commitment from high levels of authorities, Reform public sector.</td>
</tr>
<tr>
<td><strong>Economical</strong></td>
<td>Reduction of service cost, Increase efficiency and effectiveness, Economical, decrease time wasted on repetitive tasks and duplication of efforts, Downsizing and decrease staff numbers, Allocated budgets, Create new business opportunities.</td>
</tr>
<tr>
<td><strong>Socio-Cultural</strong></td>
<td>Improve CzRM, Increase the satisfaction and acceptance of stakeholders, Increase interaction with stakeholders, Increases accessibility, Increase availability, Process acceleration, Social and cultural awareness and support, Avoid Personal interaction, Meet citizens’ expectations, Enhance service quality, Improve services development and delivery, Personalization, Provide value added services, Greater convenience, Reduce errors, Save time and effort, Improve consistency, Increase the capacity of government, Increase responsiveness, Reduce corruption.</td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------</td>
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</tr>
<tr>
<td>Technological</td>
<td>E-readiness and availability of good ICT infrastructure and internet penetration, Technical issues, Promote the use of ICT in the society, Bridging the digital divide (skills, access, education, language...etc), Comprehensive and competent portal.</td>
</tr>
<tr>
<td>Legislative and Regulatory</td>
<td>Increases trust, accuracy, privacy and security of information exchanged, Issuing new rules, policies and legislations, Improve law enforcement.</td>
</tr>
<tr>
<td>Environmental</td>
<td>Geographical, External pressure, Emergence of e-commerce in the private sector, Regional comparisons and learn from others, Availability of administrations, agencies, councils, boards and committees.</td>
</tr>
<tr>
<td>Organizational</td>
<td>Increase transparency, Increase accountability, Integration of government services, Enhance performance, Reengineering business processes, Organizational support, Justified Framework, Human Support, Availability of training and skilled IT staff.</td>
</tr>
<tr>
<td>Administrative</td>
<td>Clear vision, agenda and specified objectives, Managerial support, Increase communication between all government agencies, Collaboration, integration, partnership and knowledge sharing between the public and the private sector, Effective change management, Effective project management.</td>
</tr>
</tbody>
</table>

Table 2-4 Eight Core Categories of E-Government Drivers
It should be mentioned that the researcher mainly relied on the PESTLE analysis technique while classifying e-government drivers into different categories. PESTLE analysis provides an overview of the various macro-environmental factors that affect the institution. The next section will shed light on the reasons behind the failure of some e-government initiatives.

2.8 Failure of Some E-Government Initiatives despite the many E-Government Benefits

Even with all the previously mentioned benefits associated with the utilization of the information and communication technologies in governments, several e-government initiatives, especially in developing nations, fail (Heeks 2003a, b) or are diffusing very slowly (Ebrahim and Irani 2005).

This debate was examined by many scholars. For instance, Ndou (2004) claims that lack of proper understanding of the e-government concept is the key reason for failure. On the other hand, Walsham (1993) and Sein and Harindranath (2004) find that not taking into account the vitality of the IT acceptance from users, social context of economic, socio-political, and cultural dimensions might increase the possibilities of failure.

Likewise, Park (2008) ensures that the success of e-government projects is contingent on citizens’ readiness to use the e-services and their acceptance of the initiative, which is based on public trust, public accessibility, information access, quality of services, efficiency of services, time savings, service to citizens and social awareness. In the same direction, Al-Shehry et al (2006) illustrate that issues such as cultural, human, organizational, political, social and technological must be taken into account when implementing e-government projects.

Sharifi and Zarei (2004) and Sarantis et al (2011) as well clarify that a successful implementation of e-government relies mainly on organizational and managerial change. Similarly, Rowley (2011) points out that the focus should not be technology oriented only, rather it should take into account users of the e-government as well (citizens and businesses).

Additionally, Gil-Garcia and Pardo (2005) indicate that political, legal and managerial elements are identified as vital factors to be considered in the adoption of an IT project.
Moreover, Gupta and Jana (2003) lay emphasis on the role of people, policies and technology as all important factors in achieving successful e-government. Similarly, Layne and Lee (2001) believe that e-government initiatives are still in a nascent stage and the overall advantages of e-government will only be gained when organizational changes are in line with technological changes. Elliman et al (2007) also identify that e-government entails a combination of organizational, technological and social factors at both citizen and governmental level.

According to Ebrahim and Irani (2005), e-government is not a straightforward task that can be completed in a certain period of time; rather it requires an integrative framework approach to post information and services on the web as well as it needs a transformation in the overall organizational infrastructure. Additionally, e-government requires technological support, management support, adequate resources, good infrastructure, skilled IT staff and effective IT training. Moreover, Wood-Harper and Wood (2005) reinforce the vitality of human and organizational issues to the success or failure of an information system.

Additionally, Markus (1983), Pouloudi and Whitley (1997), van Engers et al (2002), De’ (2005) and Zhang et al (2005) argue that users’ interaction with new information systems is the focal point for its success or failure. The interaction perspective was also considered by Heeks (2001a) who replaces the concept of e-governance which is much techno-centric with ‘I-governance: Integrated governance’. This is in line with Laudon and Laudon (2004) argument who state that human interaction is a critical success factor for information systems evolution.

In addition, Fang (2002) assigns several characteristics that are essential for a successful implementation of e-government projects. These are: (1) Comprehensive: the ability to conduct all transactions through one e-government portal. (2) Integrated: Integration of all governmental data; which does not require citizens to provide same information over and over. (3) Ubiquitous: easy access to all e-government services everywhere. (4) Transparent/easy to use: e-government portal should be easy enough that any user can simply navigate through it. (5) Accessible: all users including disabled people should be considered when designing e-government projects. (6) Secure and private: the ability to protect confidentiality of users, data and contents. (7) Re-engineered: re-evaluating and
streamlining all current processes to be able to design a simplified digital structure. (8) Interoperable: e-government portal should be constantly updated with relevant information. (9) Be developed to e-governance systems: e-government project should encourage citizens to participate and be involved in the decision making process.

Furthermore, Relyea (2002) talks about various requirements that should be well thought of when implementing e-government. Requirements such as communication, information access, service delivery, procurement, security, privacy, management, maintenance, digital divide, emergency response and oversight. Moreover, Layne and Lee (2001) list three fundamental issues that should be considered when deciding on the adoption of e-government: universal access, privacy and confidentiality as well as citizen focus in government management.

Gupta and Jana (2003) as well discuss various issues that verify e-government performance and progress such as an authorized IT leader, a working team, a decision-making board, a competent portal, a policy framework, process reengineering, a clear agenda as well as employees’ awareness. Moreover, Al-Sobhi and Weerakkody (2010) point out different factors that influence e-government implementation, adoption and usage. These factors are: infrastructure and business process, leadership, funding and coordination, accessibility, availability and usability, security and privacy, training users, trust and privacy in addition to access and skills (digital divide).

However, Sharma and Gupta (2003) and Huang (2006) declare that it is hard to determine the real reasons impacting e-government development around the world due to diverse cultural, demographical, economical, political, social and technological differences among countries.

Consequently and based on the above two sections, the following discussion will illustrate and explain in detail the associated barriers that affect e-government projects development in both developed and developing countries.
2.9 Barriers to Electronic Government Implementation

“Obstacles are those frightful things you see when you take your eyes off your goal”

Henry Ford

While it is so obvious that e-government is a powerful driver of economic and social growth, there are still several challenges and barriers that hinder its development (Ndou 2004; Schuppan 2009). This section will delineate barriers and challenges that hinder the development of e-government initiatives.

eGovernment Unit (2006, p.14) defines e-government barriers as follows: “Characteristics – either real or perceived – of legal, social, technological or institutional context which work against developing e-government, either: because they impede demand, by acting as a disincentive or barrier for users to engage with e-government services; or because they impede supply, by acting as a disincentive or barrier for public sector organizations to provide e-government services.”

A study conducted by Layne and Lee (2001) state that e-government challenges can be classified in terms of the four major development stages. They demonstrate that challenges associated with the cataloguing stage include website management, resources allocation, issues of maintenance and consistency, privacy and issuing policies, assigning responsibilities for planning, coordination and answering emails. While challenges associated with the transaction stage include responsiveness speed, quality of services, outsourcing in addition to security matters such as authentication and confidentiality. Challenges associated with the vertical integration stage include integrating agencies, flexibility, transparency, information sharing and communication infrastructure. Finally challenges associated with the horizontal integration include integration of heterogeneous databases, technical issues as well as management issues such as dealing with different mindsets and beliefs.

Moreover, Jaeger (2003) identifies that security (protect information from threats such as hackers and viruses as well as avoid deception of information), privacy (limit sharing of users information), digital divide (disparity in accessibility and usability of e-government which relates to various factors such as income, age, language, education, geography...etc), economic disparities (countries with limited economical resources and
internet connections will not utilize e-government services successfully), education
(high internet usage is related with high education levels), accessibility (meeting
disabled individuals needs), prioritization (when implementing e-government, other
services should not be disregarded as it is just as important as the e-government project
itself) as well as citizen awareness and confidence, are all potential problems that can
arise from the implementation of e-government.

However, Wimmer et al (2001) are of the firm opinion that various hindrances which
are standing in the way of a successful implementation of e-government are rooted in
the features of governance. Sharifi and Zarei (2004) also declare that the enormous size
and the bureaucratic nature of the government are amongst the main reasons behind the
difficult implementation of e-government projects. Additionally, Moon (2002) mentions
that lack of personnel capacity, lack of technical capacity, lack of financial capacity as
well as legal and privacy issues are all barriers that hamper the deployment of e-
government.

Lenk and Traunmuller (2000) claim that the big challenge for e-government initiatives
is to overcome organizational constraints and build an organizational culture. On the
other hand, Ho (2002) identifies the lack of IT skills and lack of financial resources as
other potential obstacles that confront e-government projects adoption. Furthermore,
Ebrahim and Irani (2005) mark out various barriers that initiatives face while adopting
e-government. Barriers include lack of IT infrastructure, lack of adequate security and
privacy, lack of IT qualifications, organizational culture, lack of financial resources,
redistribute the power, high turnover and resistance to share information amongst
departments.

Seifert (2003) lists a number of barriers that are impeding the use of e-government.
These are: computer security, privacy, disparities in computer access as well as
also believe that e-government implementation faces many obstacles such as resistance
to change, poor support from top management, security and privacy issues. This is in
line with Warkentin et al (2002) who claim that users of e-government will resist the
change and will have various concerns and uncertainties about the online environment;
therefore, e-government adoption will face the barrier of trust and uncertainty.
In addition, Tung and Rieck (2005) talk about many issues that impede the development of e-government. Issues such as inactive security, lack of computer skills, public sector nature and difficulties when performing organizational changes. Aicholzer and Schmutzer (2000) outline two main organizational challenges which constrain progress on e-government. These are reengineering of various administrative procedures and cooperation between different governmental departments.

Carbo and Williams (2004) report various core factors that have delayed the progress towards e-government. These factors include risks such as operational, political and technological, resistance to change, legal obstacles, limited budgets, unequal access to the information, disparity levels of information literacy as well as cultural and political constraints. They believe that e-government initiatives should have an appropriate framework and models in order to be able to avoid risks and extra expenditures. In addition, Tambouris et al (2001) state that e-government barriers include organizational cooperation, legal issues, technological infrastructure, processes integration, funding and political support.

Gilbert et al (2004) conducted a study that revealed many factors that are viewed as barriers to e-government progress. These barriers embrace that the e-government website should be easy to use, enjoyable, trustful and reliable, safe, visual appeal and also guarantee confidentiality and privacy. Other obstacles discovered by Horton (2001) are lack of standardizations for government data as well as absence of models to be followed. Additionally, Irani et al (2005) argue that the hierarchical, bureaucratic and political nature of the public sector is inhibiting the change and rapid transformation towards e-government.

Lam (2005) classifies e-government barriers in developed countries into the following four categories based on interviews that were conducted with 14 different consultants from developed countries including Singapore, Australia, Hong Kong and New Zealand: (1) Strategy: lack of shared goals, lack of ownership, unrealistic milestones, lack of implementation guidance and funding constraints. (2) Technology: Lack of interoperability, lack of standardization in data formats, rigidity of legacy systems, incompatible technological standards and dissimilarities in security models. (3) Policy: privacy concerns, data ownership (refusal to share data) and absence of e-government
policies. (4) Organization: lack of readiness and organizational culture, limited progress of government reform due to resistance to change by employees, absence of a champion to drive e-government projects, lack of business process reengineering and lack of internal management and technical skills.

A study conducted by Weerakkody and Choudrie (2005) reveal two perspectives of barriers associated with e-government deployment in London Borough of Hillingdon in the United Kingdom; Government and citizens perspectives. Government perspective includes: (1) Lack of accessibility to the website: due to the high cost of broadband services as well as the high percentage of older population, who are not accustomed to use new technologies. (2) Data protection and security constraints: the majority of people have passed the age of retirement, therefore they are less trustful of the internet. (3) Language barriers: Hillingdon’s population is a mix of diverse ethnic and social backgrounds; hence people who do not communicate in English are unable to use e-services. (4) Paradigm shift: change resistance from staff. (5) Political and financial constraints: a problem in allocating funds and resources to reengineer business processes as well as lack of funding for e-government initiatives. (6) Technology constraints: lack of skilled technical staff and technological infrastructure.

On the other hand, the citizens’ perspective includes various barriers such as lack of internet access, disparities in computer literacy, lack of awareness, lack of trust, generation gap, security concerns, language barriers and un-user friendly website.

Moreover, Atkinson and Ulevich (2000) discuss four impediments that have hindered the faster progress towards e-government in the United States. These impediments are: lack of political support and leadership, lack of funding and flexibility, the dominance of an ‘agency-centric’ paradigm rather than a ‘customer-centric’ one, and lack of competitive pressures forcing the change.

Additionally, eGovernment Unit (2006) points out seven major categories of barriers that hinder the evolution of e-government in the European Union. The seven categories are: leadership failures, financial inhibitors, digital divides, poor coordination, workplace and organizational inflexibility, lack of trust and poor technical design.
However, Reffat (2006) declares ten different barriers that hinder the transformation towards e-government in developing countries. Barriers include lack of infrastructure, law and public policy, digital divide, lack of e-literacy, privacy issues, security mechanisms, lack of transparency, interoperability, lack of records and information management, lack of education, awareness and marketing for e-government projects.

Heeks (2003a) as well comes up with various factors that underlie failure of e-government initiatives in developing countries. These factors are: poor project management, poor change management, poor/unrealistic design, lack of vision and strategy, lack of internal drivers, lack of requisite competencies such as IT skills, dominance of politics and self interests, insufficient technological infrastructure and technological incompatibilities.

Another study conducted by Ndou (2004) points out seven major challenges that block the development of e-government upon analyzing the e-government programmes in nine different developing countries (China, India, Brazil, Chile, Argentina, Columbia, Philippines, Guatemala and Jamaica). First, ICT infrastructure and digital divide (lack of telecommunications, lack of computer equipments, lack of e-readiness, lack of technology literacy). Second, policy issues (security and privacy as well as lack of approved policies and rules that support the online transactions). Third, human capital development and lifelong learning (lack of skills and qualified employees in the public sector as well as lack of adequate human resources training). Fourth, change management (resistance to change and lack of organizational culture). Fifth, partnership and collaboration (lack of partnership amongst government agencies and with the private sector). Sixth, Strategy (lack of clear vision, mission, strategy and long term objectives). Seventh, leadership role (lack of leadership support and involvement).

Likewise, Al-Sobhi and Weerakkody (2010) admit that inadequate resources, limited human skills and capabilities, inadequate ICT infrastructure, lack of internet penetration as well as lack of trust in technology are all reasons behind the low adoption of e-government in Saudi Arabia.

outline that lack of qualifications, inadequate human training, infrastructure cost, lack of resources, absence of innovative incentives in the public sector, cultural constraints, organizational constraints, resistance to share information, lack of policies and guidelines, lack of IT management, lack of leadership support, outdated legal frameworks, misuse of information, poor coordination and planning, lack of continuity and comprehensiveness in addition to management expectations vs management realities are all hindrances against e-government improvement in developing countries.

Additionally, Schware and Deane (2003) reveal a number of problems that are facing e-government initiatives in developing countries. They argue that the turnover of skilled ICT staff is high due to lack of motivations. Internet costs are very high which prohibits citizens and businesses from accessing e-government services. Also the lack of coordination between government agencies is leading to wasted money and duplication of efforts. Additionally, lack of funding, absence of common guidelines and standards, lack of a competitive environment to force the change as well as lack of an internal buy-in from government stakeholders are all obstacles hindering e-government implementation in developing countries.

Shalini (2009) as well conducts a study that assesses if a high level of e-readiness in the country is a true indicator of the citizens’ e-readiness to use e-government services. The study explores factors that inhibit citizens from using Mauritius e-government services and finds out that language is amongst the top obstacles that prevented citizens from using the website (the e-government website was in English language rather than their native language (Creole)). Other essential obstacles are lack of awareness about e-government services, lack of trust and lack of e-participation too.

Likewise, Heeks (2001b) believes that lack of e-readiness contributes to failure of e-government initiatives in developing countries. He also claims that other factors play a significant role in failure of e-government initiatives in developing countries. These are: poor data quality and security, legal constraints such as unacceptance of digital signature, lack of organizational support, organizational culture (attitudes and mindsets), lack of human infrastructure (lack of skills, mindset gaps, resistance to information sharing, resistance to change...etc), lack of technological infrastructure, lack of awareness, imitating other countries experiences without taking in consideration that
contexts differ, disregarding stakeholders requirements as well as lack of e-champions and leadership support.

Moreover, UNDP (2006) spotlights several common challenges for e-government implementation in Arab countries. These challenges are: lack of planning, lack of acceptance of e-government vision, absence of institutional frameworks and authority to drive e-government, lack of financial resources, absence of an integrated approach to IT structure between government agencies, lack of common standards and guidelines for information exchange, lack of secured networks that are based on common standards, security and privacy issues, lack of regulatory frameworks that support electronic transactions, the digital divide (i.e. internet access, ownership of PCs, digital illiteracy), resistance to change, lack of resources, budgetary barriers, lack of awareness in addition to absence of communication campaigns.

Al-Shafi and Weerakkody (2007) conduct a study of e-government barriers in Qatar and find out that lack of awareness, lack of trust, lack of accessibility in addition to resistance to change are the main obstacles facing the e-government programme in Qatar.

E-government barriers have been summarized from pre-existing studies in table 2-5 below:

<table>
<thead>
<tr>
<th>Barriers</th>
<th>References</th>
</tr>
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<tbody>
<tr>
<td>Lack of IT management</td>
<td>(Layne and Lee 2001; UN-DPEPA and ASPA 2002; Seifert 2003; Lam 2005; Reffat 2006)</td>
</tr>
<tr>
<td>Resources allocation</td>
<td>(Layne and Lee 2001)</td>
</tr>
<tr>
<td>Issues of maintenance and consistency</td>
<td>(Layne and Lee 2001)</td>
</tr>
<tr>
<td>Lack of interaction</td>
<td>(Markus 1983; Pouloudi and Whitley 1997; Heeks 2001a, b; van Engers <em>et al</em> 2002; Laudon and Lauson 2004; De’ 2005; Zhang <em>et al</em> 2005)</td>
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<tr>
<td>Lack of human infrastructure</td>
<td>(Heeks 2001a)</td>
</tr>
<tr>
<td>Leadership failures</td>
<td>(eGovernment Unit 2006)</td>
</tr>
<tr>
<td>Lack of ”user-friendly” features in the system</td>
<td>(Markus 1983; Gilbert <em>et al</em> 2004; Weerakkody and Choudrie 2005)</td>
</tr>
<tr>
<td>Redistribute power</td>
<td>(Markus 1983; Ebrahim and Irani 2005)</td>
</tr>
<tr>
<td>Lack of institutional frameworks</td>
<td>(UNDP 2006)</td>
</tr>
<tr>
<td>Use of intermediaries</td>
<td>(De’ 2005)</td>
</tr>
<tr>
<td>Lack of competitive pressures forcing the change</td>
<td>(Atkinson and Ulevich 2000; Schware and Deane 2003)</td>
</tr>
<tr>
<td>Socio-economic issues</td>
<td>(Walsham 1993; Sein and Harindranath 2004)</td>
</tr>
<tr>
<td>Lack of rational goals and objectives</td>
<td>(UN-DPEPA and ASPA 2002; Heeks 2003b; Lam 2005; Zhang <em>et al</em> 2005)</td>
</tr>
<tr>
<td>Legal constraints</td>
<td>(Heeks 2001b; Tambouris <em>et al</em> 2001; Moon 2002; UN-DPEPA and ASPA 2002; Carbo and Williams 2004; Ndou</td>
</tr>
<tr>
<td>Lack of e-government policies and online laws</td>
<td>(UN-DPEPA and ASPA 2002; Lam 2005; UNDP 2006)</td>
</tr>
<tr>
<td>Different organizational priorities</td>
<td>(Heeks 2003b; Jaeger 2003; Zhang et al 2005)</td>
</tr>
<tr>
<td>Lack of acceptance or buy-in</td>
<td>(Walsham 1993; Schware and Deane 2003; Sein and Harindranath 2004; UNDP 2006; Park 2008)</td>
</tr>
<tr>
<td>Lack of awareness and promotion</td>
<td>(Heeks 2001b; Jaeger 2003; Weerakkody and Choudrie 2005; Reffat 2006; UNDP 2006; Al-Shafi and Weerakkody 2007; Shalini 2009)</td>
</tr>
<tr>
<td>Lack of technological infrastructure</td>
<td>(Heeks 2001a, b; Tambouris et al 2001; Moon 2002; UN-DPEPA and ASPA 2002; Heeks 2003a; Ndou 2004; Ebrahim and Irani 2005; Zhang et al 2005; Reffat 2006; UNDP 2006; Al-Sobhi and Weerakkody 2010)</td>
</tr>
<tr>
<td>Lack of internet penetration</td>
<td>(UN-DPEPA and ASPA 2002; Schware and Deane 2003; UNDP 2006; Al-Sobhi</td>
</tr>
<tr>
<td>Issue</td>
<td>References</td>
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<tr>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Turnover</td>
<td>(Schware and Deane 2003; Ebrahim and Irani 2005)</td>
</tr>
<tr>
<td>Organizational culture</td>
<td>(Lenk and Traunmuller 2000; Heeks 2001b; UN-DPEPA and ASPA 2002; Ndou 2004; Ebrahim and Irani 2005; Lam 2005)</td>
</tr>
<tr>
<td>Technological constraints</td>
<td>(Weerakkody and Choudrie 2005)</td>
</tr>
<tr>
<td>Lack of trust</td>
<td>(Warkentin et al 2002; Carbo and Williams 2004; Gilbert et al 2004; Weerakkody and Choudrie 2005; eGovernment Unit 2006; Al-Shafi and)</td>
</tr>
<tr>
<td>Category</td>
<td>References</td>
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<td>-------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
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<tr>
<td>Uncertainty and risks</td>
<td>(Warkentin et al 2002; Gilbert et al 2004; eGovernment Unit 2006; Shalini 2009)</td>
</tr>
<tr>
<td>Generation gap</td>
<td>(Weerakkody and Choudrie 2005)</td>
</tr>
<tr>
<td>Unrealistic time frames</td>
<td>(Heeks 2003b; Zhang et al 2005)</td>
</tr>
<tr>
<td>Inadequate human resources</td>
<td>(UN-DPEPA and ASPA 2002; Al-Sobhi and Weerakkody 2010)</td>
</tr>
<tr>
<td>Digital divide (i.e. literacy)</td>
<td>(Jaeger 2003; Carbo and Williams 2004; Ndou 2004; Weerakkody and Choudrie 2005; eGovernment Unit 2006; Reffat 2006; UNDP 2006)</td>
</tr>
<tr>
<td>Economic disparities</td>
<td>(Jaeger 2003)</td>
</tr>
<tr>
<td>Lack of e-education</td>
<td>(Jaeger 2003; Ndou 2004; Reffat 2006)</td>
</tr>
<tr>
<td>Accessibility</td>
<td>(Jaeger 2003; Schware and Deane 2003; Seifert 2003; Carbo and Williams 2004; Weerakkody and Choudrie 2005; UNDP 2006; Al-Shafi and Weerakkody 2007)</td>
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<td>Issue</td>
<td>References</td>
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<tr>
<td>--------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>No models to follow</td>
<td>(Horton 2001; Carbo and Williams 2004; Lam 2005; Zhang et al 2005)</td>
</tr>
<tr>
<td>No sharing goals, guidelines or tools</td>
<td>(Schware and Deane 2003; Lam 2005)</td>
</tr>
<tr>
<td>Lack of e-readiness</td>
<td>(Heeks 2001b; Ndou 2004 Lam 2005)</td>
</tr>
<tr>
<td>Lack of telecommunication network and</td>
<td>(Layne and Lee 2001; Zhang et al 2005)</td>
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<tr>
<td>infrastructure</td>
<td></td>
</tr>
<tr>
<td>Lack of vision and strategy</td>
<td>(UN-DPEPA and ASPA 2002; Heeks 2003a; Ndou 2004; Lam 2005; UNDP 2006)</td>
</tr>
<tr>
<td>Lack of respect among organizations</td>
<td>(Zhang et al 2005)</td>
</tr>
<tr>
<td>Misinterpretation/use of shared information</td>
<td>(UN-DPEPA and ASPA 2002; Zhang et al 2005)</td>
</tr>
<tr>
<td>Cultural constraints</td>
<td>(Walsham 1993; Layne and Lee 2001; UN-DPEPA and ASPA 2002; Heeks 2003b; Carbo and Williams 2004; Sein and Harindranath 2004; Montagna 2005)</td>
</tr>
</tbody>
</table>
| Political constraints                      | (Walsham 1993; Atkinson and Ulevich 2000; Tambouris et al 2001; UN-DPEPA and ASPA 2002; Heeks 2003b; Carbo and Williams 2004; Sein and Harindranath 2004; Weerakkody and
<table>
<thead>
<tr>
<th>Category</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economical constraints</td>
<td>(UN-DPEPA and ASPA 2002; Heeks 2003b; Weerakkody and Choudrie 2005; eGovernment Unit 2006; UNDP 2006)</td>
</tr>
<tr>
<td>Lack of business process reengineering</td>
<td>(Aicholzer and Schmutzer 2000; van Engers et al 2002; Lam 2005)</td>
</tr>
<tr>
<td>Workplace inflexibility</td>
<td>(Atkinson and Ulevich 2000; Layne and Lee 2001; Lam 2005; eGovernment Unit 2006)</td>
</tr>
<tr>
<td>Lack of ownership</td>
<td>(Heeks 2003a; Lam 2005)</td>
</tr>
<tr>
<td>Issue</td>
<td>Reference</td>
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<td>----------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
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<tr>
<td>Lack of internal drivers</td>
<td>(Heeks 2003a)</td>
</tr>
<tr>
<td>Language barriers</td>
<td>(Weerakkody and Choudrie 2005; Shalini 2009)</td>
</tr>
<tr>
<td>Administrative and management issues</td>
<td>(Layne and Lee 2001)</td>
</tr>
<tr>
<td>Poor project management</td>
<td>(Layne and Lee 2001; Heeks 2003a)</td>
</tr>
<tr>
<td>Poor change management</td>
<td>(Heeks 2003a; Ndou 2004)</td>
</tr>
<tr>
<td>Responsiveness issues</td>
<td>(Layne and Lee 2001)</td>
</tr>
<tr>
<td>Quality of services</td>
<td>(Heeks 2001b; Layne and Lee 2001)</td>
</tr>
<tr>
<td>Outsourcing</td>
<td>(Heeks 2001b; Layne and Lee 2001; Weerakkody and Choudrie 2005)</td>
</tr>
<tr>
<td>Lack of integration, collaboration and cooperation amongst government agencies</td>
<td>(Aicholzer and Schmutzer 2000; Layne and Lee 2001; Tambouris et al 2001; UN-DPEPA and ASPA 2002; Schware and Deane 2003; Ndou 2004; eGovernment Unit 2006)</td>
</tr>
<tr>
<td>Lack of collaboration with private sector</td>
<td>(Ndou 2004)</td>
</tr>
<tr>
<td>Transparency</td>
<td>(Layne and Lee 2001; Reffat 2006)</td>
</tr>
<tr>
<td>Resistance to information sharing</td>
<td>(Heeks 2001b; Layne and Lee 2001; UN-</td>
</tr>
</tbody>
</table>
Based on the aforementioned analysis of relevant studies of e-government barriers, the researcher believes that e-government barriers can be classified into eight core categories. These core categories are illustrated in Table 2-6.

<table>
<thead>
<tr>
<th>E-Government Barriers Summarized from Pre-Existing Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of e-participation</td>
</tr>
<tr>
<td>Lack of interoperability</td>
</tr>
<tr>
<td>Inappropriate approaches and imitating others</td>
</tr>
<tr>
<td>Disregarding stakeholders needs (agency-centric rather than customer-centric)</td>
</tr>
<tr>
<td>Lack of standardization in data formats</td>
</tr>
<tr>
<td>Dissimilarities in security models among government agencies</td>
</tr>
<tr>
<td>Bad user experience</td>
</tr>
<tr>
<td>Lack of training</td>
</tr>
<tr>
<td>Lack of innovative incentives</td>
</tr>
<tr>
<td>Lack of continuity and comprehensiveness</td>
</tr>
<tr>
<td>Core Category</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td><strong>Political</strong></td>
</tr>
<tr>
<td><strong>Economical</strong></td>
</tr>
<tr>
<td><strong>Socio-Cultural</strong></td>
</tr>
<tr>
<td><strong>Technological</strong></td>
</tr>
<tr>
<td><strong>Legislative and Regulatory</strong></td>
</tr>
</tbody>
</table>
Dissimilarities in security models among government agencies.

<table>
<thead>
<tr>
<th>Environmental</th>
<th>Lack of competitive pressures forcing the change, No models to follow.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational</td>
<td>Issues of maintenance and consistency, Lack of institutional frameworks, Use of intermediaries, No sharing goals, guidelines or tools, Organizational barriers or Lack of organizational support, Organizational culture, Lack of business process reengineering, Workplace inflexibility, Responsiveness issues, Outsourcing, Transparency, Lack of interoperability, Lack of training, Lack of innovative incentives, Resistance to information sharing, Lack of continuity and comprehensiveness, Lack of IT management staff, Lack of human infrastructure, Lack of IT skills and qualifications, Turnover, Inadequate human resources.</td>
</tr>
<tr>
<td>Administrative</td>
<td>Lack of rational goals and objectives, Leadership failures, Lack of awareness and promotion, Lack of vision and strategy, Administrative and management issues, Lack of integration, collaboration and cooperation amongst government agencies, Lack of collaboration with private sector, Poor project management, Quality of services, Inappropriate approaches and imitating others, Bad user experience, Poor change management.</td>
</tr>
</tbody>
</table>

**Table 2-6 Eight Core Categories of E-Government Barriers**

It should be mentioned that the researcher mainly relied on the PESTLE analysis technique while classifying e-government barriers into different categories. PESTLE
analysis provides an overview of the various macro-environmental factors that affect the institution.

In conclusion, it is very apparent that there is no agreement amongst authors on the major driving forces or key barriers to e-government initiatives due to the diverse perspectives various authors have, such as cultural, economical, managerial, organizational, political and technological.

The next section reviews many of the relevant existing frameworks in order to propose a suitable framework that assists in investigating the drivers and barriers that affect the development of e-government initiative in Jordan.

2.10 An Overview of Relevant Conceptual Frameworks

Frameworks are useful because they help researchers to organize and incorporate the diverse aspects of the research problem in a simple and consistent way, assuring the achievement of the sought after outcomes (Montagna 2005). Maxwell (2005) believes that a conceptual framework, also called theoretical framework, is primarily a model that assists researchers to better understand the research problem, explain what and why things are happening, as well as include their own ideas about the phenomenon being studied. Miles and Huberman (1994, p.18), argue that conceptual framework is a useful method to explain the key issues to be studied as it allows researchers to present “the key factors, concepts, or variables, and the presumed relationships among them”.

While some scholars use both terms ‘conceptual framework’ and ‘model’ interchangeably, Jabareen (2009) disagrees and thinks that they are distinct. He explains that the term conceptual framework is better used when employing concepts alone, whereas the term model is better used when employing factors or variables. The researcher is in agreement with this scholar view. Therefore, this chapter presents the conceptual framework developed by the researcher and Chapter Five presents the final model that was discovered after the completion of the empirical work in Jordan.

Since e-government is relatively a new evolving research topic, it did not have an adequate time to generate its own conceptual foundations. Current e-government literature contains several models that provide slight insights to what and why things are
happening whereas there is a huge lack of conceptual frameworks in it (Heeks and Bailur 2007). Therefore, frameworks from other relevant areas that support ICT adoption and implementation such as e-commerce, e-business, information systems...etc can be adopted to investigate issues in the e-government field (Ebrahim et al 2004).

For example, Zhu et al (2002) develop a framework, based on Tornatzky and Fleischer (1990) framework, which identifies facilitators and inhibitors for e-business adoption. Zhu et al (2002) claim that their conceptual framework can be adopted by researchers to investigate other IS adoptions in different contexts. Figure 2-1 displays this conceptual framework for e-business adoption.

![A Conceptual Framework for E-Business Adoption](image)

**Figure 2-1 A Conceptual Framework for E-Business Adoption**

This framework is useful but not exhaustive, as it only focuses on three main contexts which are technological, organizational, and environmental, whereas the aim of this research is not restricted to discover the drivers and barriers to e-government initiative in Jordan within these three contexts solely, rather it aims to capture a holistic view of all aspects that lead to the success or failure of the e-government initiative in Jordan. So, it is used as a valuable guide for this research.
However, based on Heeks and Bailur (2007) claim about the plethora of different models available in the e-government literature, the researcher thinks that it is more logical to view relevant models and frameworks that are drawn from the e-government literature rather than from other relevant literatures.

Consequently, next is an explanation of some of the models and frameworks found in the e-government literature along with justifications of why they are not adopted for this particular study.

The first one is the model proposed by Heeks (2003a) which summarizes the critical success/failure factors to e-government projects, known as the ‘Factor Model’. This model is generated based on a survey and case study analysis. It illustrates the reasons behind success and failure of e-government initiatives in developing countries. The critical success/failure factors identified in this model are: strategy, management, design, competencies and technology. Heeks contends that the driving factors suggested in his model encourage the success of e-government projects while lack of these driving factors encourages the failure of e-government projects. Figure 2-2 illustrates the factor model.
Even though the factor model embraces several critical success/failure factors to e-government projects, it still lacks many other essential factors which should not be disregarded such as economical factors. Therefore it is not suitable to be adopted because it cannot answer the research questions comprehensively.
Another attempt to understand why e-government projects fail or succeed is the ‘Design-Reality Gap’ model which is also proposed by Heeks (2003b). Heeks analyzes 40 e-government projects in developing and transitional countries and comes up with a conclusion that success and failure of e-government initiatives relies on the gap that emerges between ‘current reality’ and the ‘design of the e-government project’, known as the design-reality gap. He argues that the size of this gap determines the possibilities for e-government success or failure; as the larger this gap, the higher the chance of failure for e-government and vice versa. He identifies seven fundamental dimensions, summarized by the ITPOSMO abbreviation, to better understand and analyze the design reality gap. These are (Heeks 2006):

- Information: includes the official information kept by the system and the unofficial information used by the humans who interact with the system.
- Technology: includes the digital information technologies as well as other information-handling technologies such as analogue phones.
- Processes: includes the actions carried out by e-government stakeholders.
- Objectives and values: objectives dimension includes issues of self-interest, organizational strategies and politics, whereas the values dimensions includes issues of culture and people perceptions of what is right or wrong.
- Staffing and skills: includes the amount and competencies of employees involved with the e-government project.
- Management systems and structures: includes the general management systems that are necessary to manage operations of the e-government system in addition to the way stakeholders are structures.
- Other resources: includes money and time needed to implement the e-government project. Figure 2-3 shows the design-reality gap model.
This research main aim is neither to assess the Jordanian e-government initiative success or failure, nor to measure or analyze the gap between e-government current situation and desired situation. It aims at describing and explaining the issues (drivers and barriers) that cause this gap. Therefore, the design-reality gap model can be utilized as a useful guide to understand the success or failure of e-government projects, but cannot be adopted to achieve the objectives of this research.

Additionally, Ebrahim et al (2004) develop a framework that helps in analyzing e-government projects adoption and implementation in public sector institutions. They review relevant fields that support the implementation of ICT, such as e-commerce, in order to come up with a framework for e-government adoption. Their framework mainly incorporates three parts. These are, stage of growth model, Technology-Organization-Environment framework which is proposed originally by (Tornatzky and Fleischer 1990), as well as benefits and barriers factors.

The aforementioned authors assert that stage of growth model plays an important role in understanding the implementation process of e-government projects as it illustrates the logical development of e-government through some identifiable stages, which helps in
assessing the level of e-government progress. They also claim that the (Tornatzky and Fleischer 1990) framework is the most suitable model that can clarify the issues that affect the adoption of e-government since it consists of the most significant contexts that affect the implementation process of e-government in public sector institutions. Moreover, they reveal that perceived benefits and barriers are very essential factors that influence the adoption of e-government projects as well. Figure 2-4 describes their strategic proposed framework for e-government adoption.

Figure 2-4 Strategic Framework to E-Government adoption

This proposed framework could be considered as one of the choices to be adopted for this research if the researcher was with a full agreement with its founders (Ebrahim et al 2004); but from the researcher point of view creating an independent category or factor for the terms barriers and benefits is unjustified as benefits and barriers could include
any context including the organizational technological and environmental contexts which are proposed in (Tornatzky and Fleischer 1990) framework. With that said the researcher actually acknowledges this framework to be valuable and that it really helps in decreasing the misunderstanding or confusion surrounding the implementation process of e-government projects.

Gichoya (2005) also presents a descriptive framework of the key factors that affect the successful implementation of e-government projects in developing countries. The proposed framework consists of three major elements: input variables, output variables, and an action plan for success. Gichoya classifies the input variables into either factors for success (drivers and enablers) or factors for failure (barriers and inhibitors), whereas output variables were categorized into organizational and technological benefits. The action plan includes recommendations to overcome and reduce the effect of factors for failure. Figure 2-5 demonstrates Gichoya (2005) proposed descriptive framework.
Although this descriptive framework is very useful, it is not exhaustive, as it limits the output variables into two categories only (organizational and technological), whereas the benefits that can be derived from implementing e-government projects are many and definitely exceed these two categories as it can bring about social and economical benefits as well. The researcher also believes that the input variables in this framework are relatively limited and many essential factors such as political factors are noticeably missing.

Another model of e-government adoption (GAM) is presented by Shareef et al (2011) who find out that attitude to use, ability to use, assurance to use, adherence to use, and adaptability to use are the most significant factors that affect citizens decisions to accept
and use e-government systems. They believe that social, cultural, behavioural, organizational, technological, economical, marketing and political aspects provide vital insights to determine the issues that affect citizens’ decisions to adopt e-government. Their framework and findings are based on the perspectives of the users of the Canadian e-government system. Figure 2-6 shows the proposed GAM model.

![GAM Model Diagram]

**Figure 2-6 The GAM Model**

This research neither focuses on citizens’ perspectives nor aims to find out factors that affect the decisions to adopt an e-government system. It focuses on the drivers and barriers that either stimulate or impede the development of e-government project and lead to its success or failure. So this framework is not suitable for this research.

Furthermore, Sharifi and Manian (2010) develop a model that provides recommendations on how to implement successful e-government projects. The model
also describes the success indicators for pre-implementation processes of e-government project in Iran. Success indicators that positively affect the successful implementation of e-government project in Iran were identified in the model as follows: create a clear vision of the vision, make ready for the implementation of the project, make a comprehensive contract considering all detail, choosing a knowledgeable and experienced counsellor and supervisor, internal organization of the employer, choosing the qualified contractor, and carefully writing the RFP. Figure 2-7 displays this model.

Figure 2-7 The Model of Success Indicators for Pre-Implementation Activities of E-Government Development Projects

This model can neither answer the research questions nor cover the major aim of this research because it focuses only on the success indicators that positively affect e-government projects and neglects the negative indicators that lead to e-government projects failure; therefore, it is not suitable to be applied for this study.

Moreover, Chen et al (2006) build an implementation framework that identifies the key elements for a successful implementation of e-government projects in developed and developing countries. Their framework includes four factors that were already defined by the Centre for International Development at Harvard University, USA, to explain
differences between developed and developing countries in terms of e-commerce implementation and strategies. These factors are, network access, network learning, network economy, and network policy.

Due to the fact that public and private sectors are distinct, the previously mentioned scholars add other factors, from prior relevant literature, which they perceive essential to describe differences in e-government implementation between developed and developing countries. These factors are culture and society. Figure 2-8 illustrates this framework.

![An Implementation Framework for E-Government Strategies in Developed and Developing Countries](image)

This is the most comprehensive framework that the researcher came across during her extensive efforts to find a suitable framework to be applied on this study, as it helps in highlighting the major areas for a successful implementation of e-government projects. However, she has some reservations about this framework. The way in which factors were interpreted and placed to come up with the final framework was somewhat weak and unconvincing from the researcher point of view. She would have interpreted them differently. For example, the researcher believes that politics factor should have been placed as an independent factor rather than being placed as part of society factors. Therefore, this framework can be used as guidance only but not to be adopted.

The review of models and frameworks in the e-government literature reveals that despite the excess amount of different models that are available, there is still a lack of a comprehensive framework that incorporates the major key forces (drivers and barriers)
that affect the development of e-government initiatives. Many of the existing frameworks and models have also failed to present the impact of these key forces for the success or failure of e-government initiatives. These models and frameworks are useful guides in identifying some of the key forces that affect e-government development but they are incapable of answering the research questions sufficiently.

The researcher firmly believes that this research is unique in relation to its aim, objectives, research questions, and methodology. Therefore, even though many of the reviewed frameworks and models may possibly be modified and then adopted, but the researcher was not in favour of using any of them and she preferred to create a new framework for this particular study.

The new conceptual framework proposed by the researcher is illustrated in the next section.

**2.11 The Research Conceptual Framework**

Gil-Garcia and Martinez-Moyano (2007) assert that e-government researchers build conceptual frameworks in order to enhance their understandings of the different aspects of this new phenomenon. Jabareen (2009, p.57) defines a conceptual framework “as a network, or “plane,” of linked concepts that together provide a comprehensive understanding of a phenomenon”. In this section, the researcher presents the new conceptual framework developed for this research.

Figure 2-9 displays the research conceptual framework which incorporates the key forces (drivers and barriers) that affect the development of e-government initiatives and also portrays how drivers and barriers correlate to e-government initiatives success or failure. It consists of three main components; Upper (Stage Model), Lower (Action Plan for a Successful Implementation of E-Government Projects), and Core Components (Key Forces).
The researcher will commence by explaining the core component of this framework, which is the key forces and then will move to describe the other two components and show how all of them interrelate to each other to constitute the framework for this research.

2.11.1 Core Component: Key Forces (Drivers and Barriers)

Based on Maxwell (2005) recommendation, researchers have to be aware of the relevant literature of the phenomenon they are studying as it will be the major source of data to be used in the conceptual framework that is being constructed. The researcher started developing the theoretical framework by recognizing the drivers and barriers that have been identified in the literature. The following steps have been performed:
- A critical and deep investigation on the subject of e-government in general and on drivers and barriers that either stimulate or impede the development of e-government initiatives within developed and developing countries, in particular.
- Generating two general lists based on the review of the literature. One describes the pre-identified drivers and the other describes the pre-identified barriers.
- Grouping relatively similar drivers/barriers together into common larger categories.

Once this step has been completed, the researcher recognized that the same categories have emerged from both lists. Therefore, she decided to combine them together and label them as ‘key forces’. Consequently, key forces, in this framework, mean both drivers and barriers. However if these forces push, facilitate, stimulate or positively influence the progress of e-government initiative they are considered as drivers, whereas if these forces delay, obstruct, impede, or negatively influence the progress of e-government initiative they are considered as barriers.

Eight major key forces were identified to affect the development of e-government initiatives in different contexts at different maturity levels, as follows;

- Political Forces: represent political aspects that affect the development of e-government project. It includes political leaders’ decisions, strategies, plans, priorities as well as their commitment and support to the initiative.
- Economical Forces: represent economical aspects that influence the development of e-government initiatives. It includes issues such as costs, budgets allocated, financial resources, and decisions.
- Socio-cultural Forces: represent social and cultural motives and constraints that influence the progress of the e-government initiative. It includes various elements such as the demographical characteristics of individuals, mindsets, beliefs, conceptions, attitudes, behaviours, and values.
- Technological Forces: represent the technological readiness by the entities involved. It embraces the technological infrastructure, resources, and skills that have an effect on the advancement of e-government initiatives.
- Legislative and Regulatory Forces: represent issues of trust, privacy, security, risks in addition to the policies and laws that push or hinder the development of e-government projects.
- Environmental Forces: represent the characteristics of the surrounding contexts which affect the e-government projects implementation. It incorporates national, regional and international environments.
- Organizational Forces: represent all sources of organizational and human attributes and structures that facilitate or impede the growth of e-government projects.
- Administrative Forces: represent administrative and managerial aspects that have major impacts on how e-government projects operate. It includes project and change management issues.

The researcher is of the firm opinion that the combination of these eight categories gives greater insights and opportunities to capture a holistic view of all key forces that affect the development of e-government initiatives, than any one single category.

As explained earlier, each category identifies a broader concept that contains various potential factors. The researcher argues that what has been identified in the previous literature as drivers or as barriers may or may not be prevalent in a certain context. Therefore, categories and factors are not static; rather they are variable, which means that researchers can modify them according to their own interpretations, findings and the context the framework is applied in. It should be noted that categories and factors may vary within the same context too, depending on the maturity level of the e-government initiative.

Even though the previous steps might look neat and systematic, at the beginning that was not the case. It took the researcher several attempts to generate the final list of categories. She also spent so much time trying to fit themes under categories, discussing with other colleagues the emerged categories and trying to justify why specific theme is under a specific category. In many instances, one theme could easily fit under more than one category. She was continuously striving and trying to make sense of possible connections. The next component to be explained is the lower one.
2.11.2 Lower Component: Action Plan for a Successful Implementation of E-Government Projects

As explained earlier, key forces can be considered as either drivers (if they have a positive impact on the development of e-government initiative) or barriers (if they have a negative impact on the development of e-government initiative). However, drivers do not necessarily lead to the success of e-government initiative nor would barriers immediately lead to the failure of e-government initiative. It all depends on the way e-government initiatives cope with drivers and barriers.

The researcher argues that any e-government initiative is faced at some point with certain drivers that encourage its development and with certain barriers that hinder its development. The best way to make the most out of these drivers or barriers is to look at them as opportunities that needed to be dealt with. If the initiative is able to handle these opportunities properly then they are considered as strength forces that lead to e-government success, whereas if they are unable to handle them properly; they are considered as weakness forces that lead to e-government failure.

Recognition of potential drivers and barriers represents a massive opportunity that should not be missed by e-government leaders. They can accelerate and increase the chance of a successful implementation of the project by working on sustaining, enhancing, and improving the identified drivers. They also can reduce the possibility of the initiative failing by trying hard to search for logical solutions to overcome or decrease the identified barriers. The upper component is to be explained next.

2.11.3 Upper Component: Stage Model

E-government is an evolutionary phenomenon. It is neither a one-step process nor a single project (Layne and Lee 2001). Therefore, the transformation process for governments from the brick and mortar approach to the click and mortar approach passes through different stages and levels.

Many scholars (i.e. Layne and Lee 200; Siau and Long 2005; Belanger and Hiller 2006) discuss the various stages of e-government development through what is called the stage model. As discussed earlier (see 2.6.3), there is no agreement amongst authors on the number of stages of e-government development. However, based on the previous
studies, the researcher presents a five-stage model that describes the evolution stages of e-government. These five stages are identified as follows:

- Web Presence: this stage involves posting government information on a website. It means that government institutions post some information about themselves on the web, such as their services, contact details, opening hours...etc
- Communication: this stage allows stakeholders to dynamically interact with the government. It means that stakeholders can download some online forms, use the search engine feature on the website to look for certain things, or even subscribe with a certain website so they can receive some information through their mobile phones.
- Transaction: this stage allows stakeholders to conduct complete online transactions including the financial ones. For example, citizens can pay their traffic violation ticket online.
- Integration: this stage indicates that all government services are integrated on one portal even if they are offered by various institutions.
- Political Participation: this stage facilitates active involvement of citizens in the decision making process. It encourages e-voting and e-democracy.

This five-stage model stresses the point that countries around the world do not necessarily progress at the same pace in their journey to e-government. Even institutions within the same country do vary in their maturity levels of e-government. This is due to the fact that each context has a certain characteristics that might support or hinder the development of e-government in a different way than the other contexts.

The stage model also lays emphasis on the fact that the nature of the forces to be encountered during each stage varies, which means that the drivers and barriers that affect the development of e-government initiatives vary from one stage to another.

The researcher suggests that the stage model is an essential part of the proposed framework as it allows in applying this framework to other contexts regardless of their e-government maturity level. This means that this proposed conceptual framework could be used by either different countries or by different governmental institutions within the same country. It also facilitates in finding out drivers and barriers to e-
government initiatives within each stage of development. Due to the fact that the Jordanian e-government initiative is in its initial stages of development, the main focus would be on the first two stages.

It is worth mentioning here that drivers and barriers do not only vary according to each stage of development, but they also vary in the perspectives of each stakeholder of e-government. Stakeholders can perceive drivers and barriers to e-government from different angles according to their role to the system and to their perceived benefits or threats from it. Simply, there are different perspectives of drivers and barriers to e-government development by different stakeholders at different maturity levels. For example, supply side stakeholders might be more concerned that their jobs are at risk and they might be fired due to the new system, whereas the demand side stakeholders might be more concerned about security and privacy issues. It is crucial to take this point into account when adopting and applying this framework.

This proposed conceptual framework will be used as a helpful guide in the process of data collection and analysis for this study. It will also be validated through the empirical work in Jordan. The purpose of the proposed conceptual framework is to investigate supply side stakeholders’ perspectives of the key drivers and barriers that affect the progress of e-government initiative in Jordan. This is going to be done through ascertaining whether or not all the pre-identified drivers and barriers from pre-existing literature (i.e. leadership support, technological infrastructure, private sector collaboration, human infrastructure, culture, change resistance...etc) fit in the Jordanian context or whether there are some issues do not fit in or whether Jordan has other issues that could not be found in the literature before. The next section sheds light on the research context (Jordan).

2.12 The Research Context

This section aims at offering some background information about the research context (Jordan). It provides information about the characteristics, history, political system, economy, resources, and culture of Jordan. It also focuses on the information and communication technology sector in Jordan; its purpose is to give an idea about the development of ICT in Jordan, Jordan ICT infrastructure as well as the national ICT
strategy. The public sector in Jordan has already taken advantage of the ICT growth and began to recognize technology as an asset to its reform and development. Therefore, the last subsection discusses the e-government initiative in Jordan. It illustrates the Jordanian e-government programme vision, mission, key objectives, pillars, stakeholders and e-services.

2.12.1 Characteristics of Jordan

Jordan’s location makes it extremely important and sensitive; it is located in the heart of the Middle East, bordered by Saudi Arabia from the south-east, Syria from the north, Iraq from the north-east, and Israel and the Occupied Territory (West Bank) from the west. Jordan has access to the Red Sea via the port in Aqaba city, which is located at the end of the northern part of the Gulf of Aqaba (Embassy of The Hashemite Kingdom of Jordan-Washington D.C. 2008a).

Jordan consists of many diverse environments and landscapes; it has a long rich history and a lot of significant archaeological sites such as the Dead Sea and Petra. The country of Jordan is divided into four main ecological areas as follows: Highlands, Steppe, Jordan Valley, and Badia. The combination of arid desert and the Mediterranean climates makes Jordan very special. Generally speaking Jordan has warm and dry summers, and wet and mild winters. The majority of its total land area which is 89,342 sq km is desert (CIA 2010).

According to DOS (2009) and CIA (2010) Jordan is considered among the comparatively small populated countries, with a population of 6,269,285 people in which nearly 2,000,000 of them live in the capital Amman. The population in Jordan almost evenly divided at 48.5% Female and 51.5% male, the majority of the population in Jordan are young, represented by 36% under the age of 14 years, 59.4% between ages of 15-64 years, and 4.6% above 64 years. The vast majority of the population are Arabs at 98% and the remaining minorities are Circassian 1% and Armenian 1%. The official religion in Jordan is Islam totalling 92% Sunni Muslim, and about 6% Christian and 2% other (several small Shia Muslim and Druze populations). Arabic language is the official language of Jordan, although English language is widely spoken by most upper and middle classes. Jordan population has a high literacy rate at 91.1%. Jordan is
divided into 12 different governorates (Muhafazat) they are: Ajlun, Al Aqabah, Al Balqa, Al Karak, Al Mafraq, Amman, At Tafilah, Az Zarqa, Irbid, Jarash, Ma'an and Madaba. The currency is the Jordanian Dinar, The rate of exchange is 1 JD = 1.42 US dollar. The legal system in Jordan is based on the Islamic law and French code.

Jordan has an accomplished and well reputable health services system; it is considered as one of the top in the region, it has 102 public hospitals and 59 private hospitals that serve about 6 million people, nearly 85-90% of the total population has some form of health insurance (Oxford Business Group 2010).

2.12.2 Background to Jordan’s History

At the end of World War I and the collapse of the Ottoman Empire, the United Kingdom was given a mandate from the League of Nations to govern a very large area of the Middle East. In the early 1920s the United Kingdom separated out a semi-autonomous region from Palestine and called it Transjordan. In 1946 Transjordan gained its independence from the United Kingdom. In 1950 the name The Hashemite Kingdom of Jordan, also known as Jordan, was adopted and it became a constitutional monarchy. King Hussein (1953-1999) was the country's long time ruler, he was a very pragmatic leader, and he successfully managed to navigate through rivalry pressures from the major powers such as United States, Union of Soviet Socialist Republics, United Kingdom, Israel, many Arab states, and a large internal Palestinian population that fled to Jordan in 1948 after the first war with neighbouring Israel. Although Jordan has lost the war in 1948 along with other Arab countries, it continued to manage the affair of the Palestinians in the West Bank. However, Jordan lost the West Bank to Israel in the second war in 1967 and more refugees fled to Jordan again. Jordan barely managed to defeat Palestinian insurgents who threatened to control and overthrow the monarchy in 1970. In 1988 King Hussein permanently declares relinquishing Jordanian claims to the West Bank, and in 1989, he re instituted parliamentary elections and began a gradual political liberalization; so in 1992 political parties were legalized. In 1994, King Hussein signed a peace treaty with Israel.

Following his father's death, in February 1999, King Abdullah II, the eldest son of King Hussein, assumed the throne. Since then, the new young king has joined his power and
undertaken an aggressive stands for political, social and economical reforms. In 2003, following the outbreak of insurgent violence in neighbouring country of Iraq, Jordan absorbed many thousands of displaced Iraqis. In July 2007 municipal elections were scheduled and held under a new system in which 20% of all seats in all municipal councils were reserved by quota for women. Also in November 2007 Parliamentary elections were held and independent pro-government candidates won the vast majority of seats and in November 2009 King Abdullah II exercised his constitutional power to dissolve the parliament and called for new elections (CIA 2010).

2.12.3 Background to Jordan’s Political System

Jordan political system consists of three independent branches including executive, legislative and judicial. These three branches are completely autonomous. The king is the head of government (executive branch). The government consists of a prime minister, who is appointed by the king, and a cabinet, who is appointed by the prime minister in consultation with the King. The appointed cabinet is accountable to the National assembly (Majlis Al-Umma) which constitutes the legislative branch of the government. The National assembly (Majlis Al-Umma) has two chambers; House of Notables (Majlis al-Ayan) which has 55 seats; its members are appointed by the king to serve four-year terms, and the Chamber of Deputies which is also called the House of Representatives (Majlis Al-Nuwaab) consist of 110 seats, its members are elected using a single vote system, that is non transferable in multi member districts, to serve four-year terms; there are 9 seats reserved for Bedouin candidates, 9 seats are reserved for Christian candidates, 6 seats are reserved for women, and 3 seats in which they are reserved for Jordanians minorities group from Chechen or Circassian descent (House of representatives 2008).

2.12.4 Background to Jordan’s Economy and Resources

King Hussein the late monarch of Jordan started the push towards liberalization and democracy back in 1989. Following the footsteps of his father, King Abdullah II took the throne in 1999, guided the country towards more stabilities, empowerment of citizens and the involvement in the decision making processes, which contributed to increase institutionalization and accountability, this move has benefited Jordan and the Jordanian people for many years to come.
King Abdullah II encouraged and stressed all successive government to focus the attention on political as well as socio-economic reforms. The Jordanian government has worked closely with the International Monetary Fund (IMF) which is a United Nations agency that assists in promoting trades and helps in overseeing the global financial system. Jordan has made a lot of progress in regards to privatization of state owned companies, aiming to create a competitive market environment and attracted foreign investments (Ministry of Planning [MoP] 2010). In 2000 Jordan was granted entrance to the World Trade Organization (WTO), began to participate in the European Free Trade Association, and signed the Free Trade Agreement with the United States of America and many other nations (CIA 2010). More recently in 2004 Jordan signed the Singapore Free Trade Agreement, and in 2006 the Agadir Agreement, as a consequence of these agreements Jordan completed more than 35 agreements in total to attract more foreign investments and to reinforce trade relation with all its trade partners (MoIT 2010).

Jordan’s economy is considered among the smallest in the region, it also has very limited natural resources and it relies heavily on foreign assistance. Jordan also faces many economical challenges such as high unemployment, high poverty rate, and large budget deficits. Jordan is aware that future development in the economy has to depend a lot on the private sector to be involved and play a bigger role in the future growth of the economy.

With limited natural resources Jordan has shifted its focus towards development of non-hydrocarbons side of the economy which includes human resources, tourism and ICT through advancing the education agenda, the training systems and pushing for a high computer literacy rate. So according to the CIA (2010) report Jordan’s teenagers are well equipped with basic computer literacy and over 90% of the Jordanian population over the age of 15 read and write.

Oxford Business Group (2010) state that ICT in the Jordanian economy has assumed a very critical and important role. The Ministry of Information and Communication Technology has a big and a high target to reach an internet penetration rate of 50% by the end of 2011. Jordan has been ranked second in the Middle East after Egypt, and in the top 10 globally for outsourcing destinations. The first 3G network in Jordan was
launched by Orange in 2010, and currently the government goal is to connect 100 villages through the fibre-optic network.

2.12.5 Background to Jordan’s Culture

Most of Jordan is a desert with very little vegetation and water. The population is a mix of natives or so called pure Jordanian, Palestinian Jordanian, Circassians, Chechens, Iraqis, and Druiz. Jordan is the only Arab country that permits Palestinians to become citizens.

Islam is the predominant religion in the Middle East as well as in Jordan. It is also the official religion of the state. Most people belong to the Sunni sect of Islam with a small minority that belongs to the Shia sect, and another small minority who are Christians. Muslims in general and in Jordan as well regard Christians and Jews as people of the book and treat them with respect. Friday is Jordan’s Sabbath day. Arabic is the official language. Since Jordan was a colony and under the control of Great Britain after World War I a wide majority of upper and middle class Jordanians speak English as their second language besides Arabic. English is compulsorily taught in schools; some people speak also German and French. The Circassian community preserve Circassian language in addition to speaking Arabic.

Hospitality is a very common place in the Arab life in general as well as in Jordan and so is generosity. Rice and lamb is the main ingredient of most Jordanians’ dishes including the typical Jordanian dish of Mansaf.

Jordan is considered as a modern Arab country, the male costume is very similar to male dress in the west, and the female costume has variety in decoration and colours with great regional styles. However, until now Jordan still has a strong influential tribal system. Therefore, most Jordanians live with their extended families. Tribal system in Jordan affects the role of an individual in the society and has a big influence on his/her accomplishments. Jordanians depend heavily on personal and family connections also called Wasta to get things done.

Men and women do mix freely in public overall, due to relaxation of social separation of sexes. Hence, many educated younger female are seen with males in social gathering, internet cafés, and at coffee shops smoking the water pipe (Arghila). This is more
noticeable in the capital of Jordan (Amman), while other cities’ inhabitants tend to be more conservatives and more religious that leads them to prefer separations amongst males and females.

Jordan society is a male dominant society. The majority of women have found their lives under the control and mercy of their closest male relatives. For example, after getting married, women are not allowed to travel without their husbands’ written permission. Additionally, despite equal pay at work many challenges faces women in the work place such as harassments from other male colleagues. Although many constraints are placed on Jordanian women, they are able to advance in various areas such as politics and education (Anon1 2010).

Hofstede and Hofstede (2005) believe that national culture has a big impact on organizational culture. Thus culture is an essential element that should be taken in consideration when adopting e-government project in Jordan. For example, many Jordanian families opted not to participate and buy in on the idea of using the Internet, and justified their decision due to the accessible and unwanted materials that the internet might bring about.

2.12.6 Background to ICT in Jordan

This section highlights the e-readiness in Jordan. It focuses on the development of ICT in Jordan. Followed by various indicators in regard to the ICT infrastructure, and finally discusses the national ICT strategy in Jordan.

2.12.6.1 Development of ICT in Jordan

In recent years and throughout the world, governments as well as non-governmental organizations had recognized the power of Information and Communication Technology to develop business, decrease poverty, enhance public services, and promote governmental improvements. Developing countries can utilize ICT to gain a competitive advantage for rapid growth, especially that ICT sector involves low capital costs and that the main inputs to ICT production are human resources. Jordan as a young developing nation has realized the great impact of ICT on increasing and improving the country’s economy and businesses (The Information Technology Association of Jordan [Int@j] 2007).
Consequently, with the succession of His Majesty King Abdullah II to the throne of Jordan, an ambitious and focused strategy was launched with the goal of transforming Jordan into a knowledge-based economy country and helping to position Jordan as the leading ICT technology hub in the region (MoICT 2006).

King Abdullah II (1999) addressing Jordan's information technology leaders stated “The vision of Jordan is to become a regional IT leader and an internationally recognized exporter of IT products and services, exploiting its core human capital advantages” (Sahawneh 2002). Additionally, in the World Economic Forum 2000 His Majesty King Abdullah II also declared that “It is time to widen the scope of our participation in the knowledge economy from being mere isolated islands on the periphery of progress, to becoming an oasis of technology that can offer the prospect of economies of scale for those who venture to invest in our young available talent” (REACH 2010).

King Abdullah’s vision and speeches are aimed at increasing the awareness of ICT importance in Jordan. His Majesty declared two ambitious initiatives for the development, deployment, and usage of ICT in Jordan. The first royal initiative is known as Jordan’s REACH initiative. It outlines a clear plan, indicating actions which need to be implemented by the government, the private sector, and by all other stakeholders, to ensure Jordan’s position in the knowledge-based economy for years to come. The second royal initiative is e-government (Economic and Social Commission for Western Asia [ESCWA] 2003). It aims to deliver high quality services, develop Jordan’s competitiveness, and promote development of the ICT sector (MoICT 2006). These two initiatives are designed to enhance and complement the public sector reform acts which have started in the 1990s (Kulchitsky 2004).

To achieve the REACH initiative strategy as well as the e-government initiative strategy, countless actions were undertaken by the Ministry of Planning (MoP) and the Ministry of Information and Communications Technology (MoICT) to make use of the information and communication technologies to benefit Jordan. All actions started by growing the awareness of ICT for individuals and for firms, launching various supporting initiatives such as the Connecting Jordanians Initiative (CJI) which aspires to manage and incorporate national plan to connect all Jordanians online, the Jordan Information Technology Community Centres (JITCC) Initiative, e-learning initiatives
in addition to the training provided for all government employees to get the International Computer Driving License (ICDL), as well as the efforts made to increase internet penetration throughout launching various public access points and Internet Cafes, where Jordanians can access the web at minimum fee rates (MoICT 2010; MoP 2010).

Nowadays, the ICT sector is the fastest growing sector (30% growth rate) in Jordan’s economy. It contributes about 10%-12% to GDP (Int@j 2009).

2.12.6.2 Jordan ICT Infrastructure

Since 1995, the Information Technology field within the private sector in Jordan is considered one of the big influential fields on Jordan’s economy. The IT industry in Jordan includes: hardware and packaged software sales, software development, communication equipment, the telecommunications sector, cables and infrastructure-related wiring and cabling systems, internet services, mobile messaging and Wireless Application Protocol (WAP), data and information transmission and management services, multimedia production services, IT training, consulting and research (ESCWA 2003). Various indicators in Jordan prove that the ICT sector is fairly growing.

Table 2-7 illustrates some of the indicators in Jordan that support the ICT infrastructure (UN 2008).

<table>
<thead>
<tr>
<th>ICT Indicators</th>
<th>Number per 100 Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>13.65</td>
</tr>
<tr>
<td>Personal Computers</td>
<td>6.22</td>
</tr>
<tr>
<td>Cellular subscribers</td>
<td>74.40</td>
</tr>
<tr>
<td>Main telephone lines</td>
<td>10.52</td>
</tr>
<tr>
<td>Broadband</td>
<td>0.83</td>
</tr>
</tbody>
</table>

Table 2-7 Indicators in Jordan that Support the ICT Infrastructure

In addition to the aforementioned indicators, human resources in Jordan have the appropriate skills and education. There are a total of twenty seven universities, 10 are
public universities and 17 are private universities, all of them offering degrees in various subjects related to information technology; these institutions are helping in introducing highly qualified workforce in the computer and ICT sector (Ministry of Higher Education & Scientific Research 2010).

Nonetheless, Jordan also has many intermediary colleges and professional institutions which also offer degrees correlated to IT. The Adult literacy rate in Jordan is listed at 91.1% (UN 2008). It is considered among the highest regionally. Furthermore, about 19,000 people are holders of post-graduate degrees, and more than 17% of workforces in the country has higher education certificates. The well educated well trained workforce has granted Jordan an advantage above other countries in the region of being a main supplier of qualified workforces (Sahawneh 2002). Additionally, more than 16000 individuals work in jobs related to ICT directly (Int@j 2009).

Moreover, from the vision of His Majesty King Abdullah II, knowledge stations project was launched in 2001 in preparation for utilizing ICT applications in neighbouring communities to transform Jordan into an information culture that would provide all citizens, especially in remote and rural areas, the chance to utilize and benefit from ICT, develop skills and human resources, minimize the digital gap, enhance competitiveness and capacity to obtain employment in order to attain economic and social development on an individual level and on the community level (ESCWA 2007).

Many organizations were also founded aiming at aiding the ICT infrastructure in Jordan. Some of these organizations are: Jordan Telecom which is an operator and provider of telecommunication services, Mobile Service Providers such as Mobilecom, Zain, Umniah, and Express, as well as Website Development Companies. Even though website development in Jordan are less pricey than those in other countries, still the number of website development and hosting companies are limited; and most companies that have websites are using them mainly for advertising and displaying of their products only (Sahawneh 2002).

Furthermore, logistics is an essential part of the ICT infrastructure. Jordan has four vital logistics parties: Aramex, DHL, Royal Jordanian Cargo, and Mail and Post System (Sahawneh 2002). It is worth mentioning also that new laws, legislations, and
regulations were approved in 2002 to better govern the use of information and communication technologies as well as online transactions in Jordan. E-transactions laws in Jordan are considered as adequate as the physical transactions before the court of law; they permit sharing of information electronically across all institutions, acknowledge electronic signature, and permit online payments for government services. However, a comprehensive range of regulations is needed to be put in place through joint efforts from the Ministry of Industry and Trade (MoI), the Ministry of Information and Communications Technology (MoICT), and the Central Bank of Jordan (Privacy International 2007).

2.12.6.3 National ICT Strategy

In 2007, a national ICT strategy was established with the aim of achieving several goals by the end of 2011 (Int@j 2007). This new strategy reflects Jordan’s vision and principles that bridging the digital divide will help achieving both ICT sector growth, and more significantly, growth in the economy as a whole; it would also improve the citizens’ quality of life. National ICT strategy goals are (Int@j 2007): (1) To increase the current penetration rate of internet from 11% to 50% by the end of 2011; this goal is achievable even though it is an ambitious goal, since it is in line with current usage penetration rates for middle-income nations. (2) The revenues for ICT sector were USD 1.53 billion in 2005, in which 580 million USD were IT revenues and 950 million USD were telecommunications revenues. The new plan is based on conservative assumptions of the annual growth of the market, to increase the size of ICT sector to 3 billion by the end of 2011. (3) The new plan estimates an additional 35,000 jobs in the ICT sector by the end of 2011. The international standards exhibit that for each job created in the ICT sector will help to create 3 jobs in the economy.

However, as all other developing nations, Jordan encounters the same challenges in growing the ICT industry. The growth of the ICT sector in Jordan is hindered by lack of policies or the implementations of such policies. Jordan’s telecommunications services are fairly well developed and even though the mobile phone penetration rate is high; but broadband internet access is still very expensive which hampers citizens to utilize technology and own PC’s. A mixture of regulatory and legal obstacles stops an easy operation of the market for ICT services and products. In addition, lack of
understanding of ICT by the government is a major obstacle since government is the main buyer of ICT services in Jordan (Int@j 2007).

2.12.7 Electronic Government in Jordan

E-government programme in Jordan is an ambitious initiative established by his majesty King Abdullah II aiming at transforming Jordan into a knowledge-based economy country. Accordingly, the Ministry of Information and Communications Technology (MoICT) was assigned to be in charge of implementing e-government project in 2001 (MoICT 2006).

The Jordanian e-government programme vision is to transform the government towards a customer centric approach by delivering services to people, regardless of their location, economic status, education or ICT abilities (MoICT 2006).

“In a customer-centric world, e-government starts with users”

(MoICT 2006, p.4)

The Jordanian e-government programme mission is to reach stakeholders across society by delivering public sector services through the available channels and by integrating technological resources with human roles to achieve economical and social development (MoICT 2006).

E-government Programme in Jordan has the following key objectives (MoICT 2006): (1) Improve service quality and delivery and accelerate government’s interaction with all types of stakeholders. (2) Improve the responsiveness of government to customers’ needs by providing new channels of communication not by compromising traditional channels. (3) Enhance transparency of government by increasing information accessibility for stakeholders; the main target is to provide this service to people regardless of their geographical location, educational level or financial situation. (4) Save time and money by improving government performance and efficiency. (5) Create positive spin-offs on society through promotion of ICT skills within stakeholders.

To achieve these objectives, Jordan is focussing on four pillars that characterize the foundation for e-government. These four pillars are: technology infrastructure, business level, institutional framework and legal regulations (MoICT 2006).
Stakeholders of Jordanian e-government programme fall into the following categories (MoICT, 2006):

- E-government users: citizens, businesses, government entities and government employees
- Legislation authority
- Government
- E-government management office
- Partners and Providers (private sector and non-governmental partners)

E-services offered by the Jordanian e-government programme are four types. These are (MoICT 2006): (1) Shared services: services that are created once and are available for all government entities such as the portal, contact centre and payment gateway. (2) Vertical services: services that begin and end within an institution (i.e. passport renewal). (3) Cross services: services that are shared and provided by many entities (governmental or non-governmental). For example, obtaining an occupation license; citizen has to go to Ministry of Industry and Trade to register a company, and then to Amman Greater Municipality to obtain the license. (4) Composite services: bundles services that flow across several institutions and connected to a main frame. For example, all institutions have financial systems that are linked to Ministry of Finance and also all institutions have human resource systems that are linked to Civil Service Divan.

The Jordanian e-government portal can be accessed through the following address: www.jordan.gov.jo. E-government initiative is a fundamental part of the country’s national agenda as it contributes to Jordan’s economic and social development and aims at reforming the public sector (MoICT 2006). According to a report proposed by the United Nations, in the context of e-government readiness globally, Jordan e-government programme has significantly improved between 2005 and 2008, moving up 18 positions from number 68 to 50 (UN 2008).
2.13 Summary

This chapter began with an overview of public sector reform. Then it laid emphasis on important subjects, such as e-commerce, information technology and information systems, that are associated with the topic of e-government. This chapter also examined the available body of literature on e-government. It discussed e-government definitions from various perspectives. It also provided an overview of e-government stakeholders, stage models, drivers and barriers in both developed and developing countries. It revealed a gap in the available literature about e-government drivers and barriers in Jordan. Furthermore, it showed a comprehensive list of e-government drivers and barriers. It also demonstrated various core categories of e-government drivers and barriers which the researcher generated after reviewing relevant published literature on that topic (see table 2-4 and 2-6). These core categories assisted the researcher to create a conceptual framework (see section 2.11) that aided her while conducting the empirical fieldwork and collecting data for this case study research. It proceeded then to examine the existing relevant models and frameworks, and proposed a new conceptual framework for this research. Finally it looked at the research context (Jordan) and covered aspects such as Jordan’s features, history, political system, economy, resources, culture, information and communication technology and the e-government project. The next chapter talks about the selected methodology for this research.
3) Chapter Three, Research Methodology

3.1 Introduction

The focus of IS research has substantially shifted away from technological aspects to managerial and organizational aspects, therefore the significance of qualitative research methods has increased (Benbasat et al. 1987; Myers 1997; Myers and Avison 2002).

This is a case study based qualitative research that pursues systematic procedures with the purpose of utilizing the guidelines of the qualitative research in information systems (Saunders et al. 2007; Boeije 2010).

As discussed in chapter one, this research aims to investigate the drivers and barriers that affect the development of e-government initiative in Jordan. It focuses on the e-government phenomenon which is relatively a new trend that is classified under the information systems discipline. This chapter comprises two parts; the first part which involves sections 3.2, 3.3, 3.4, 3.5 and 3.6, provides an overview of the philosophical paradigms in general and within the field of information systems in particular. In addition, it addresses research approaches, research methods as well as data collection sources. The second part which involves sections 3.7 and 3.8, outlines the chosen research methodology and data collection sources for the current research, in addition it provides a discussion of the reasons for the choice of an interpretive qualitative case study to be carried out in this research, together with justifications for the use of interviews, documents and field notes as data gathering sources for this case study research.

3.2 Philosophical Paradigms

An enduring controversy in social science has divided methodologists and scientists into two general schools of thought (Schutz 1954). One of these is the objectivist school of thought (Lee 1989b), which is based on natural science and believes that only scientific methods create superb results, thus they must be employed when studying the human affairs (Schutz 1954). The other school of thought is the subjectivist (Lee 1989b), which is based on social science and believes that the formation of the social world and the world of nature are different (Schutz 1954).
However, any research in natural or social science discipline is influenced by shared beliefs and practices that guide the field of study (Morgan 2007). Such a framework or shared way of thinking about how to conduct a research and acquire knowledge is called a paradigm (Patton 1982; Oates 2006). Researchers should adopt a philosophical paradigm that is compatible with their research interests and best suited to their way of working. Researchers should be aware of the implications of their philosophical paradigm and work within its traditions. However, they should be attentive to the possibility of other practices and assumptions (Orlikowski and Baroudi 1991; Boeije 2010). The next section will provide an overview of the philosophical paradigms in Information Systems research.

3.3 Overview of Philosophical Paradigms in Information Systems Research

Social science research, including information systems research, is based on underlying assumptions of three major research philosophical paradigms known as: positivist, interpretive and critical (Orlikowski and Baroudi 1991; Myers 1997; Klein and Myers 1999; Myers and Avison 2002; Oates 2006).

Positivist is the oldest among the three paradigms. It relies on the scientific method, which is the approach to research in natural science. Therefore, researchers who adopt the positivist stance are influenced by the three major techniques of the scientific method; reductionism, repeatability and refutation (Oates 2006). Positivists also claim that methods of natural science are the merely legitimate methods for application in social science (Lee 1991). Several features and assumptions have been attributed to the positivist paradigm. These are the researcher and phenomenon under study are independent entities. Furthermore, researchers discover facts by testing of theories and hypotheses. Moreover, researchers should be objective and the facts discovered about the phenomenon are value-free. In addition, generalization is doable; since aspects of the phenomenon under study are considered precise, measurable and have fixed meanings (Lincoln and Guba 1985; Easterby-Smith et al 2002; Johnson and Onwuegbuzie 2004; Oates 2006; Saunders et al 2007). Also Hussey and Hussey (1997) illustrate that positivist research has an artificial location, produces quantitative data, uses large samples and the process of research is deductive.
With respect to information system research, Orlikowski and Baroudi (1991, p.5) adopt a certain criteria to categorize information systems research as positivist. Their criteria comprises of “evidence of formal propositions, quantifiable measures of variables, hypotheses testing, and the drawing of inferences about a phenomenon from the sample to a stated population”.

Interpretive is the second philosophical paradigm that emerged due to the fact that methods applied in natural science are inadequate to social science (Lee 1991). Interpretive paradigm revolves around people perceptions of their world. It assumes that humans create and attach their own intersubjective meanings to the world around them. Interpretive researchers make an effort to construe phenomena through the meanings and values that people attribute to them in their real life situation. They believe that either for an individual or a group, reality is accessed and communicated to others through social constructions such as language, shared meanings, perceptions, consciousness and understanding (Lee 1991; Orlikowski and Baroudi 1991; Walsham 1993; Myers 1997; Easterby-Smith et al 2002; Myers and Avison 2002; Oates 2006). Also Collis and Hussey (2009) believe that interpretive research has a natural location, produces rich, subjective, qualitative data, uses small samples and the process of research is generally inductive. Orlikowski and Baroudi (1991) point out that generalizing results is absent in interpretive research. However, Ryan et al (2007) argue that even though findings cannot be generalized in qualitative research, but they can be transferred and applied to other similar contexts.

Walsham (1993) states that the aim of interpretive research in information system is to create an awareness of the context of the information system, and to reveal the process that demonstrates how information system affects and is affected by the context. Furthermore, Klein and Myers (1999, p.69) classify information system research as interpretive “if it is assumed that our knowledge of reality is gained only thorough social constructions such as language, consciousness, shared meaning, documents, tools and other artefacts”.

Critical research is the third philosophical paradigm. It has been delineated and categorized by various scholars (Orlikowski and Baroudi 1991; Myers 1997; Myers and Avison 2002; Oates 2006). The aforesaid scholars describe how critical researchers
assume that social reality is historically established and that it is generated and regenerated by people. They also declare that despite the assertion that people can change their economical and social circumstances, critical researchers are aware that their capability to do so is controlled by diverse forms of cultural, economical, social and political authorities. They also illustrate how critical paradigm is distinguished from positivist and interpretive paradigms. As the former attempt to critique, analyze, evaluate, transform the social reality and modify the status quo, whereas the other two paradigms are concerned with explaining or predicting the status quo.

With respect to information system research, the main task of critical research as proposed by the abovementioned scholars is to reveal the conflicts, contradictions and challenges associated with the social reality, in order to emancipate and empower people. Klein and Myers (1999, p.69) also classify information system research as critical “if the main task is seen as being one of social critique, whereby the restrictive and alienating conditions of the status quo are brought to light”. The next section will describe the several research approaches.

3.4 Research Approaches

Various classifications have been used to distinguish between research approaches; nomothetic versus idiographic (Luthans and Davis 1982; Chua 1986),” inquiry from the outside” versus “inquiry from the inside” (Evered and Louis 1981, p.385), objectivist versus subjectivist (Chua 1986; Lee 1989b; Saunders et al 2007), in addition to quantitative versus qualitative, which is considered as one of the most regular distinctions among them all (Morgan and Smircich 1980; Myers 1997; Easterby-Smith et al 2002; Myers and Avison 2002).

Quantitative approach was developed in natural science with the purpose of investigating natural phenomena, while qualitative approach was developed in social science with the purpose of studying social and cultural phenomena (Myers 1997; Myers and Avison 2002).

Quantitative approach is perceived as objective and mainly linked with the positivist stance. On the other hand the qualitative approach is perceived as subjective and mainly
linked with the interpretive and critical stances (Bryman 1984; Creswell 1994; Crossan 2003; Johnson and Onwuegbuzie 2004; Oates 2006).

However, it should be cleared that quantitative and qualitative approaches can be used with any research paradigm - positivist, interpretive or critical - depending on the philosophical assumptions of the researcher (Myers 1997; Klein and Myers 1999; Myers and Avison 2002; Denzin and Lincoln 2005).

Quantitative approach works with numeric data and relies on statistics (Oates 2006), whereas qualitative approach generates rich, descriptive data that assist in describing and understanding social phenomena (Boeije 2010). Quantitative researchers study the phenomenon by breaking it down into quantifiable categories (Oates 2006) whereas qualitative researchers study the phenomenon through answering “how”, “what” (Merriam 1998) and “why” (Banyard and Miller 1998) types of questions. In fact, quantitative approach lays emphasis on fixed measurements and hypotheses testing, while qualitative approach is deemed to be more flexible (Bryman 1984) and give attention to the quality of entities, processes and meanings (Denzin and Lincoln 2008). In other words, quantitative approach is considered objective and hard (Silverman 2006), while qualitative approach is perceived as subjective and soft (Hathaway 1995). Additionally, quantitative techniques search mainly for a cause and effect relationship, whereas qualitative techniques search mainly for meanings in the context (Harvey and Myers 1995).

Also, quantitative approach usually employs a deductive process which contrasts with qualitative approach which frequently employs the inductive process (Creswell 1994; Boeije 2010). Moreover, sample is large and randomly chosen in quantitative approach, while it is small and selective (non-random) in qualitative approach (Merriam 1998).

Another point is that quantitative researchers prefer the formal writing style when writing up their final reports. They use impersonal passive voice and technical terms. In contrast, qualitative researchers prefer writing directly and informally. They favour a detailed and rich description (Creswell 1994; Johnson and Onwuegbuzie 2004).

In addition, quantitative approach is based on collecting and analyzing quantitative data (numeric data), while qualitative approach is based on collecting and analyzing
qualitative data such as texts, images and artefacts (Miles and Huberman 1994). Various methods fall under the category of quantitative approach, such as surveys and laboratory experiments (Myers 1997; Myers and Avison 2002), and of qualitative approach, such as action research, ethnography, grounded theory and case study (Myers 1997; Myers and Avison 2002; Denzin and Lincoln 2005).

Various sources for collecting data include questionnaires, observations, documents, and interviews could be used in both quantitative and qualitative approach. However, further ways of gathering data in quantitative approach include tests and measures, while focus groups and field notes are additional ways of gathering data in qualitative approach (Oates 2006).

Table 3-1 illustrates the major differences between quantitative and qualitative research.

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<td>Cause and effect relationship</td>
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<td>Deductive process</td>
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<td>Sample is large and random</td>
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<td>Formal writing style</td>
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**Table 3-1 Major Differences between Quantitative and Qualitative Research**

In addition to the two abovementioned approaches in social science research, Johnson and Onwuegbuzie (2004) argued that there is a third distinct approach that is called
mixed method research. This approach shares the notion that both quantitative and qualitative research are useful and important and consequently they should not be viewed as rival approaches but rather as complementary to each other (Jick 1979; Johnson and Onwuegbuzie 2004).

The next section will provide a discussion of the main methods that are used in quantitative and qualitative research approaches.

3.5 Quantitative and Qualitative Research Methods

Quantitative research methods are surveys and experiments (Oates 2006). The following discussion will describe each of them.

**Surveys**: are used to gather same type of data from a large group of people in a systematic way. Researchers find patterns in the data and subsequently they generalize the results (Oates 2006). Surveys can be carried out in person, over the phone, by post, through a website or via email (Easterby-Smith et al 2002).

**Experiments**: an investigation of a cause and effect relationship in order to prove or disprove a hypothesis. Researchers carefully measure and observe the outcome of the experiment and are able to explain it as well as predicting future events (Oates 2006). While doing laboratory experiments, “researchers measure dependent variables while manipulating independent variables in a controlled environment” (Benbasat et al 1987, p.370).

On the other hand, qualitative research methods are action research, ethnography, grounded theory, and case study. The below discussion will illustrate each of them.

**Action research**: is a research method that was developed in 1940s to help patients that suffered psychological and social disorders due to World War II. The aim was to help in applying social techniques that will lead to solve practical social problems (Oates 2006). Rapoport (1970, p.499) points out that “action research aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework”. However, Myers (1997) states that action research has been largely disregarded for many years in information systems. Baskerville and Wood-Harper (1996) also mentions
that action research is widely accepted in organizational development and has contributed to the information systems research community excluding North America as its contribution there is close to nothing. Oates (2006) discusses that action researchers’ goal is to change and make a difference rather than only observing and describing, they collaborate with active participants and pursue an iterative cycle of plan-act-reflect.

**Ethnography:** was developed in 1920s by an anthropologist called Bronislaw Malinowski (Harvey and Myers 1995). “Ethnographic research comes from the discipline of social and cultural anthropology” (Myers 1999, p.3). Ethnographers spend a significant time immersed in the context of the research in order to create cultural and social understandings of the phenomenon under study (Merriam 1998). The merit of ethnography is that it provides information systems researchers with rich, in-depth and intensive insights about the phenomenon they are studying because they become so familiar with the human, organizational and social perspectives of the information systems improvement and implementation (Harvey and Myers 1995). Yet, the main disadvantage of ethnography is that it takes so much time from researchers to perform the fieldwork, the analysis as well as the writing up. Other disadvantage associated to ethnography is that it lacks the breadth and therefore would be difficult to generate general models from one ethnographic study (Myers 1999).

**Grounded theory:** was developed in the 1960s by two sociologists; Barney Glaser and Anselm Strauss. Grounded theory is a research method that aims to systematically gather and analyze data in order to develop a theory that is grounded in the data (Glaser and Strauss 1967). Strauss and Corbin (1990, p.24) define grounded theory as “a qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon”. Grounded theory researchers examine the phenomenon and analyze the gathered data with no preconceived concepts (Glaser and Strauss 1967). Grounded theory researchers mainly collect data by interviews (Allan 2003). Hussey and Hussey (1997) discuss that in addition to the fact that grounded theory is a research method, it also can be used as a technique of analyzing qualitative data. Lacey and Luff (2009) are of the opinion that grounded theory is distinguished from other qualitative methods because it emphasizes
on theory as the final output of the research whereas other types of qualitative methods may stop at the extent of simple descriptions or interpretations.

**Case study:** Yin (2003, p.13) defines case study 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”. Research based on case study can be positivist, interpretive or critical, depending on the underlying philosophical paradigm of the researcher (Oates 2006).

Case study research can involve quantitative (numbers) or qualitative (words) evidences (Eisenhardt 1989; Yin 2003). It also examines contemporary events in a natural setting, allows researchers to use multiple data sources for gathering data, examines one or few entities, as well as makes it possible for researchers to study and explore the complexity of phenomenon by answering why and how questions (Benbasat *et al* 1987). Additionally, case study researchers seek to gain in-depth detailed information about the phenomenon under study (Oates 2006).

Yin (2003) distinguishes three different types of case studies. These are, exploratory, descriptive and explanatory. Oates (2006) illustrates that exploratory case study is used by researchers to understand a research problem when little literature is available about the topic, whereas descriptive case study is used to generate detailed and rich information of the phenomenon and its environment, and explanatory case study is used to explain why particular outcomes took place.

Furthermore, case study research, whether exploratory, descriptive or explanatory can use either single or multiple case designs (Benbasat *et al* 1987; Yin 2003; Oates 2006). Single case study is desirable to study an extreme or a unique case, or to validate or test a theory or for revelatory cases where the situation was previously inaccessible to researchers (Yin 2003). Moreover, researchers can carry out multiple levels of analysis within a single case study (Eisenhardt 1989).

On the other hand, multiple case designs are used to describe, test or build a theory (Benbasat *et al* 1987). Multiple case studies are also employed to look for similarities and differences between cases (Eisenhardt 1989). The next section will explain the methods and sources for collecting research data.
3.6 Data Collection Sources

Questionnaires, tests and measures, archival records, focus groups, documents, observations, field notes, interviews, and physical artefacts are all sources to collect data. The following discussion will explain the aforementioned sources in details.

**Questionnaires**: a questionnaire is a series of questions designed in a fixed order for the purpose of gathering data from individuals. Questionnaire usually dispatched by post, email or in person to a sample of people in order to fill it out and return it to the researcher. Upon receiving back the questionnaires, researchers then analyze the responses, try to find patterns and as a result make generalization about the perspectives or actions of a larger population than the sample (Oates 2006).

**Tests and measures**: are a pre-defined set of questions that force the respondents to choose from Yes/No answers, and are applied to discover how and what individuals think (Easterby-Smith *et al* 2002).

**Archival records**: often include public use documents, service records, maps, charts and survey data (Yin 2009).

**Focus groups**: a focus group is a group of people selected by the researcher to discuss their perceptions and personal experiences about a specific topic. Focus group, as a research technique, uses a guided discussion in order to generate in-depth details of people actions, beliefs and attitudes. Researchers then use this information to discover possible aspects of an enquiry (Powell and Single 1996).

**Documents**: are normally divided into two main types: found documents and research-generated documents. Found documents are the already existing documents in organizations such as personnel or public records, whilst research-generated documents are created by the researcher for the purposes of the research such as notes and images. Documents can be textual (written materials) or multimedia (pictures, videos...etc) (Oates 2006).

**Observations**: Walsham (1995) identifies two roles of researchers as observers: outside observer and participant observer. The former role leaves a gap between the researcher and participants because the researcher is perceived as an outsider and hence may be
prohibited from access to sensitive or confidential data. Nevertheless, outside observer role is in some way beneficial as participants are more willing to share their honest views with an outsider who does not have a direct impact on their jobs. The main source of collecting data as an outside observer is through interviews. On the other hand, the latter role involves designating the researcher as a member of the field which provides an opportunity to gain an internal view and access private information. However, this could hinder the personnel being frank since the researcher is seen as one that could affect the activities of the organization.

**Field notes:** The field is something researchers create through their practices and procedures during data collection. This includes how researchers present themselves, collect data or write notes. However, notes that are written during the field vary based on the perceptions and personal views of the researcher as well as the value assigned to them. Additionally, some researchers consider field notes as a major part of the study, while others perceive field notes as secondary in importance as they claim that if the focus will revolve around writing detailed notes, their attention will be diverted from experiencing the cultural context (Mulhall 2003).

**Interviews:** Oates (2006) defines an interview as an open planned meeting that is guided by the researcher for the intention of gaining detailed information about a certain topic for research purposes. Walsham (1995) discloses that interviews are the key data source with reference to interpretive case studies, since researchers that use interviews can access the perceptions and views of participants about events. He also points out that interviewers should keep the balance between extreme passivity and over direction. There are three major types of interviews: structured, semi structured and unstructured interviews (Robson 2002; Hancock et al 2009). However, other scholars have divided interviews as: structured, semi structured and in depth interviews (Britten 1995) or as; structured, unstructured or semi structured and group interviews (Myers and Newman 2007). Structured interviews use standardized structured questions for each interviewee. Semi structured interviews consist of a list of topics to be explored where the interviewer is willing to change the sequence of questions or even add new questions depending on the flow of the discussion. Unstructured interviews mean that the interviewer has less control as he/she propose a topic and then listen to how interviewee
express their views and ideas (Oates 2006; Hancock et al. 2009). However, Britten (1995) differentiates semi structured interviews from in depth interviews as the former is based on a loose structure and contains open ended questions that delineate the topic to be covered where questions could be diverged to pursue more details about a specific idea while in depth interviews are less structured and rely more on generating details about maybe one or two topics, where the interviewer might add further questions to ask the interviewee for more elaborations or clarifications. Interviews as well can be one to one (individual) or group interviews (Oates 2006). Group interview can be structured, semi or unstructured. It means interviewing two or more people at once by one or more researchers (Myers and Newman 2007); it is also called focus group interview, which is a research tool that generates data through group communication and interaction on a subject specified by the researcher (Morgan 1996).

**Physical artefacts:** are technological tools or devices that are collected or observed as part of a case study research (Yin 2009).

However, Yin (2009) presents six sources of evidence that can be specifically used in case study research. These are documentation, archival records, interviews, direct observations, participant observation and physical artefacts. The researcher has used documentation, interviews as well as field notes as sources of evidence in this case study research (details are in chapter four).

The next section will present the selected methodology for this research and provide justifications for the choice.

### 3.7 Selection and Justification of Research Methodology

This is a case study based qualitative research that is taking an interpretive stance. This section provides justifications for such selections.

#### 3.7.1 The Rationale of the Interpretive Stance

Deciding an overall research philosophy for this study means a selection between one of the three major philosophical paradigms in information systems research discussed earlier in this chapter (see section 3.3). Given the research aim and objectives as
outlined in chapter one, the most appropriate fit is to pursue the interpretive philosophical paradigm.

Interpretive paradigm allows researchers to gain an in-depth understanding of the subject under study by discovering the subjective meanings that participants assign to it (Orlikowski and Baroudi 1991; Easterby-Smith et al 2002). The nature of this research is interpretive; since the researcher is trying to reveal the interviewees understanding of barriers and drivers of e-government initiative in Jordan. Adopting an interpretive stance, allows the researcher to expose the richness of the issues related to e-government development in Jordan.

Walsham (1993) clarifies that interpretive research in information system is utilized to create knowledge and understanding of the context of information system, and to uncover the process that shows how information system affects and is affected by the context. E-government initiative in Jordan affects and is affected by the context including its stakeholders; it is therefore crucial to follow the interpretive paradigm in this research as it provides a better scope for the researcher to interpret the meanings and perceptions of the issues that interviewees believe can influence and impact e-government development in Jordan.

Additionally, from an interpretive stance, Orlikowski and Baroudi 1991, Walsham 1993, Myers 1997, Easterby-Smith et al 2002 and Oates 2006 believe that reality is constructed among individuals in their role as social actors. The face-to-face interaction between the researcher and the interviewees allowed the researcher to observe their facial expressions, their body language, establish a close collaboration between her and them as well as to write field notes that would be helpful down the road in the analysis. The researcher was able to observe, explore and document the perceptions and ways in which individuals make sense of their world.

Moreover, Heron (1996) recommends that researchers should be capable of articulating their own values, beliefs and judgements throughout the entire research process, not only when choosing the research subject and methods. Even though the researcher avoided being subjective during the interviews, she was aware of the fact that the research can neither be objective nor value-free, as well as that she has implicit values
and thus bias could occur. Therefore, she tried her best not to interfere in the conversation in a way that will affect the outcome. However, the researcher tried to make her own values and judgements explicit in other ways. For example, the researcher kept a record of personal notes all through her research journey which allowed her to review her dynamic role in the research process as well as to examine the various ways in which her own values and beliefs have affected and formed the interpretation of findings and the research process.

It is worth mentioning that the positivist paradigm is not appropriate for this research. Since this research is neither using an existing theory nor testing a hypothesis, but it is conducted to describe and explore various categories perceived in the data in order to deeply understand the phenomenon. Also positivist paradigm deals with a singular reality which contrasts sharply with this research that is investigating different perceptions of barriers and drivers of e-government according to different stakeholders from different aspects.

Critical paradigm as well will not fit well for this research. Since this research is not aiming at assessing or changing the status quo. This research seeks to describe the barriers and drivers that affect and have an impact on the development of e-government initiative in Jordan. The following section will provide justifications for choosing the qualitative approach.

### 3.7.2 The Rationale of the Qualitative Approach

The choice of the suitable research approach, quantitative or qualitative, is affected by a number of factors, such as money, time and resources (Hathaway 1995). The researcher is in favour of using the qualitative approach which is grounded in the interpretive paradigm due to the various characteristics associated to it. First of all, by using the qualitative approach, the researcher can gain more in depth information and rich descriptions (Hoepfl 1997; Boeije 2010) of the e-government phenomenon. Secondly, e-government phenomenon is relatively new, in developing countries in general and within Jordan in particular; therefore, qualitative approach will be an appropriate fit for this research since it is used when little is known about the phenomenon (Strauss and Corbin 1990).
Thirdly, qualitative research is used when researchers are trying to interpret and make sense of the phenomenon in regard to the meanings individuals assign to it (Banyard and Miller 1998; Denzin and Lincoln 2005). Consequently, this research is attempting to understand stakeholders’ viewpoints and perceptions of the e-government phenomenon in order to understand drivers and barriers that affect the development of e-government in Jordan. Fourthly, qualitative research is used to gather information about the social reality and understand the social and cultural meanings in the context of phenomenon (Harvey and Myers 1995); for that reason, it fits well with this research, which aims at discovering the social, organizational and cultural aspects and perspectives of e-government phenomenon in Jordan.

Fifthly, analysis in qualitative research is usually interpretive and inductive; it is concerned with the discovery of themes to generate findings (Creswell 1994). The process of data analysis starts with analysing texts, constructing themes and ends up with producing meanings of the findings (Strauss and Corbin 1990). The sought-after outcome of the current research has been achieved by analyzing the data generated from the interviews, documents and field notes and developing categories to facilitate presenting the findings. Sixthly, Miles and Huberman (1994) illustrate that qualitative research is a method that involves several exploration procedures by which researchers commence understanding social phenomenon gradually by creating, comparing, sorting and categorizing the patterns of the study. The researcher has employed the qualitative research method procedures for the current research.

Due to the fact that quantitative approach works with numeric data and relies on statistics rather than relying on generating rich and descriptive data (Oates 2006), and that it lays emphasis on fixed measurements and hypotheses testing (Bryman 1984) as well as it mainly searches for a cause and effect relationship rather than meanings in the context (Harvey and Myers 1995). It makes little sense to select quantitative approach for this study. The next section will justify the choice of the case study method.

### 3.7.3 The Rationale of the Case Study Method

According to Benbasat et al (1987), although many research methods are available, none of them is more favourable above others. This is in line with Hancock et al (2009)
who believe that despite the various methods available to design qualitative research, there is no one superior method over the other. They illustrate that the differences between the various methods mainly depend on the research question, people or phenomenon being examined and the way data is analyzed and interpreted. However, after assessing the qualitative research methods illustrated in section 3.5 of this chapter, it can be said that case study is the most appropriate method for this research.

Action research is useful as a problem solving method; it is more appropriate for a specific situation that needs a specific knowledge to solve a specific problem (Silverman 2006). It is true that the direct involvement of action researchers in organizations considers a main strength to this method, but the absence of clear objectives in addition to the lack of a methodology that govern the interaction between action researchers and hosting organizations are issues to be considered by researchers wishing to conduct action research (Baskerville and Wood-Harper 1996). This research does not provide solutions to solve a specific problem, rather it offers recommendations to assist policy makers identify and, if possible, overcome the potential barriers. Additionally, the researcher was neither involved in the adoption process of e-government project in Jordan nor has been deeply involved with the e-government team. Therefore, it is not possible to utilize action research method for this research.

Ethnographers immerse themselves and take part of people’s daily lives in order to try to place the phenomenon in their cultural and social context (Miles and Huberman 1994; Silverman 2006). Furthermore, Myers (1999) declares that the major distinction between ethnographic research and case study research is the level to which researchers involve and immerse themselves in the lives of individuals under study. Hancock et al (2009) also argue that ethnographers need to spend a long and considerable amount of time in the field to observe details and gather information. Since the researcher is not a member of the Jordanian e-government project, she will not be able to immerse herself in the lives of the individuals under study. Additionally, ethnography is a time consuming method since it requires spending long time in the field and the researcher time is limited to the period of the registration of her research degree. Moreover, this research investigates the e-government phenomenon from various aspects (i.e. political,
technological, organizational, economical...etc), not only from the cultural and social aspects. Therefore, ethnography is rejected to be adopted for this research.

Grounded theory method is excluded as well. Grounded theory requires theory building as well as testing from multiple rounds of interviews (Charmaz 2003), which was very difficult to be done in this research due to time limitations. Moreover, grounded theory lacks rigour as a result of the careless interview procedures and techniques. Additionally, bias could occur as researchers should not identify themes prior to data collection. It also utilizes the concepts which were discovered in the data collected in order to develop a theory (Allan 2003). This research does not aim at building a theory from the data gathered; rather it aims at identifying and investigating the drivers and barriers to e-government in Jordan. Furthermore, the author of this thesis is a novice researcher. Therefore, she preferred to rely on pre-identified themes in the literature to help in the process of data collection and analysis and to avoid the introduction of bias. Due to all previously mentioned reasons grounded theory is not a suitable method to be adopted.

In addition to the fact that case study is one of the widely used qualitative methods in the field of information systems (Myers 1997), the researcher decided to use the case study method for this research for other various reasons.

E-government area, worldwide and particularly in Jordan, is a relatively new phenomenon. Implementation is still in the early stages and pre-existing empirical studies about supply-side stakeholders’ perceptions of the drivers and barriers that influence the development of e-government programme in Jordan are next to nothing. Therefore, case study method is best suited to research a phenomenon in which a small number of studies have been done about it (Benbasat et al 1987).

Additionally, Baxter and Jack (2008) illustrate that case study method allows researchers to explore phenomenon within its real-life context. Case study makes it possible for researchers to understand the complexity and nature of phenomenon by answering how and why questions (Benbasat et al 1987). Consequently, case study method fits well with the research topic, as the researcher aims to understand and
explore the complexity of e-government phenomenon by answering the research questions which are described in chapter one section six (1.6).

Benbasat et al (1987) believe that case study method is most tailored to IS research since the interest has shifted away from technical aspects to managerial and organizational aspects, and therefore the centre of attention is on how innovations and context interact. This research focuses on the interaction that takes place within e-government innovation and its context (stakeholders). Also it draws attention to the organizational and managerial aspects that affect the development of the e-government initiative in Jordan.

The interaction between the researcher and the interviewees allowed her to establish a close collaboration with them and consequently helped the researcher to understand their behaviours. This is in line with Baxter and Jack (2008) who state that case study method allows the researcher to collaborate closely with the participants, which makes it more possible for the researcher to understand their actions because they are able to share their views and stories.

Furthermore, Yin (2009) mentions that case study is more favourable amongst other research methods when the researcher is focussing on a contemporary phenomenon which he/she has little control over. Therefore, case study method suits well for this research, because it studies the contemporary phenomenon of e-government which the researcher is not capable to have power over.

A hallmark of a case study method that distinguishes it from other research methods is its ability to offer in-depth and rich information through the use of multiple data sources (Yin 2009). This is in line with Baxter and Jack (2008) who believe that the use of multiple data sources in the case study method improves data credibility and ensures that various aspects of the phenomenon will be disclosed. It also provides the opportunity for triangulation as well as supports the research findings and conclusions (Benbasat et al 1987). The researcher used semi structured interviews as the main data source, in addition to documents and field notes as complimentary data sources with the purpose of generating rich information and revealing the multiple aspects about the e-government phenomenon in Jordan.
This research is based on a single case study (e-government initiative in Jordan), due to the abovementioned characteristics of the case study and to the fact that the common approach amongst researchers is to examine one case study only rather than multiple cases which could be more time consuming and could possibly produce more data to be analyzed (Oates 2006). Additionally, the researcher time is very limited to be able to employ multiple case studies. Moreover, this research does not compare one e-government initiative with another; rather it focuses on a single case which is (e-government initiative in Jordan as a single project).

However, Yin (2003) preferred multiple case designs over single case design as he believes that findings of multiple case studies are more robust and researchers could expand the external generalizability of their findings. This is in line with Lee (1989a, p.35) who indicates that a single case study is “vulnerable to charges that its findings cannot be extended to other settings”. Lee (1989a) and Yin (2003) believe that single case study is criticised as being incapable of replication as well. However, Marshall and Rossman (2006) contradict the aforementioned scholars point. They argue that the focal point is not by conducting a research that is replicable, but it is in the way researchers demonstrate their undertaken research that enable readers to follow how researchers got to their final conclusions (i.e. be able to identify how researchers took decisions in regard to the approach adopted and sources used to collect data). All details about the research procedures, decisions being made, data analysis steps and explanations on how the researcher got to the final conclusions in this case study research are fully covered in chapter four.

Additionally, Oates (2006) argues that the common approach is to investigate a single case study since multiple case studies are found to be more time consuming and result in more data to be analyzed. Irani et al (1999) also believe that a single case study allows for a full discovery and investigation of the phenomenon, in addition to rich and deep description of primary data. Hartley (2004) as well revealed strength of a single case study in its capability to assist understanding the behaviours and processes as they take place in a particular context, which consequently will lead to develop theoretical propositions on how these behaviours and processes are affected by and affect the context. Moreover, the type of the single case study undertaken in this research is an
exploratory study, since the researcher is trying to investigate and explore the barriers and drivers of e-government initiative in Jordan, where little literature is available about this topic (Oates 2006).

In spite of the many advantages associated with the case study method, there are two main disadvantages in which case study is criticised for. First, it lacks the ability for generalization (Stake 2005). However, Yin (2003, p.10) argues that case studies are “generalizable to theoretical propositions and not to populations or universes” and the purpose of a case study is to “expand and generalize theories (analytic generalization) and not to enumerate frequencies (statistical generalization”). Stake (1995) also came up with the term “naturalistic generalization” which means that with case studies researchers develop generalization based on similarity (i.e. similarity of context, people, settings...etc). Stake (1995) lists some practical steps to be considered by researchers that support in validating naturalistic generalization. These steps are: explain the methods used in the case study research, supply readers with the raw data so they can have their own interpretations and also provide readers with information about the researcher and other input sources. The researcher outlined in detail all the procedures that were carried out in this study in chapter four. She is also willing to provide contact information about herself in addition to other materials (i.e. interviews data) so readers are able to assess the validity of generalizations as well as develop their own interpretations. However, it should be emphasized that the researcher obtained a written permission of all interviewees in regard to interview materials being supplied to external entities for academic purposes, while ensuring their identities will remain anonymous, in order to protect their privacy. See the consent form (Appendix 2).

It should be noted though that this research is based on a single case study (e-government initiative in Jordan at national level) which puts forth limitations in regard to generalization of the findings. However, the researcher believes that although the findings for this study are associated with Jordan, but they could be applied to other e-government initiatives if same circumstances and contexts exist.

The second disadvantage of the case study method is that it lacks the grounds of rigorous (Yin 2003). Such lack of rigor is unlikely to occur in this study since the researcher has followed systematic procedures from the initial stages of her research;
she made sure of using appropriate techniques and documented her study in a way that makes it easy for others to assess her findings (Boeije 2010). She also did not allow biased views to influence the direction of the interviews, findings and conclusions (Yin 2009). As the researcher tried her best to avoid being judgemental during the interviews. Basically she made a distinction between her own personal views and the interviewees’ opinions by being only a listener and an observer. The remaining procedures that ensure rigour in this case study research are detailed in chapter four section 3.4 (4.3.4).

The next section will describe the reasons for the data collection sources that have been chosen for this study.

3.8 Justifications for Chosen Data Collection Sources

Qualitative data are found in many forms such as interview transcripts, recorded observations, documents, focus groups, photographs and policy manuals (Thorne 2000).

Parikh (2002) states that researchers collect two major types of data for case studies; primary and secondary data. Primary data are data collected directly by the researcher specially to serve an intended research while secondary data are data collected by other individuals or organizations for diverse purposes but are useful for the research. Saunders et al (2007) mentioned that a major advantage researchers could get from secondary data is time and money saving.

The primary data collection sources used for this study were qualitative interviews. Hartley (2004) points out that collecting data from different sources allows for gaining a deep and comprehensive understanding of the phenomenon being studied and its context. This reinforce with Benbasat et al (1987) and Yin (2003) who suggest that multiple data collection sources increase the opportunity for triangulation which may support the researchers’ conclusions.

Reasons for choosing interviews are to be illustrated next.
3.8.1 Interviews

Qualitative interview is the major method of data collection for this study. To be more specific, the researcher relied on an in depth semi structured individual qualitative interviews to collect the primary data needed for this research.

Myers and Newman (2007) believe that qualitative interview is the major data collection tool in qualitative research. They refuse to treat qualitative interview as a straightforward tool of collecting data and critique the IS research literature in regard to the way of reporting qualitative interview and claim that it is basically an “unexamined craft”. They argue that qualitative interview is burdened with difficulties that are often absent when writing IS research reports. Hence, the researcher attempts to overcome this critique by describing in details the qualitative interview process conducted for this study. Details are in chapter four section 2.3 (4.2.3).

Qualitative interview enables researchers to investigate in depth personal experiences and feelings of participants. In addition to that, it allows researchers to examine sensitive matters or confidential information that participants might not feel comfortable to share through other tools such as on a paper for somebody they have not met (Oates 2006). Through conducting qualitative interviews, the researcher was able to get detailed information from interviewees about the e-government topic and the key forces that affect e-government in Jordan that the researcher could not find in papers. The researcher also noticed that interviewees were more willing to share personal stories and privileged information with her that it would have been hard to come across or obtain if it was by other sources of data collection apart from the interview.

Moreover, Hancock et al (2009) believe that semi structured interview is straightforward to organize. Besides, the design of semi structured qualitative interview allows researchers to diverge the order of questions depending on the flow of the interview (Oates 2006). The researcher had to change the order of questions several times with various interviewees in order to fit with what is being said by them. Additionally, in depth interviews allow researchers to seek more information about a specific answer and add further questions that have not initially been prepared if the interviewee talks about issues that need more elaborations (Britten 1995). The researcher was able to gain a greater understanding of the drivers and barriers of e-
government in Jordan since she was able to ask additional questions and tailor the questions, if required, according to the interviewees’ answers.

Furthermore, the researcher decided to conduct individual interviews rather than group interviews because she is of the firm opinion that individual interviews are more fruitful to this research. Group interviews were disregarded due to several reasons. First is the fact that cultural issues play an important role in regard to male domination over females in Jordan as an Arab country, so females are often not given the same equal opportunity to speak in such setting. Second, interviewees are more hesitant to speak truly in a group setting in particular if a superior was among the group. Third, interviewees are more reserved to share their views about sensitive issues which might come up during the discussion because of the nature of this research (drivers and barriers of e-government initiative in Jordan). The next section will discuss the second source for collecting data for this study (documents).

### 3.8.2 Documents

In addition to qualitative interviews being the major source for collecting primary data, the researcher relied on diverse documents provided by the Jordanian government related to the e-government initiative as complimentary sources for collecting secondary data. The researcher reviewed a wide range of documents such as governmental publications, governmental public announcements in newspapers and through government websites, governmental internal reports and prospectus, in order to identify various aspects of e-government in Jordan such as e-government projects, services, champions, policies, strategies, objectives, pillars...etc..

Saunders et al (2007) believe that documents which are supplied by governments are to be taken seriously as they could be of a better quality than what might be collected by researchers themselves. They also point out that secondary data can be used by researchers to evaluate the generalisability of their findings because they can locate their findings within a general context. For more details about documents reviewed for this study, see chapter four section 2.4 (4.2.4) The next section will talk about the field notes as another source for collecting data for this research.
3.8.3 Field notes

Field notes are another source for collecting data in this study. The researcher was taking notes during the interviews and also while examining the documents provided by the government as well as while browsing government websites. She was writing down her thoughts and impressions once they come to mind because it was difficult for her to predict what is beneficial or not in the future. Field notes also encouraged the researcher to brainstorm written information in the notes by asking herself questions such as what are lessons learnt? and what distinguishes this case from others? (Eisenhardt 1989).

More details about field notes for this case study research are provided in chapter four section 2.5 (4.2.5)

3.9 Summary

This chapter initially started by demonstrating the two major philosophical schools of thought, then it proceeded to describe the three philosophical paradigms in the field of information systems research. It also looked at various research approaches, methods and different sources for collecting data. Additionally, this chapter proposed the research methodology used in the empirical study along with justifications for the chosen methodology. It gave reasons for the choice of an interpretive stance. It also justified the selection of qualitative approach over the quantitative approach. It explained the motivations behind the selection of the case study method over other qualitative research methods. All data sources chosen to be carried out in this research (interviews, documents and field notes) were also discussed, together with explanations for such choices. The next chapter presents the procedures that were carried out during the process of data collection and analysis.
4) Chapter Four, Research Procedures: Data Collection and Analysis

4.1 Introduction

This chapter describes the detailed fieldwork procedures which have been planned and undertaken by the researcher, its purpose is to provide readers with a rich overview about the procedures which the researcher carried out during the stages of data collection and analysis. It presents all pre-arrangement procedures and sampling techniques adopted in this case study research along with the selection of key participants. Additionally, it justifies all the decisions which have been made and provides an explanation of the sources used for data collection (interviews, documents and field notes). Ethical considerations pursued during collection and analysis of data for this case study research are also declared. It also discusses various theoretical approaches to qualitative data analysis and then justifies the chosen data analysis approach (template analysis). It also describes how the researcher applied template analysis in analyzing the data, the use of the NVivo qualitative data analysis software package, as well as the quality evaluation criteria used for qualitative research in general and for this case study research in particular.

4.2 Data Collection Procedures

Parikh (2002) asserts that what would make a case study research more rigorous and increase its power of interpretation is when it is addressed properly. Bachman and Schutt (2008) also believe that qualitative researchers need to plan well for their fieldwork, be able to strategically question participants and take notes systematically.

In order to increase the rigour and reliability of this case study research, the researcher is going to thoroughly address all data collection procedures that took place during the fieldwork.

The following sub-sections describe in details all the undertaken procedures for collecting data for this case study research.
4.2.1 Pre-Arrangement Procedures

A fieldwork approach has been chosen for this study because the researcher thought that the ideal way to gather in depth information about e-government initiative would be derived from individuals working intimately on developing the e-government programme in Jordan. The fieldwork was conducted over a period of 3.5 months (Monday: 2nd June – Sunday: 14th September, 2008) and 29 participants were interviewed.

First of all, the researcher had to find a setting –locations, organizations, places, participants- to conduct the fieldwork. Choosing a setting was not a simple decision. The researcher had to weigh up some issues such as which field would provide more opportunities and information to learn about the research subject, which field would be more accessible (Boeije 2010) and also who are the key stakeholders that affect and are affected by the research subject.

As a result of that, the researcher started to seek out the proper setting that fits her research. This took place while she was in the UK between April and May 2008. This stage was the preliminary step of data collection for this study. It involved her efforts of surfing the Jordanian e-government website and all related websites to get necessary information about e-government initiative in Jordan. She also explored the literature to get hold of articles, documents and presentations about this initiative. Following that was the communication with the e-government management office at the Ministry of Information and Communication Technology via phone calls and email correspondences, to request their cooperation.

The researcher found out and was told that the e-government programme is on track, and 116 e-government units were established and are active in 116 ministries and governmental institutions which are linked to the Jordanian e-government website (portal) and Chief Information Officers (CIOs) were already allocated in their new positions as heads of the e-government units.

Unfortunately when she arrived to Jordan and made some more phone calls and visits to the e-government management office at MoICT, the answer differs and the reality was
totally different than what was said to her over the phone or revealed on the Jordanian e-government website.

It is worth mentioning that interview themes and questions were formulated by the researcher at this stage. Details are in section 4.2.3 of this chapter. The next section will illustrate the sampling techniques that were followed as well as the selection of key participants.

4.2.2 Sampling and Selection of Key Participants

While quantitative sampling tends to be a random technique that selects a representative sample from the study population, qualitative sampling is viewed as purposive and seeks to select sample of participants that the researcher believes will give in depth information that will assist in answering the research questions sufficiently (Miles and Huberman 1994).

The fact that qualitative researchers aim at exploring a topic in depth rather than seeking generalization of results makes random sampling technique inappropriate for selecting sample of participants in a qualitative research (Oates 2006).

Qualitative researchers generally initiate the process of data collection by adopting a purposive sampling technique to ensure depth and richness of the collected information (Fossey et al 2002; Ryan et al 2007). Purposive sampling means when the researcher intentionally chooses the sample that he/she thinks are more likely to generate valuable data that meet the objectives of the research (Oates 2006). This can then be followed by other sampling techniques, such as snowball sampling or convenience sampling, to enhance appropriateness (identify appropriate participants who can richly inform the research) and adequacy (adequate sampling of data sources) of the collected data (Fossey et al 2002). This study initially started with a purposive sampling and then followed a snowball and convenience sampling techniques.

The selection of key participants for this study started after recognizing the fact that there are a variety of entities that affect and are affected by the e-government programme in Jordan. These entities are the stakeholders of the Jordanian e-government initiative.
As mentioned by MoICT (2006), the primary stakeholders of Jordan’s e-government initiative are:

- E-government management office: is the facilitator and executor of the e-government programme. Its main responsibilities are to set directions for the e-government programme in Jordan, implement shared services and components as well as to support the e-government services.
- Government: includes all government entities (i.e. ministries and governmental institutions).
- Partners and providers: includes private sector and non-governmental partners.
- Legislation authority: includes the political leaders in Jordan. These are the king, prime minister, ministers, members of the national assembly (house of notables and house of representatives).
- E-government users: citizens, businesses and government employees.

The researcher is in agreement with Rowley (2011) stance that the best way of classifying e-government stakeholders is in terms of their roles rather than as individuals or groups (Coakes and Elliman 1999; Freeman 2010).

“This is because it is important to acknowledge that in e-government both individuals and organizations can play several roles, either concurrently or in sequence. Thus, for example, an individual can be all of a service user, a citizen, and an employee in a business, whilst an organization might be a business, and an e-government supplier” (Rowley 2011, p.54).

As a result, the researcher believes that stakeholders of the Jordanian e-government initiative can easily play either one or both of the following roles: Suppliers or Demanders (De’ 2005; Gil-Garcia and Martinez-Moyano 2007).

The researcher decided to collect data from supply-side stakeholders and hence she approached participants with the assumption that they are carrying the role of suppliers to the initiative and conducted the interviews as such.

The researcher decision of focussing on and investigating the key forces (drivers and barriers) within the supply side stakeholders of the Jordanian e-government initiative is
due to the simple fact that e-government can barely succeed if the suppliers themselves are not well aware of their role as catalysts who support the implementation of e-government. Therefore, their perspectives about the key forces that affect the e-government programme during its development are of a significant value to the success or failure of this Jordanian e-initiative.

Additionally, the Jordanian e-government programme is in its initial stages; the portal is still an informative one and very few online services are offered to users. Also lack of awareness amongst Jordanians about the e-government project or services provided are all additional reasons that geared the researcher toward focussing on the supply-side stakeholders rather than the demand-side ones.

The researcher decided to start collecting data with officials working at the e-government management office at Ministry of Information and Communications Technology (MoICT). The choice is based on the reasons that this field was accessible to the researcher and also that e-government management office at MoICT was designated to carry out the implementation of the Jordanian e-government programme; so this particular field is more likely to provide extra opportunities and considerable information to learn about the research subject more than any other field.

The researcher initially followed a non probability purposive sampling by deliberately deciding to meet with a member of the e-government management office with the intention of gaining an accurate insight on the current extent of e-government initiative in Jordan, exploring the real situation, discovering what is going on, and identifying the right individuals to participate in the interviews. Successfully, the researcher was able to arrange for an initial interview (pilot interview) on Monday: 2nd June 2008 with a senior official working at the e-government management office at MoICT in order to check the interview protocol and questions. The primarily aim of the researcher at that point was to gain access to the e-government management office at MoICT in order to get a better overview about the e-government programme, meet and chat informally with the team working on the e-government project, get their contact details and approval for being interviewed.
Based on the pilot interview, the researcher got some useful information about appropriate individuals, working at the e-government management office at MoICT, who were able to provide her with sufficient information about the e-government programme and the challenges related to it. She was provided with the information needed to get started such as their initial contact names, phone numbers and email addresses. This technique is called the snowball sampling; the researcher finds one individual who belongs to the target population who recommends other individuals, who are familiar to the research subject, to be contacted, who then provide further names and so on (Oates 2006).

However, the researcher had already been introduced to most of the names provided through her previous four visits to the e-government management office at MoICT. These visits (Monday: 2\textsuperscript{nd} June 2008 – Thursday: 5\textsuperscript{th} June 2008) allowed for an informal interaction between the researcher and the interviewees which established familiarity between both parties and made it possible to arrange for interviews in person. This is in line with Boeije (2010) who mentions that when the researcher becomes a familiar person who is always around, participants become more friendly and willing to cooperate. In reality, this is exactly what happened with the researcher as she became familiar to participants and they started to open up more by offering various governmental publications and by offering their help as well. Table 4-1 illustrates the first setting and initial key participants chosen for this study.

<table>
<thead>
<tr>
<th>Location</th>
<th>Jordan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>E-government Management Office at Ministry of Information and Communication Technology</td>
</tr>
<tr>
<td>Place</td>
<td>Interviewees Offices</td>
</tr>
</tbody>
</table>
| Participants (P1, P2, P3, P4, P5, P6, P7, P8) | - 6 Senior officials  
                - 1 Information Technology Compliance Officer  
                - 1 Information Security Compliance Officer  |

Table 4-1 The First Setting Chosen for the Study
After those 8 rich interviews, the researcher discovered that the e-government units which were established in the 116 ministries and governmental institutions in Jordan are not active as proclaimed before and the only active units are in 20 of them, which they called the ‘champions’. The researcher asked one senior official in specific to give her information of who are the champions and the contact details of people who are actively involved in the development of e-government at those institutions. The researcher believed that this particular official was the most familiar with the e-government initiative since she was amongst the first individuals who worked on the project and was willing to provide the researcher with all information needed without hesitation or fear as some of the interviewees had shown; either by refusing to record the entire interview or by asking the researcher to turn off the recording tape while the interview is being conducted at some points that they wish to share without being on records or even by asking the researcher not to include some of what they are saying in her notes. The 20 champions are:

- Ministry of Higher Education and Scientific Research
- Ministry of Industry and Trade
- Ministry of Tourism and Antiquities
- Ministry of Justice and Legal Affairs
- Ministry of Public Works and Housing
- Ministry of Education
- Ministry of Labour
- Social Security Corporation
- Government Tenders Directorate
- Water Authority of Jordan
- Military of Jordan
- Jordan Customs
- Civil Status and Passports Department
- Municipality of Greater Amman
- Civil Service Bureau
- Jordan Telecom
- Civil Defence Directorate
- The Royal Hashemite Court
- Public Transport Regulatory Commission
- Public Security Directorate

The researcher then had to move to the next level which was to arrange for interviewing individuals who are deeply engaged with the e-government initiative at those 20 champions. 15 out of 20 champions positively responded and agreed to meet the researcher for interview purposes. These interviews were conducted in July, August and early September. Table 4-2 demonstrates the second setting and key participants chosen for this study.

<table>
<thead>
<tr>
<th>Location</th>
<th>Jordan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Ministries</td>
</tr>
<tr>
<td></td>
<td>- Government Institutions</td>
</tr>
<tr>
<td>Place</td>
<td>Interviewees Offices</td>
</tr>
<tr>
<td>Participants</td>
<td></td>
</tr>
<tr>
<td>(P9, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19, P20, P21, P22, P23, P24)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- 9 IT Directors</td>
</tr>
<tr>
<td></td>
<td>- 2 Senior Officials at E-Government Department</td>
</tr>
<tr>
<td></td>
<td>- 1 Senior official at Policies and Management Development Department</td>
</tr>
<tr>
<td></td>
<td>- 1 Senior official at Management Development Department</td>
</tr>
<tr>
<td></td>
<td>- 1 Government Tenders Directorate</td>
</tr>
<tr>
<td></td>
<td>- 1 Senior official at Information and Development Department</td>
</tr>
<tr>
<td></td>
<td>- 1 Senior official at Operations Management Information Systems Department</td>
</tr>
</tbody>
</table>

Table 4-2 The Second Setting Chosen for the Study

Another useful outcome generated from the first 8 interviews with the e-government management office at MoICT (first setting) was some names and contact details of the e-government programme partners and providers from the private sector. These are:
Specialized Technical Services (STS)
- Estarta
- Optimiza
- Jordan Data Systems (JDS)
- Microsoft Jordan
- Mobile Service Providers Companies (Zain, Mobilecom, Umniah and Express)

The researcher was able to arrange for 3 interviews at three of the aforementioned companies. Table 4-3 shows the third setting and key participants chosen for this study.

<table>
<thead>
<tr>
<th>Location</th>
<th>Jordan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>Private Sector Companies</td>
</tr>
<tr>
<td>Place</td>
<td>Interviewees Offices</td>
</tr>
</tbody>
</table>
| Participants (P25, P26, P27) | ▪ 2 IT Directors  
                   | ▪ 1 Information Systems Manager |

Table 4-3 The Third Setting Chosen for the Study

As for the last key stakeholders (Legislation authority); the king and the prime minister were both excluded of course from being selected as key participants because of difficulties to reach them. Also, it was not easy to contact many of the political leaders for security, privacy concerns and busy schedules. Yet, the researcher was able to interview 2 political leaders (a member of House of Notables and a former minister of Ministry of Media Affairs).

However, the researcher was allowed a very limited time for each interview with the two political participants (45 minutes) and she was also told to be direct to the point with the questions being asked. Table 4-4 illustrates the fourth setting and key participants chosen for this study.
In the third and fourth settings, the researcher has followed a convenience sampling technique, which means that she selected the participants who are convenient for her, as they were easy to reach and willing to contribute to her research (Oates 2006). Figure 4-1 illustrates the sampling techniques followed for this study.

It is unlikely to pre-determine sampling size and techniques in a qualitative study; rather sampling size and techniques emerge throughout conducting the fieldwork. Luborsky and Rubinstein (1995) refer to the fact that settings in qualitative research cannot be identified in advance, but they are to be discovered. Guest et al (2006) also clarify that there are lack of guidelines for identifying qualitative sampling size, therefore
qualitative researchers rely on the concept of data saturation to determine the sample size. Saturation means when researchers reach to a point which no new information or themes are discovered in the data. Guest *et al* (2006, p.76) claim that saturation could be reached after twelve interviews and assert that a key issue to reach saturation relates to the sample homogeneity, “the more similar participants in a sample are in their experiences with respect to the research domain, the sooner we would expect to reach saturation”. However, Yin (2009) states that researchers normally reach saturation after interviewing eight individuals. In the context of this study, the researcher believes that data saturation was reached after interviewing 22 participants. The researcher refer the reason behind reaching saturation at a delayed stage, than previously suggested by the aforementioned scholars, is that interviewees are heterogeneous and they have exposure to diverse schemes in the e-government project, so new data and themes were frequently arising. However, the researcher decided to conduct more interviews in order to cover other categories of stakeholders and obtain a larger set which would assist in increasing the research reliability and reducing the data bias, which can be an issue with a qualitative study of this nature (Stake 1995; Lam 2005). The researcher also believes that other issues which would help in reducing the bias in her qualitative study are the fact that the interviewees are heterogeneous (Lam 2005); since they have exposure to diverse schemes in the Jordanian e-government project, and also the fact that she relied on using multiple data collection sources (triangulation) including field notes and document reviews such as governmental publications, governmental public announcements in newspapers and through government websites as well as governmental reports, booklets, presentations and prospectus.

The researcher carried on interviewing participants until adequacy of the information was gained and assured. She then decided to end the data collection process because it became so obvious that no new information is arising from the interviews and themes are becoming so redundant; that is the research has well reached and exceeded the point of data saturation. This concurs with Fossey *et al* (2002, p.726) who note that “sampling in qualitative research continues until themes emerging from the research are fully developed, in the sense that diverse instances have been explored, and further sampling is redundant. In other words, patterns are recurring or no new information emerges; a situation sometimes referred to as ‘saturation’”.
The following section will highlight the interview process and the undertaken procedures during the interviews.

4.2.3 Interviews

As mentioned earlier, the researcher decided to conduct face-to-face semi-structured interviews as the major method of data collection. This approach enables to explore in-depth personal experiences and feelings of participants.

In sum, 29 interviews were carried out for this study, in Jordan, between June 2 and September 14, 2008. Interview times lasted between 45 minutes up to 2 hours. The researcher asked for a written permission from the participants to use the tape recorder and therefore, 11 interviews were not recorded because the interviewees refused, and the rest (18) were tape recorded. Table 4-5 demonstrates all key interviewees participated in this study (29) along with their positions, day, date, time of the interviews and their decision in reference to the interview being recorded or not.

<table>
<thead>
<tr>
<th>Participant No.</th>
<th>Position</th>
<th>Day &amp; Date</th>
<th>Time</th>
<th>Agree or did not to record</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P1</strong></td>
<td>Senior official at Operations Stream</td>
<td>Sunday 8th Jun 2008</td>
<td>9.30 – 10.30</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>P2</strong></td>
<td>Senior official at Quality, Risks and Communications Stream</td>
<td>Wednesday 11th Jun 2008</td>
<td>10.45 – 12.30</td>
<td>No</td>
</tr>
<tr>
<td><strong>P3</strong></td>
<td>Senior official at Technology and Security Stream</td>
<td>Sunday 15th Jun 2008</td>
<td>13.15 – 14.05</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Name</td>
<td>Day</td>
<td>Date</td>
<td>Time</td>
</tr>
<tr>
<td>---</td>
<td>---------------------------------------------------------------------</td>
<td>-----------</td>
<td>---------------</td>
<td>------------</td>
</tr>
<tr>
<td>P4</td>
<td>Senior official at Change Management Stream</td>
<td>Sunday</td>
<td>22nd Jun 2008</td>
<td>9.25 – 10.40</td>
</tr>
<tr>
<td>P5</td>
<td>Senior official at Strategy and e-Services Stream</td>
<td>Monday</td>
<td>30th Jun 2008</td>
<td>8.30 – 10.30</td>
</tr>
<tr>
<td>P6</td>
<td>Senior official at e-government management office at MoICT</td>
<td>Thursday</td>
<td>3rd Jul 2008</td>
<td>13.50 – 14.35</td>
</tr>
<tr>
<td>P7</td>
<td>Information Security Compliance Officer</td>
<td>Wednesday</td>
<td>18th Jun 2008</td>
<td>12.10 – 14.05</td>
</tr>
<tr>
<td>P8</td>
<td>Information Technology Compliance Officer</td>
<td>Thursday</td>
<td>26th Jun 2008</td>
<td>12.15 – 13.00</td>
</tr>
</tbody>
</table>

**E-government Programme Champions / Ministries**

<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Day</th>
<th>Date</th>
<th>Time</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>P9</td>
<td>IT Director Ministry of Industry and Trade</td>
<td>Sunday</td>
<td>6th Jul 2008</td>
<td>9.35 – 10.45</td>
<td>No</td>
</tr>
<tr>
<td>P10</td>
<td>IT Director Ministry of Labour</td>
<td>Sunday</td>
<td>20th Jul 2008</td>
<td>12.35 – 13.30</td>
<td>No</td>
</tr>
<tr>
<td>P11</td>
<td>IT Director Ministry of Education</td>
<td>Wednesday</td>
<td>23rd Jul 2003</td>
<td>9.35 – 10.20</td>
<td>No</td>
</tr>
<tr>
<td>P12</td>
<td>IT Director Ministry of Education</td>
<td>Wednesday</td>
<td>23rd Jul 2003</td>
<td>10.00 – 10.45</td>
<td>No</td>
</tr>
<tr>
<td>P13</td>
<td>Senior official at Policies and Management Development Department Ministry of Public Works and Housing</td>
<td>Sunday 27th Jul 2008</td>
<td>11.25 – 12.50</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>P14</td>
<td>IT Director Ministry of Justice and Legal Affairs</td>
<td>Monday 4th Aug 2008</td>
<td>9.45 – 11.15</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>P15</td>
<td>Senior official at e-government Department Ministry of Tourism and Antiquities</td>
<td>Thursday 4th Sep 2008</td>
<td>10.20 – 11.20</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

**E-government Programme Champions / Governmental Institutions**

| P16 | Senior official at Management Development Department Civil Status and Passports Department | Thursday 10th Jul 2008 | 12.00 – 13.05 | Yes |
| P17 | Government Tenders Directorate | Monday 14th Jul 2008 | 11.45 – 12.45 | Yes |
| P18 | IT Director  
Jordan Customs | Thursday  
17th Jul 2008 | 13.05 – 14.00 | No |
|-----|----------------|-------------|-----------------|----|
| P19 | IT Director  
Public Transport Regulatory Commission | Thursday  
7th Aug 2008 | 12.15 – 13.20 | No |
| P20 | Senior official at Information and Development Department  
Civil Service Bureau | Wednesday  
13th Aug 2008 | 13.05 – 14.10 | Yes |
| P21 | IT Director  
Civil Defence Directorate | Sunday  
17th Aug 2008 | 10.25 – 11.40 | No |
| P22 | Senior official at e-government Department  
Water Authority of Jordan | Tuesday  
26th Aug 2008 | 13.00 – 14.30 | Yes |
| P23 | IT Director  
Municipality of Greater Amman | Tuesday  
9th Sep 2008 | 10.50 – 12.30 | Yes |
<table>
<thead>
<tr>
<th>P24</th>
<th>Senior official at Operations Management Information Systems Department</th>
<th>Sunday 10th Aug 2008</th>
<th>10.50 – 11.45</th>
<th>No</th>
</tr>
</thead>
</table>

E-government programme partners and providers from the Private Sector

<table>
<thead>
<tr>
<th>P25</th>
<th>IT Director Specialized Technical Services (STS)</th>
<th>Tuesday 19th Aug 2008</th>
<th>16.00 – 17.00</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>P26</td>
<td>Information Systems Manager Jordan Data Systems (JDS)</td>
<td>Sunday 24th Aug 2008</td>
<td>15.00-16.10</td>
<td>Yes</td>
</tr>
<tr>
<td>P27</td>
<td>IT Director Zain</td>
<td>Thursday 11th Sep 2008</td>
<td>13-13.55</td>
<td>No</td>
</tr>
</tbody>
</table>

Legislation and authority Bodies

<table>
<thead>
<tr>
<th>P28</th>
<th>Member of House of Notables House of Notables</th>
<th>Monday 1st Sep 2008</th>
<th>08.30-9.15</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>P29</td>
<td>Former minister Ministry of Media Affairs</td>
<td>Thursday 14th Sep 2008</td>
<td>08.00-08.45</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 4-5 The 29 Key Participants Took Part in the Research Study
The researcher justifies some interviewees’ rejection to tape recording the interview to trust issues as they feared being prosecuted for what they may reveal. Walsham (1995) notes that tape recording is very beneficial since it provides the researcher with a full description of what participants said during the interview.

All interviews were conducted in Arabic; although English terminologies were widely used in some interviews. Recorded interviews were transcribed verbatim by the researcher. However, in the case of an un-recorded interview, the researcher tried her best to write down the most significant information provided by the participant. The transcription process took place in Jordan.

The researcher made sure not to conduct more than three interviews a week because she decided to transcribe each interview immediately once being conducted. That gave her the opportunity and flexibility to send participants copy of the transcribed interview or of the notes taken through the un-recorded interview and ask them to review it and provide her with any comments.

After that, the transcribed verbatim interviews as well as all the written notes which were documented were translated into English by the researcher. The translation process took place in the United Kingdom during the period (Monday: 29th September – Friday: 31st October, 2008). However, the researcher also sent a copy of each interview in both languages (Arabic and English) to her father and her fiancé via email and asked them to review and check the translation of the interviews and provide her with some constructive feedback if any alterations or clarifications needed. This act would also help reduce the bias and increase the research reliability and validity. The choice of these two individuals in particular is due to the fact that they both are bilingual, since they have studied, worked and lived in the United Kingdom and the United States for several years. However, the researcher made sure prior sending the interviews to fully comply with privacy and confidentiality issues in regard to participant identities. She extracted the names, positions held, and any information that could lead to identifying them.

The researcher arranged for the interviews in different ways. As for the first setting, she obtained the interviewees’ agreement to participate in her study by personally visiting
them at their offices. In regard to the second setting, the researcher relied on phone calls to set up for the interviews, whereas in the third setting she emailed interviewees and got their approval to take part in her study. As for the fourth setting, the researcher’s father was the one who arranged for the interviews. However, the researcher made sure that her father explained the purpose of the research and themes that were going to be discussed during the interview.

It should be noted that most of the male participants appeared to be religious and were questioning who will be present besides the researcher in the interview. Due to religious limitations: many of them were uncomfortable to be with a female in the same room beyond close doors. Therefore, the researcher had to seek for a male assistant who could accompany her to the interviews and act as a researcher assistant. Researcher assistant role was limited to listen and take notes only. This act allowed for the researcher to get access to the field as the idea was extremely welcomed and encouraged by all participants in general and male participants in specific. The researcher assistant was made aware that confidentiality issues are critical to the research and to the involved participants too.

The researcher made sure that all participants chose a place and time of their convenience. All participants agreed to be interviewed at their offices apart from P28 and P29 who preferred to be interviewed at their homes. Each interview continued until adequacy of the information was gained and the researcher terminated the interview once information provided became repetitive and redundant; the emergence of data saturation.

Throughout the interview, most participants were keen to provide the researcher with all information needed and to speak about their experiences. They appeared enthusiastic, moved their hands and bodies a lot, and were very friendly. They even announced their willingness to participate in another interview if needed and asked the researcher not to hesitate in contacting them if she has any further enquiries. However, a small group of the participants, especially the ones with limited information about the research topic, appeared anxious, stressed and irritable.
The interviews were sometimes interrupted when the participant received a phone call, someone intruded in or when interviewees out of being hospitable offered the researcher and the assistant drinks and refreshments. The researcher tried her best to create an informal atmosphere between herself and the participants and to make the interview appears as a conversation in order to make participants feel more comfortable sharing their honest views and talking about their experiences frankly. She noticed that participants were genuinely sharing their perceptions and views. For example, on many occasions, participants asked the researcher to stop the tape recording to clarify certain points that could help in the research but at the same time did not want them to be on record in order not to be held against them. On other times, participants whispered some information which are thought to be helpful to the researcher instead of stating them out loud also to protect themselves. This shows that participants were eagerly willing to help and cooperate.

The design of the semi-structured interviews allowed the researcher to ask open-ended questions that outline the topics she wish to cover. Interview questions permitted participants to describe their perceptions about drivers and barriers to e-government initiative in Jordan, share their experiences and reflect on a variety of research key topics.

The researcher prepared a list of questions to guide her through the interview process. Appendix 1 presents the interview guide which consists of the open-ended questions and themes formulated for the interviews.

The interview guide consists of forty nine open ended questions, which are based on the pre-existing literature about drivers and barriers to e-government initiatives. However, although the supporting literature is crucial in determining the structure and context of the interview, the researcher avoided direct reference to the pre-existing literature in order to allow for interviewees to lead the discussion and to reduce the bias that might occur and avoid pre-conditioning responses. Questions were refined several times with the aim of ensuring that they were clear and unbiased. The researcher also made sure that questions were designed in a logical and coherent order. It should be noted that some follow-up questions were included and asked only to offer interviewees the chance to provide their own perspectives and views on particular topics that are of
interest to the researcher. The interview guide was divided into the following eight main themes:

- General questions to warm up the participant
- Background information about e-government initiative in Jordan to assess the participants knowledge about the initiative
- Background information about the e-government initiative in a particular ministry / institution / department to gain an insight of the extent of e-government maturity and development
- Interviewees’ perceptions of e-government initiative in Jordan to find out their real views, perceptions and expectations
- Interviewees’ perceptions about the drivers to e-government initiative in Jordan
- Interviewees’ perceptions about the barriers to e-government initiative in Jordan
- Interviewees’ perceptions about other issues related to e-government initiative in Jordan. In this section; the researcher generated a list of questions to raise herself if the interviewees did not bring them up.
- Interviewees’ perceptions about the current extent and the future of e-government initiative in Jordan

It should be noted that interview questions were slightly different for each stakeholder category, but also they were correlated and linked.

Another vital issue that the researcher considered during the interview was to remain focussed on the original research topic and objectives in spite of various interesting but irrelevant topics that participants shared. This is another effort taken by the researcher that would help in increasing the research reliability and validity as well as reducing the data bias in this qualitative study. This concurs with Parikh (2002) who asserts that the quality of data collected heavily depends on the researcher ability to maintain focus.

At the end of each interview, the researcher thanked the participants for their time, asked them for any documents which could benefit the study, asked for their business cards and also took their permission if she could contact them for further enquiries in the future. She also offered to provide feedback about the research outcome and
conclusions once data being analyzed and the final report that includes the research findings is generated.

After completing the transcription and translation processes for the interviews, the researcher came up with 262 pages. The next section will describe the ethical considerations that were taken into account during the data collection process.

4.2.3.1 Ethical considerations

The researcher followed the ethical principles suggested by Longhurst (2009) and Boeije (2010); informed consent, privacy as well as confidentiality and anonymity.

**Informed consent principle:** participants were notified about the research nature, title, objectives, major themes that will be discussed, data collection method, the expected duration (1 hour) of the interview as well as the presence of a male participant who would act as a researcher assistant. Participation in the interviews was extremely voluntary and the researcher made participants aware that they could refuse to answer any question or withdraw from the interview at any point. Each interviewee participated in the research study was provided with a participant information sheet and was asked to sign a consent form. It should be noted that participant information sheet and consent form given to interviewees were in Arabic. Appendix 3 presents the translated participant information sheet and consent form prepared for this case study research.

Moreover, before conducting the fieldwork, the researcher obtained the approval from the Ministry of Information and Communication Technology of the research contents and informed consent as it is the primary responsible entity for implementing the e-government project in Jordan.

**Privacy principle:** all interviewees were informed that the information provided by them would be treated in a confidential manner and would be kept secured. However, interviewees granted the researcher their written approval in regard to interview materials being supplied to external entities for academic purposes under the agreement that their identities will remain anonymous. Additionally interviewees gave the researcher their written consent that she is authorized to verbatim quote their own words in her thesis under the same agreement that their identities will remain anonymous (see Appendix 2).
Confidentiality and anonymity principle: interviewees were also assured that their identities would be reported in an anonymous manner and that they can refuse to answer any question or withdraw from the interview at any point without explanation. However, most participants’ voluntary gave their permission to the researcher to reveal their identities if needed, but the researcher preferred to keep their identities anonymous due to ethical considerations. The next two sections will describe other methods used for collecting data. These are documents and field notes.

4.2.4 Documents

To increase the reliability of the study, the researcher decided to depend on other methods of data collection including documents reviews and field notes. This concurs with Benbasat et al (1987) and Eisenhardt (1989) who assert that relying on multiple methods in case research studies is a way to strengthen and support the research findings.

In addition to the interviews, as a main source of data collection, the researcher relied on reviewing several documents related to the e-government initiative in Jordan as a second source of data collection. These documents included governmental publications, governmental public announcements in newspapers and through government websites as well as governmental reports, booklets, presentations and prospectus. Table 4-6 illustrates all documents reviewed for this research.

<table>
<thead>
<tr>
<th>Number and Type of Documents</th>
<th>Titles of Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Newspaper Articles (Al- Ghad, Al-Rai, Al-Dustour Newspapers)</td>
<td>• Instead of civil status ID, a new smart card ID is on the way</td>
</tr>
<tr>
<td></td>
<td>• Vendor bidding the smart card project</td>
</tr>
<tr>
<td></td>
<td>• Establishing kiosks to support e-government project</td>
</tr>
<tr>
<td></td>
<td>• E-government project in Jordan: reality or fiction?</td>
</tr>
<tr>
<td></td>
<td>• Citizens as customers: new vision of Jordan’s government</td>
</tr>
<tr>
<td></td>
<td>• Could the Jordanian public sector be revitalized?</td>
</tr>
</tbody>
</table>
| 6 Governmental presentations | ▪ E-government status update - 2003  
▪ Establishment of a unified data base for ministries and governmental institutions  
▪ The experiment of Municipality of Greater Amman in the automation of financial and management systems  
▪ The importance and accuracy of the given information to decision making authorities  
▪ The Jordanian e-government initiative  
▪ Unification of Databases |
| 2 Government Prospectus | ▪ Jordan's e-government programme dialogues with the private sector share successes and challenges with local firms  
▪ Jordan’s government enters the high-tech age challenge |
| 2 Governmental Booklets | ▪ Evidence of e-government influence on dealing with customers complaint about water and sewage system  
▪ Jordan administrative reform, innovation and maintenance |
| 4 Government internal reports | ▪ The global information technology report 06-07  
▪ Jordan e-government BPR process documentation templates  
▪ Jordan: readiness for e-government  
▪ Launching e-government in Jordan |
| 10 Governmental publications | ▪ Jordan e-government programme - 2005  
▪ E-government programme overview – 2008  
▪ Jordan e-government - 2008  
▪ The final results of survey conducted in regard to IT usage in homes – 2007  
▪ The e-readiness assessment of the Hashemite Kingdom of Jordan – 2006 |
4.2.5 Field Notes

Detailed notes were taken by the researcher and her assistant throughout all interviews, whether it was recorded or not. Walsham (1995) mentions that researcher should take broad notes during the interview and to write them up in details after the completion of the interview.

Table 4-6 All Documents Reviewed for this Case Study Research

Documents provided the researcher with an overall overview and background information about the e-government project in Jordan, including its history, achievements, plans, e-readiness, policies, challenges, perceptions, e-services as well as current and future projects.
The researcher generated various benefits from taking notes during the interviews. First, they were very useful during the transcription process, mainly when some words were unclear.

Second, they allowed the researcher to better recall the un-recorded interviews. Third, they were taken to guarantee that the interview is being documented in case of a failure of the tape-recording which did happen in one of the interviews (P15) and if it was not for the field notes taken, the interview could have been nearly lost. Fourth, they assisted the researcher in writing down her observations and impressions of the interviewees and their answers. Fifth, they were very beneficial to the researcher, since she did not know what will or will not be valuable in the future. This is in line with Eisenhardt (1989) who thinks that field notes give researchers the opportunity to document whatever observations occur during the interview especially as it is hard for them to predict what piece of information might or might not be useful in the future.

The following sections will explain the data analysis process that was carried out for this research in addition to other potential approaches to analyze qualitative data.

### 4.3 Qualitative Data Analysis

Qualitative data analysis is defined as “a range of techniques for sorting, organizing and indexing qualitative data” (Mason 1996, p.7)

Lempp and Kingsley (2007) and Warden and Wong (2007) view qualitative analysis as an interactive process that is formed by the subject and the researcher’s social role such as age, gender experience, social class, ethnicity and biases. They note that qualitative analysis is not quantifiable, rather it is an iterative and interpretive process as well as it is based on context.

Data analysis is considered the most difficult phase of a qualitative study, and the one that is discussed the least in the literature. This is due to the fact that published studies normally give enormous attention to the description of research sites and data collection sources and disregard the discussion of analysis (Eisenhardt 1989; Thorne 2000).

Yin (2009, p.127) also claims that “the analysis of case study evidence is one of the least developed and most difficult aspects of doing case studies”.

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The following sections are presented to shed light on some aspects of qualitative data analysis. Section 4.3.1 discusses the available approaches to qualitative data analysis. Additionally, Section 4.3.2 justifies the selection of the template analysis approach for this study. Section 4.3.3 provides a detailed explanation of the application of each data analysis procedure employed in this research and section 4.3.4 proposes the quality evaluation criteria followed in this case study qualitative research.

### 4.3.1 Theoretical Approaches to Qualitative Data Analysis

Lacey and Luff (2009) claim that there are various ways and approaches to analyze qualitative data and there is no straight way to analyze qualitative data as there is in analyzing quantitative data. However, they believe that the chosen approach depends on various factors such as the research question(s), time as well as the overall purposes of the analysis.

Bachman and Schutt (2008) also assert that the research question(s), the researcher’s experiences as well as preferences are all inevitable factors that influence the decision of selecting an analytical approach.

On the other hand, Saunders et al (2007) argue that there are two main approaches to qualitative data analysis: deductive and inductive approach. Deductive approach relies on an existing theory to outline the research process and analysis. Inductive approach seeks to develop a theory that is grounded in the data. The aforementioned scholars illustrate that qualitative analysis can be done by either carrying out deductively-based analytical procedures such as pattern matching and explanation building, or inductively-based analytical procedures such as data display and analysis, template analysis, analytic induction, grounded theory, discourse analysis and narrative analysis.

Pattern matching entails developing a conceptual framework in order to test a predicted explanation. It means that researchers predict a pattern of outcomes that are based on theoretical propositions to describe what they expect to discover (Saunders et al 2007; Yin 2009).

Explanation building is a special kind of pattern matching but it entails more difficult procedures. It aims at building an explanation about the phenomenon under study by
testing theoretical propositions rather than generating a theory. This hypothesis-testing approach fits with explanatory case studies (Saunders et al 2007; Yin 2009).

Data display and analysis approach is explained by Miles and Huberman (1994) who state that the analysis process mainly involves three parallel sub processes which are: data reduction (simplifying, summarizing, coding and categorizing data), data display (organizing and grouping data in diagrammatic, symbolic or visual forms such as matrices or networks) and conclusions drawing and verification.

Template analysis refers to a specific method of thematically analysing qualitative data. It involves developing a list of codes and categories that summarize themes generated from the data. Template analysis combines both inductive and deductive approaches to analyze qualitative data in the sense that themes and codes are pre-defined and then modified or devised as data are analyzed (King 2004; Saunders et al 2007).

Analytic induction is the inductive version of the explanation building approach. It involves a comprehensive investigation of a number of cases in order to figure out the causes of a certain phenomenon. It leads to the development of grounded descriptions and explanations for specific conditions that occur in a phenomenon (Saunders et al 2007).

Grounded theory method is an inductive method that concerns with systematically generating theory from qualitative data through following some structured analytical procedures. Grounded theory analytical strategy involves comparing concepts or categories emerged from one piece of data (i.e. an interview, a theme) with concepts or categories emerging from other pieces of data. Researchers then continue comparing these concepts and categories in order to find relationships between them that help to outline the base of the emerging theory. The process of carrying out grounded theory analysis goes through various non-linear procedures, which are: open coding, defining emergent concepts, conceptual coding, alteration of conceptual coding schemes, grouping concepts to form categories, looking for core categories, delineation of core theory and testing the emergent theory by reference to other studies and economical, cultural as well as social aspects that influence the area of study (Lacey and Luff 2009).
This hypothesis-generating approach fits with exploratory case studies (Saunders et al 2007; Yin 2009).

Moreover, Myers (1997) discusses three modes of analysis to qualitative data; hermeneutics, semiotics, as well as narrative and metaphor.

Hermeneutics, as a mode of analysis, proposes a way of understanding textual data (Myers 1997). It has been used in several fields including medicine, sociology, education and architecture (Vattimo 1988). It is the science of interpretation that involves analysis of the meaning of a text. The fundamental question in hermeneutics is ‘what is the meaning of a text?’. Hermeneutics is a significant framework for the analysis of socio-technical interactions, organizational culture in addition to information systems in organizations (Harvey and Myers 1995). Myers (1997) argues that if hermeneutic analysis is adopted in an information systems study, then the aim becomes to try to make sense of the whole organization, and the relationship between people, information technology and the organization.

Semiotics, as a mode of analysis, mainly involves the meaning of signs and symbols in languages. It is primarily concerned with the frequency with which the idea occurs in the text (Myers 1997). It also demonstrates how signs tie to one another with the aim of creating specific meanings (Silverman 2006). Myers (1997) and Myers and Avison (2002) list three forms of semiotics:

- **Content analysis:** Stemler (2001) and Lacey and Luff (2009) indicate that content analysis means performing a word-frequency count. It is based on the assumption that the most mentioned words are the most crucial ones. However, content analysis extends beyond word counts to code and categorize qualitative data quantitatively.

- **Conversation analysis:** Hirst (1991, p.212) asserts that conversation analysis “tends to view talk as a human noise-making behaviour” and is concerned with people actions and manners in a conversation (i.e. where they look, interruptions and turn-taking).

- **Discourse analysis:** Myers (1997) declares that discourse analysis accumulates on both content and conversation analysis but concentrates on languages and
speeches. Thorne (2000) affirms that discourse analysis views speech as a linguistic tool created and shaped by various ideological and social influences. It aims to construe what is represented by the many ways in which individuals communicate thoughts.

Narrative and Metaphor analysis is a method that identifies the level to which tales and stories people say provide insights about their real experiences (Thorne 2000). It focuses on the story itself and the coding strategy includes reading the stories and then categorizing them into broad patterns (Bachman and Schutt 2008).

Another significant approach is that of Lacey and Luff (2009). They outline three broad levels of analysis to qualitative data. These are: content analysis, grounded theory analysis and thematic analysis (framework analysis).

Framework analysis (thematic analysis) provides systematic strategies to the process of analysis so that readers can follow the procedures by which the outcomes and conclusions have been generated from the data. Even though the overall approach of framework analysis is inductive, it allows for inclusion of a pre-defined and emergent concepts, particularly in coding. Therefore, it can be said that this perspective combines both inductive and deductive approaches. Framework analysis involves five key stages that can be carried out either in a linear mode or concurrently. These are: get familiar with data, discover a thematic framework, segmenting the data, draw diagrams, and finally explanation and interpretation (Lacey and Luff 2009).

From another perspective, Thorne (2000) demonstrates five common theoretical approaches to assist in understanding what researchers want to say about sorting, organizing, conceptualizing, refining and interpreting qualitative data. These approaches are: constant comparative analysis (grounded theory method), phenomenological approaches, ethnographic methods, narrative analysis and discourse analysis.

Phenomenological approach aims to thoroughly studying individual cases in order to discover some of the essential structure or the essence of an experience. It involves depth and detailed analysis of the phenomenon through an extensive, reflective and systematic study of lived experiences (Thorne 2000; Hancock et al 2009). Additionally, it is distinguished from constant comparative methods because it challenges researchers
to generate completely new explanations and conceptualizations by working inductively with the data (Thorne 2000).

Ethnographic methods mean that researchers immerse themselves into the participants’ culture. Ethnographic analysis relies on a repetitive process in which cultural thoughts that take place during the dynamic involvement in the field are translated into a written text. It involves identifying themes and categories as well as looking for differences and contradictions to come up with conclusions about what is going on and why (Thorne 2000).

Furthermore, Parikh (2002) mentioned other qualitative and quantitative analysis techniques. These are: information ordering or information arraying, time series analysis, frequency of events, content analysis and data displays.

Information ordering or information arraying refers to the arrangement of information about different aspects in a particular order (i.e. time line of events) to search for causal outcomes (Parikh 2002).

Time series analysis involves looking for patterns mainly in quantitative data and follow transformations over time in order to describe any dual trends (Parikh 2002).

Frequency of events means to “tabulate the frequency of the occurrence of events to examine their complexity and relationships possibly using means, variances, and cross tabulation” (Parikh 2002, p.369).

After reviewing the potential approaches that can be employed to analyze the data for this qualitative case study research, the researcher decided to use template analysis approach. The following section will justify such choice.

**4.3.2 Justification for Chosen Data Analysis Approach**

Lacey and Luff (2009) agree that no matter which data analysis approach is undertaken by the researcher, there are common stages that apply to all approaches. These common stages are familiarization, transcription, indexing, guarding sensitive data, coding, identifying themes, re-coding, developing provisional categories, exploring relationship between categories, modification of themes and categories, developing theory, testing theory and report writing.
This is reinforced with Bachman and Schutt (2008) who state that most approaches to qualitative analysis share the following techniques: documentation of data, categorizing data into concepts, exploring connections between data, verification by assessing alternative explanations and reporting the findings.

However, it should be noted that researchers carrying out qualitative analysis can employ some or all of the previously mentioned stages depending on the research design, data collection sources and type of information being collected (Hancock et al 2009; Lacey and Luff 2009).

The researcher decided to employ the template analysis approach in analyzing data gathered for this qualitative research. Her decision is based on the various characteristics associated with the template analysis approach.

First, King (2004) argues that the selection of a data analysis approach depends on the epistemological and methodological assumptions of the research. He adds further that some approaches are directly connected to particular methodologies (i.e. if the grounded theory is being adopted, then the sequence of open, axial and selective coding will be employed) while others including template analysis can be used within a variety of methodologies. Therefore, the template analysis approach can be employed in this interpretive qualitative case study research.

Second, the analysis process in qualitative research is generally interpretive and inductive; it is concerned with the exploration of themes and categories to produce findings (Creswell 1994). The processes and steps involved in the template analysis approach allow the researcher to interpret the data gathered from the interviews, explore themes, and inductively develop categories and present the findings.

Third, even though template analysis primarily involves inductively-based analytical procedures (Saunders et al 2007); it sometimes starts with developing a priori themes and codes before transcribing the interviews and starts the initial coding of the gathered data (King 2004). Even though the main approach of analyzing data for this research appears to be inductive, it is not purely inductive though; since the analysis process is drawn upon a pre-defined themes that are generated by the researcher (see Tables 2-3 and 2-5).
Fourth, template analysis can be used to investigate the perspectives of different levels of employees who are affected by a particular organizational change (King 2004). This research investigates drivers and barriers that emerge from the transformation from the traditional government to e-government from the perspectives of different employees at different levels who are affected by the change; hence template analysis is well suited to analyze this kind of data for this particular purpose and context.

Fifth, Eisenhardt (1989) and Thorne (2000) disclose that there is little literature and guidance on how to analyze qualitative data. Mauthner and Doucet (2003) also admit that it is quite difficult to use any of the theoretical approaches to analyze qualitative data without the aid of a skilled and experienced facilitator. They also believe that students adopting qualitative research for the first time are more likely to get overwhelmed by the enormous amounts of textual data they gather. Due to the previously mentioned points and to the fact that the researcher is adopting qualitative research for the first time, template analysis approach appears to be more suitable for the data analysis process since it is a flexible technique that involves clear steps on how to conduct the analysis and allows researchers to tailor the analysis to suit their requirements (King 2004).

Sixth, King (2004) proclaims that template analysis is extremely useful for exploring trends and relationships in the collected data which consequently assists in describing its meanings and in comparing the different perspectives of diverse participants. For that reason, template analysis fits well with this research, as it facilitates the process of discovering relationships in the data and helps the researcher in explaining and comparing the various perspectives of interviewees in reference to the drivers and barriers influencing the development of the e-government initiative in Jordan.

Seventh, the chosen approach for qualitative data analysis relies on several factors such as the research time as well as the overall purpose of the analysis (Lacey and Luff 2009). Template analysis is more appropriate for this research since the overall purpose of the analysis is to find, explore and describe the various drivers and barriers that affect the implementation of e-government project in Jordan. Moreover, template analysis approach does not require long period of time for the analysis like other approaches (i.e.
grounded theory) and is more able to handle large data sets, which suits the researcher more since her time is limited to the period of the registration of her research degree.

Eighth, the qualitative data analyst can choose from many interesting alternative approaches. Of course, the research question under investigation should shape the selection of an analytic approach, but the researcher’s preferences and experiences inevitably also will have an important influence on the method chosen. The researcher preferred to use template analysis over other approaches as she found it to be more interesting and challenging. The next section will describe in detail how the template analysis approach has been applied to analyze the empirical data.

4.3.3 Application of Data Analysis Approach and the Use of NVivo Qualitative Data Analysis Software Package

The researcher has chosen the template analysis approach to analyze collected data. King (2008) presents seven major steps involved in the template analysis technique. These are:

- Define a priori themes.
- Transcribe the interviews and familiarization with the data.
- Produce an initial template by carrying out initial coding of the data by either attaching the code to a prior identified theme or by modifying an existing theme or even develop a new one.
- Group the themes which have been identified in the transcripts into a smaller number of higher-level codes that illustrate broader themes (categories) in the data. Researchers can use Computer Aided Qualitative Data Analysis Software (CAQDAS).
- Develop the initial template by applying it to all the interviews transcripts.
- Use the final template to assist in interpreting and writing up the research findings.
- Carry out quality checks at one or more of the coding stages.

The following is an illustration on how the researcher has applied each of the above proposed steps in the analysis to the data collected.
**Step 1: Define a priori themes**

The researcher initially identified a list of themes delineated in the pre-existing literature. Table 4-7 and Table 4-8 demonstrate all priori identified themes found in the pre-existing literature about e-government drivers and barriers respectively. For more details on how themes have been extracted from pre-existing literature please see chapter two sections seven and nine (2.7 and 2.9).

### 58 Drivers

Improve services development and delivery, Reduction of service cost, Improve CzRM, Increase the satisfaction and acceptance of stakeholders, Enhance service quality, Reduce bureaucracy, Increase interaction with stakeholders, Increases accessibility, Increase availability, Increase transparency, Increase accountability, Save Time and Effort, Avoid Personal Interaction, Increase efficiency and effectiveness, Increases trust, accuracy, privacy and security of information exchanged, Increase citizens participation and empowerment, Integration of government services, Reengineering business processes, Process acceleration, Clear vision, agenda and specified objectives, E-readiness and availability of good ICT infrastructure and internet penetration, Political support, top management readiness, strong leadership and commitment from highest levels of authorities, Issuing new rules, policies and legislations, Human Support, Organizational and managerial support, Economical motivations, Geographical, Enhance Performance, Social and cultural awareness and support, Technical issues, Demographical, Meet citizens’ expectations, personalization, Availability of administrations, agencies, councils, boards and committees, Increase communication between all government agencies, Collaboration, integration, partnership and knowledge sharing between the public and the private sector, Provide value added services, Effective change management, Greater convenience, Reduce errors, Justified Framework, Reform public sector, External pressure, Reduce corruption, Decrease time wasted on repetitive tasks and duplication of efforts, Emergence of e-commerce in the private sector, Improve consistency, Downsizing and decrease staff numbers, Increase the capacity of government, Promote the use of ICT in the society, Allocated budgets, Bridging the digital divide, Comprehensive and competent portal, Effective project
management, Regional comparisons and learn from others, Availability of training and skilled IT staff, Create new business opportunities, Improve law enforcement, Increase responsiveness.

<table>
<thead>
<tr>
<th>Table 4-7 Priori Identified Themes for Drivers Found in the Pre-Existing Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>75 Pre-Identified Themes for Barriers</strong></td>
</tr>
</tbody>
</table>
others, Disregarding stakeholders needs, Lack of standardization in data formats, Dissimilarities in security models among government agencies, Bad user experience, Lack of training, Lack of innovative incentives, Lack of continuity and comprehensiveness

Table 4-8 Priori Identified Themes for Barriers Found in the Pre-Existing Literature

**Step 2: Transcribe the interviews and familiarization with the data**

At this point the researcher had completed the process of transcription of all interviews conducted into a word processing documents. Translation then took place. After that the researcher read and re-read through all interview transcripts thoroughly to familiarize herself with the data and the interviews contents. She also wrote down all impressions occurred while she was going through the data because she felt that these impressions might be useful later on.

**Step 3: Carry out initial coding of the data by either attaching the code to a prior identified theme or by modifying an existing theme or even develop a new one, in order to create an initial template**

The researcher split the above stage into two parts. The first part involved the preliminary efforts of the researcher to carry out manually a line by line coding to all interviews transcripts. This was done by dividing, indexing and segmenting the data into meaningful analytical units and assigning codes to them. This was a lengthy process (2 months) that continued until all data have been segmented and coded. Appendix 4 shows an example of the line by line coding for one of the interviews (P6).

The researcher decided to focus the analysis on individuals. That is to look at how each participant responded to all interview questions, rather than focussing on each interview question or topic alone. That concurs with Taylor-Powell and Renner (2003) who suggest that qualitative researchers can follow one of the two common approaches to focus their analysis; focus by question or topic and focus by case, individual or group.

Upon the completion of the line by line coding, the researcher came up with a coding draft that consisted of 137 codes. However, the researcher realized that some segments carried more than one code. For example, the segment ‘We have a problem in
maintaining our human resources while the private sector recruit our experienced employees by providing more incentives and higher salaries’ was coded as ‘Inability to maintain human resources’ and as ‘Income Problem’. This is normal in the analysis process and could occur in the initial stage of coding. Another issue the researcher noticed was that some of the codes have been duplicated by assigning similar code with different terms to some segments of the data. For example, some of the data segments were coded with the term ‘Lack of acceptance’; while other segments were coded with the term ‘Lack of buy-in’. Since both terms are synonyms, they were merged to form one code which is ‘Lack of conviction in E-Government’. Another example were the codes ‘Individualism’ and ‘Lack of institutionalism’, which were merged together under the code name ‘Lack of institutionalism’ . The researcher continued organizing, refining and revising the codes until she was satisfied with the end result and no more overlapping remained. At the end of this process 122 initial codes were identified for both drivers and barriers of e-government initiative in Jordan.

Figure 4-2 illustrates a list of all initial codes generated. Green coloured concepts are the drivers, whereas red coloured concepts are the barriers.
<table>
<thead>
<tr>
<th>Improve Services Development and Delivery</th>
<th>Internet Accessibility Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of institutionalism</td>
<td>Inability to Maintain Human Resources</td>
</tr>
<tr>
<td>Compulsory Education</td>
<td>King Abdullah II Award for Excellence</td>
</tr>
<tr>
<td>Lack of Business Process Re-engineering</td>
<td>Availability of Kiosks</td>
</tr>
<tr>
<td>Deferred Promises</td>
<td>Poverty</td>
</tr>
<tr>
<td>Reduction of Service Cost</td>
<td>Lack of Innovative incentives</td>
</tr>
<tr>
<td>Old Habits</td>
<td>Lack of Authorized Entity</td>
</tr>
<tr>
<td>Low Salaries</td>
<td>Avoid Personal Interaction with Short Tempered Employees</td>
</tr>
<tr>
<td>Corruption</td>
<td>Lack of Credibility</td>
</tr>
<tr>
<td>Variation of Technology Literacy amongst Citizens</td>
<td>Top Management Support</td>
</tr>
<tr>
<td>Confidentiality Issues</td>
<td>Save Time and Effort</td>
</tr>
<tr>
<td>Responsiveness Issues</td>
<td>Lack of Conviction in E-Government</td>
</tr>
<tr>
<td>Computer Spread issues</td>
<td>Projects Continuity Issues</td>
</tr>
<tr>
<td>Mindsets of individuals</td>
<td>Lack of Communication</td>
</tr>
<tr>
<td>Age Limitations</td>
<td>Unrealistic Time Frames</td>
</tr>
<tr>
<td>Diverse Levels of Technological Advancements and Human Resources within Entities</td>
<td>Lack of Follow-Up</td>
</tr>
<tr>
<td>Lack of Gradual Change</td>
<td>Decisions Go through Multiple Channels</td>
</tr>
<tr>
<td>Minimize Digital Divide</td>
<td>Lack of Ownership</td>
</tr>
<tr>
<td>Resistance to information Sharing</td>
<td>Inadequate Human Resources</td>
</tr>
<tr>
<td>Lack of Reliable Decisions</td>
<td>Lack of Conviction in Online Security</td>
</tr>
<tr>
<td>Lack of E-Trust</td>
<td>Enhance Performance and Productivity</td>
</tr>
<tr>
<td>Language Barrier</td>
<td>Availability of E-Transactions Law</td>
</tr>
<tr>
<td>Lack of Coordination</td>
<td>Monarch Support</td>
</tr>
<tr>
<td>Unrealistic Deadlines</td>
<td>Enhance Services Quality</td>
</tr>
<tr>
<td>Multiple Usernames and Passwords</td>
<td>Mixed Up Priorities</td>
</tr>
<tr>
<td>Improve IT Literacy</td>
<td>Misconceptions about Internet because of Religion</td>
</tr>
<tr>
<td>Wasta</td>
<td>Outsourcing</td>
</tr>
<tr>
<td>Develop Human Resources</td>
<td>Young Leaders</td>
</tr>
<tr>
<td>Frustration</td>
<td>Lengthy Government Procedures</td>
</tr>
<tr>
<td>Negative Attitudes and Behaviours towards Technology</td>
<td>Benefiting from International Experiences</td>
</tr>
<tr>
<td>Lack of Backup Plans</td>
<td>Negative Attitudes about Technology because of Religion</td>
</tr>
<tr>
<td>Doubts about Technology</td>
<td>Used to Traditional Channels</td>
</tr>
<tr>
<td></td>
<td>Social Engineering</td>
</tr>
</tbody>
</table>
The researcher then uploaded all interviews transcripts on the qualitative data analysis software package, NVivo.

Saunders *et al.* (2007) claim that researchers can choose from a variety of software packages such as ATLAS.ti, QSR N6, HyperRESEARCH and NVivo to aid them in the coding process and the analysis of qualitative data. Additionally, Bachman and Schutt (2008) state that software packages designed for qualitative data such as NVivo can accelerate the process of analysis.

Lacey and Luff (2009) list several benefits of using a computer programme to assist in analyzing qualitative data. They believe that qualitative data analysis software packages help researchers to securely store huge amounts of data, edit the material once entered and manage the collected data. They also clarify that software packages aid in data searching and retrieval since most of the packages have the feature of searching textual data for particular phrases. Simplify the coding and re-coding process is another advantage of software packages. Additionally, software packages such as NVivo also use a hierarchical mechanism which takes a top down approach by dividing and subdividing main themes which makes it easier for researchers to find relationships between coded data. Finally software packages can generate reports as requested by
researchers which make writing research findings easier. Moreover, Saunders et al (2007) believe that computer aided qualitative data analysis software packages increase the research transparency and methodological rigour if they are used systematically.

However, software packages remain tools that assist researchers in the analysis but they do not replace the researcher role of thinking, analyzing, interpreting and reflecting on the data (Basit 2003).

The researcher bore in mind various issues when she decided to use the NVivo to assist and accelerate the analysis process. First she had to think about the availability of the software, if it is offered free of charge to postgraduate students at the university or she would have to buy the software and pay for the cost out of pocket. Time needed to familiarize the researcher with the software was the second point she had to consider. Third was the amount of data collected during the fieldwork in Jordan.

What called for the use of the NVivo software at this study is the large amount of data collected and transcribed by the researcher as well as the fact that the NVivo software was being offered free of charge to postgraduate students and training courses were also offered to the students in which the researcher has undertaken two of them.

NVivo facilitated the process of tracing back the sources of the interview transcripts so quickly since it automatically referenced each interview and gave it a unique referencing number.

The second part of this step involved the iterative process the researcher followed which was attaching the initial codes to the priori identified themes, modifying pre-existing themes and devising new themes. These pre-identified, modified or new themes are all called free nodes in the NVivo software. Consequently, it can be said that the researcher followed a joint procedure of inductive and deductive thematic analysis in this study.

Taylor-Powell and Renner (2003) declare that qualitative researchers usually use one or both ways in coding the textual data; preset or emergent themes. They note that researchers can start with some pre-defined themes and then add other new themes when they become apparent. They also state that qualitative data analysis is an iterative
process in which researchers have to amend the pre-defined themes, or identify new themes to accommodate some segments of data that do not fit the existing themes.

NVivo allowed the researcher to index segments of the textual data to particular codes and themes, edit pre-defined themes, develop new themes, carry out search and retrieval processes so fast and link the research field notes to coding. The coded text was stored in free nodes, which are viewed as containers of the coded textual data. Each free node was given a heading that describes a particular theme and all text related to that theme was stored under that heading. Table 4-9 and Table 4-10 display the second stage of coding (attaching an existing code to a pre-identified code, modifying codes, and devising new codes).

<table>
<thead>
<tr>
<th>39 Identified Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-identified Themes</strong></td>
</tr>
<tr>
<td>Improve Services Development and Delivery, Enhance services quality, Save Time and Effort, Greater Convenience, Reduction of Service Cost, Increases Accessibility</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Existing Themes</th>
<th>Modified Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political support, top management readiness, strong leadership and commitment from highest levels of authorities OR Organizational and managerial support</td>
<td>Top Management Support</td>
</tr>
<tr>
<td>Availability of administrations, agencies, councils, boards and committees</td>
<td>Availability of Other Initiatives that Support Owning Computers</td>
</tr>
<tr>
<td>Availability of training and skilled IT staff</td>
<td>Availability of Training</td>
</tr>
<tr>
<td>Geographical Reasons</td>
<td>Geographical</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Meet citizens’ expectations, personalization</td>
<td>Meet Stakeholders Requirements</td>
</tr>
<tr>
<td>Bridging the Digital Divide</td>
<td>Minimize the Digital Divide</td>
</tr>
<tr>
<td>Issuing New Rules, Policies and Legislations</td>
<td>Availability of E-Transactions Law</td>
</tr>
<tr>
<td>Enhance Performance</td>
<td>Enhance Performance and Productivity</td>
</tr>
<tr>
<td>Social and cultural awareness and support</td>
<td>Availability of Limited Awareness Campaigns</td>
</tr>
<tr>
<td>Increase citizens participation and empowerment</td>
<td>Betterment Citizens Status</td>
</tr>
<tr>
<td>Bridging the digital divide</td>
<td>Improve IT Literacy</td>
</tr>
<tr>
<td>Collaboration, integration, partnership and knowledge sharing between the public and the private sector</td>
<td>Outsourcing</td>
</tr>
<tr>
<td>Avoid Personal Interaction</td>
<td>Avoid Personal Interaction with Short Tempered Employees</td>
</tr>
<tr>
<td>Human Support</td>
<td>Develop Human Resources</td>
</tr>
<tr>
<td>Collaboration, integration, partnership and knowledge sharing between the public and the private sector</td>
<td>Public Private Partnership</td>
</tr>
<tr>
<td>Regional comparisons and learn from others</td>
<td>Competition within Public Sector Entities</td>
</tr>
<tr>
<td></td>
<td>Competition with Regional Countries</td>
</tr>
<tr>
<td></td>
<td>Benefiting from International Experiences</td>
</tr>
</tbody>
</table>
New Themes


Table 4-9 Initial Template of Drivers

83 Identified Barriers

Pre-identified Themes

Change resistance, Unrealistic time frames, Lack of innovative incentives, Lack of Business Process Re-engineering, Resistance to information sharing, Lack of ownership, Inadequate human resources, Responsiveness Issues, Language barrier, Lack of rational goals and objectives, Turnover

<table>
<thead>
<tr>
<th>Existing Themes</th>
<th>Modified Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Different organizational priorities</td>
<td>Change of Government Priorities</td>
</tr>
<tr>
<td></td>
<td>Change of Ministers Priorities</td>
</tr>
<tr>
<td></td>
<td>Mixed Up Priorities</td>
</tr>
<tr>
<td>Lack of acceptance or buy-in</td>
<td>Lack of Conviction in E-Government</td>
</tr>
<tr>
<td>Lack of e-education</td>
<td>Variation of Technology Literacy amongst Citizens</td>
</tr>
<tr>
<td>Issues of maintenance and consistency</td>
<td>Inability to Maintain Human Resources</td>
</tr>
<tr>
<td>Bureaucratic nature of government</td>
<td>Size of Government</td>
</tr>
<tr>
<td></td>
<td>Complicated Government Procedures</td>
</tr>
<tr>
<td></td>
<td>Lengthy Government Procedures</td>
</tr>
<tr>
<td>Lack of trust</td>
<td>Lack of e-trust</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Economical constraints</td>
<td>Cost of Living</td>
</tr>
<tr>
<td></td>
<td>Income Problem</td>
</tr>
<tr>
<td></td>
<td>Poverty</td>
</tr>
<tr>
<td></td>
<td>Low Salaries</td>
</tr>
<tr>
<td></td>
<td>High Cost of Computers and Internet Connections</td>
</tr>
<tr>
<td>Lack of interaction</td>
<td>Lack of Communication</td>
</tr>
<tr>
<td>Bad User Experience</td>
<td>Bad Offline Experiences</td>
</tr>
<tr>
<td>Administrative and Management Issues</td>
<td>Ministers Reshuffling</td>
</tr>
<tr>
<td>Security, privacy and confidentiality issues</td>
<td>Lack of Security Measures</td>
</tr>
<tr>
<td></td>
<td>Lack of Security Experts</td>
</tr>
<tr>
<td></td>
<td>Lack of Conviction in Online Security</td>
</tr>
<tr>
<td></td>
<td>Lack of Backup Plans</td>
</tr>
<tr>
<td></td>
<td>Confidentiality Issues</td>
</tr>
<tr>
<td>Issue</td>
<td>Cause</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Social Engineering</td>
<td></td>
</tr>
<tr>
<td>Doubts about Technology</td>
<td></td>
</tr>
<tr>
<td>Lack of continuity and comprehensiveness</td>
<td>Lack of Follow Up</td>
</tr>
<tr>
<td>Projects Continuity Issues</td>
<td></td>
</tr>
<tr>
<td>Lack of e-participation</td>
<td>Computer Spread Issues</td>
</tr>
<tr>
<td>Accessibility</td>
<td>Internet Accessibility Issues</td>
</tr>
<tr>
<td>Technical problems and incompatible hardware, software and standards</td>
<td>Obsolete Technologies</td>
</tr>
<tr>
<td></td>
<td>Multiple Usernames and Passwords</td>
</tr>
<tr>
<td></td>
<td>Diverse Levels of Technological Advancements and Human Resources</td>
</tr>
<tr>
<td></td>
<td>within Entities</td>
</tr>
<tr>
<td></td>
<td>Lack of Process Standardization</td>
</tr>
<tr>
<td>Redistribute power</td>
<td>Power Hungry</td>
</tr>
<tr>
<td>Inappropriate Approaches and Imitating Others</td>
<td>Copying Others Experiences</td>
</tr>
<tr>
<td>Lack of e-readiness</td>
<td>Lack of Automation</td>
</tr>
<tr>
<td>Lack of integration, collaboration and cooperation amongst government agencies</td>
<td>Lack of Coordination</td>
</tr>
<tr>
<td>Lack of Vision and Strategy</td>
<td>Poor Planning Strategies</td>
</tr>
<tr>
<td>Lack of IT skills and qualifications</td>
<td>Inability to Acquire New E-Skills</td>
</tr>
</tbody>
</table>
### Cultural constraints

### Negative Attitudes and Behaviours towards Technology

### Mindsets of Individuals

### New Themes


### Table 4-10 Initial Template of Barriers

**Step 4: Group the themes which have been identified in the transcripts into a smaller number of higher-level codes that illustrate broader themes (categories) in the data in order to produce the template.**

The researcher started grouping relevant nodes (sub-themes) into broad higher-order codes (themes and categories). This hierarchical coding assisted the researcher to analyze textual data at different levels. Lower-level codes enabled the researcher to have a detailed overview of the interviews, whereas higher-level codes (themes and categories) enabled the researcher to have a general and broad overview of the interviews. Once categories became more distinguished, textual data which was stored in free nodes was moved into tree nodes. Tree nodes are useful because they help the researcher in developing coherent categories and assist in clarifying the patterns and relationships within the same category and also between different categories.
Appendix 5 presents the template which was generated from the empirical data on the NVivo software. It shows the relevant gathered themes and the given category names.

**Step 5: Develop the produced (initial) template by applying it to all the interviews transcripts.**

The researcher has chosen to develop the template after carrying out initial coding on all interview transcripts, rather than coding only few interviews transcripts and come up with an initial template. Therefore, this step was applied at earlier stages of analysis.

**Step 6: Use the produced template to assist in interpreting and writing up the research findings**

Taylor-Powell and Renner (2003) explain that interpreting the data means that researchers attach meanings and significance to the analyzed data.

The researcher relied upon the produced template (Appendix 5) to interpret and represent the broad categories and their associated themes (research findings) which address and answer the research questions and objectives. Research findings are described in detail in chapter five.

**Step 7: Carry out quality checks at one or more of the coding stages.**

This step is described in details in the following section (4.3.4).

**4.3.4 Qualitative Research Quality Evaluation**

Graneheim and Lundman (2004) state that the terminologies used to describe trustworthiness differ between qualitative and quantitative research. Concepts such as validity, reliability and generalisability are commonly used in quantitative research studies while concepts such as credibility, dependability and transferability are commonly used in qualitative research studies.

Lincoln and Gupa (1985) suggest that credibility, dependability, transferability and confirmability are the criteria to evaluate qualitative research. Murphy and Yielder (2010) named the previous criteria the trustworthiness criteria. Trustworthiness means how researchers can persuade their audience that the research findings are worth considering (Lincoln and Gupa 1985). Credibility is increased through member checks,
prolonged engagement, peer debriefing and triangulation. Dependability is achieved through a clear audit trial. Transferability involves the applicability of research findings into other contexts. Confirmability refers to the extent to which the research findings can be verified by others (Murphy and Yelder 2010).

The researcher ensured credibility through respondent validation technique (Lacey and Luff 2009; Murphy and Yelder 2010) or so-called member validation technique (Boeije 2010); when she returned to interviewees to have them verify both the interview transcripts and documented field notes. Interviewees were also asked to review and validate the interpretations of the research findings and to point out if the findings of the research reflected their real life experiences. Minor changes were performed in light of this procedure. This concurs with Graneheim and Lundman (2004) who argue that participants’ reflections on the findings is an aspect of confirmability and credibility. They also declare that credibility involves the researcher decisions about the focus of the research study, choice of research participants, contexts and the approach of data collection. Additionally, the aforementioned scholars believe that the diversity of participants’ experiences increases the chance of focussing on the research question from different aspects which accordingly increases the research credibility. The researcher has chosen heterogeneous participants who represent diverse age groups, both genders and also have exposure to diverse schemes in the e-government project in order to increase the study credibility and to contribute to a richer variation of the study as well.

The researcher also contacted a colleague in Jordan of the same academic interests and provided him with the interview transcripts and the findings and asked him to comment on them. He appreciatively provided some feedback for the researcher. Private information was extracted before the data was given to him. Graneheim and Lundman (2004) list another vital issue for achieving credibility which is the selection of suitable meaning units. They illustrate that meaning units should not be too broad (i.e. several paragraphs) or too narrow (i.e. a single word). The researcher has taken into consideration this issue while coding, segmenting and analyzing the textual data into meaningful units. Graneheim and Lundman (2004) verify that credibility of research findings involves how well themes and categories cover textual
data and that no relevant data have been excluded. By applying the line by line coding as an initial step for analyzing data in this study, the researcher made sure that all relevant data have been well covered.

Moreover, the researcher used interviews in combination with documents reviews and field notes to collect data for this study. This is in line with Boeije (2010) who argues that methods triangulation; the use of multiple methods to collect data is a way to ensure quality of the research since various methods and sources can lead to thick descriptions of the phenomenon under study.

The researcher also followed King (2008) and Murphy and Yelder (2010) suggestion that qualitative researchers should create an audit trial which is a written record of all the decisions they make and the steps they carry out in shifting from the raw transcripts to the final interpretations of the textual data. The researcher has included a detailed audit trial in the main body of this thesis which is also supported by extensive tables, figures, and appendices to describe comprehensively all the stages she undertook and all the decisions she made through the collection and analysis of the research data. A clear audit trial is a way to ensure dependability of a qualitative research study (Murphy and Yelder 2010). Furthermore, Boeije (2010) confirms that methodological accountability is essential in determining the research quality. That is researchers should accurately document and explain all of what they have done as well as how and why it has been done. Thorne (2000) also is of the firm opinion that systematic and auditable analytical procedures are amongst the most crucial factors that distinguish a high quality qualitative research. Moreover, Graneheim and Lundman (2004, p.109) note that “research findings should be as trustworthy as possible and every research study must be evaluated in relation to the procedures used to generate the findings”.

Furthermore, Horsburgh (2003) recommends that description of context, flexibility, sampling and generalizability are all criteria for evaluation of qualitative research. The researcher tried to provide readers with all background information about the general structures and the settings which interviewees were situated (description of context). She also applied the flexibility criterion through justifying the rationale for all decisions made in this study and through the sampling techniques she followed. That is when “one set of data derives the research agenda in the selection of subsequent areas for
investigation and the selection of participants who are best placed to provide relevant
data” (Horsburgh 2003, p.311). In relation to the sampling criterion, the researcher
justified how and why she initially started with a purposive sampling in the selection of
participants, (see section 4.2.2 of this chapter). In relation to the generalizability
criterion, Horsburgh (2003, p.311) affirms that “it is often argued that generalizability is
not the purpose of qualitative research”, rather qualitative research aims at making
rationale generalizations to another phenomenon of a similar environment by selecting
participants who are more capable to provide rich information about the phenomenon
under study, which exactly what the researcher did in the selection of participants for
this study and in the clear and rich description of context and culture she provided, in
addition to the verbatim use of the participants quotations while presenting the research
findings (see chapter five). This is in line with Graneheim and Lundman (2004) who
propose that researchers can suggest statements about transferability of their research
findings and it’s the readers’ choice to decide if findings can be transferable to another
context or not.

During the analysis stage, the researcher found out that Professor Nigel King works at
the University of Huddersfield. She planned to contact him and find out if he could
meet with her. That decision was based on the fact that the researcher herself is an MSc
graduate from the University of Huddersfield; so she is familiar with the university area
and buildings. Additionally, Huddersfield is relatively close to Manchester, were the
researcher lives (37 minutes by train). The researcher was able to arrange for a meeting
with Prof. King on Wednesday 13th October 2010 at 13.20 – 14.10. This meeting
benefited the researcher in many aspects, first, she was able to meet in person the Prof.
who developed the template analysis technique and discuss with him in detail how she
applied the template analysis technique in this case study research. Second, she was
searching for clarification on some issues about template analysis technique. Prof. King
appreciatively dedicated 50 minutes of his precious time to sit with the researcher and
discuss with her various matters relating to the template analysis in general and on how
it was applied in this case study research in particular.
4.4 Summary

This chapter presented the overall procedures that were applied in collecting and analyzing the data for this case study research. It also provided justifications for all the decisions that have been taken in selecting the sampling techniques, key participants, data collection sources and the qualitative data analysis approach (template analysis) used for this study. It also illustrated theoretical approaches to qualitative data analysis and the application of template analysis approach for this study. It also discussed the use of the NVivo qualitative data analysis software package to assist in the analysis process. The final section explained the quality evaluation criteria followed in this study. The next chapter presents the research findings based on the previously described research procedures and data analysis techniques.
5) Chapter Five, Research Findings and Discussions

5.1 Introduction

This chapter demonstrates the findings from the empirical work in Jordan. It starts by representing the modified version of the research conceptual framework after it has been empirically validated within the Jordanian context, then it describes the major drivers and barriers affecting the development of the e-government initiative in Jordan. It also provides a section to further discuss the research findings. It then proceeds to provide recommendations and strategies based on the research findings.

The researcher would like to draw the readers’ attention that in this chapter, both terms ‘government’ and ‘public sector’ are used interchangeably. The same also is applicable on the following terms: ‘public sector entities’, ‘public sector institutions’, ‘public sector organizations’, and ‘public sector agencies’. As well as the following terms: ‘MoICT’ and ‘e-government management office’.

5.2 The Final Model

The researcher used the conceptual framework which was developed in chapter three to investigate supply side stakeholders’ perspectives of the key drivers and barriers that affect the progress of e-government initiative in Jordan.

After applying the initial conceptual framework, to the research context, the following model (Figure 5-1) emerged:
The initial conceptual framework developed earlier (see chapter two section eleven; 2.11) was very helpful to the researcher during the process of data collection, analysis and in writing the final findings of this research. It was also very valuable as it kept the researcher focussed and prevented her from being overwhelmed with the enormous amount of data that were gathered during the empirical work in Jordan.

As displayed in the above model, e-government initiative in Jordan is progressing very slowly. It is still in the first stages of development, therefore, the key forces (drivers and barriers) affecting the Jordanian e-government project are mostly related to the first two stages of development. Additionally, because the e-government programme is still in the early stages many barriers have not surfaced in this study and most likely will appear once the e-services are activated and used.

The following section will present findings of the empirical study in respect to the drivers that support the implementation of the Jordanian e-government initiative.
5.3 Drivers of Electronic Government Initiative in Jordan

This section covers the drivers that support the progress of the Jordanian e-government initiative, generated from the analysis of the data collected during the fieldwork in Jordan. Seven major categories were identified. These are: Political, Economical, Socio-Cultural, Legislative and Regulatory, Environmental, Organizational, and Administrative. The following subsections highlight and discuss these categories and their associated themes.

5.3.1 Political

Political drivers have been found to be one of the essential forces that push towards the development of the e-government project in Jordan. It offers the initiative various opportunities to progress. Based on the analysis of the interviewees’ perspectives, political drivers are: Expectations to Reduce the Red Tape, Monarch Support, and Services Decentralization.

5.3.1.1 Expectations to Reduce the Red Tape

Meeting citizens’ expectations has been classified by many scholars (i.e. Grimsley and Meehan 2007; Park 2008) as an important incentive that pushes towards the adoption of e-government projects.

Actually, one of the main drivers for launching the Jordanian e-government initiative is to truly serve Jordanians and meet their expectations. This point is very noticeable in the Jordanian e-government programme vision which is to transform the government towards a citizen oriented approach:

"In a customer-centric world, e-government starts with users" (MoICT 2006, p.4)

It was also addressed by an official working at the e-government programme, when he commented:

“It’s time for Jordanians to feel that they are true customers and their time is valuable to be wasted at government institutions trying to finish desirable transactions”
As a matter of fact, conducting transactions at public sector departments in Jordan is too lengthy and complicated. It could take someone several days with countless efforts to get a transaction completed. Therefore, several participants confirmed that citizens’ ultimate expectation from the e-government is to reduce the red tape and help them avoid the hassle of dealing with the complex procedures within public sector institutions.

Interviewees believed that e-government is a tool to develop and reform the public sector through enhancing its institutions performance and productivity as well as providing high quality services to citizens. They also asserted that it can help in eliminating bureaucracy, saving time and effort, simplifying procedures, offering greater convenience, improving transparency, improving services delivery, improving responsiveness and increasing public sector effectiveness and efficiency. For instance, one employee stated:

“Citizens always wish to get rid of complex transactions and avoid lengthy governmental procedures, so e-government will help to achieve that”

This finding is in agreement with Moon (2002), Navarro et al (2007) and Organization for Economic Co-operation and Development [OECD] (2007) who acknowledge that IT has positively decreased the red tape in governmental institutions.

5.3.1.2 Monarch Support

Active involvement, strong leadership as well as commitment from high levels of authorities always needed for any project to succeed. E-government is no exception.

In Jordan, all of the King speeches, interests and approaches are taken very seriously and push others to adopt them. Therefore, the fact that his majesty was the one who launched the e-government initiative (MoICT 2006) encouraged the whole country including the majority of ministers, media and citizens to promote for it and move into that direction.

The following statement was taken out from one of the King royal speeches titled “King Abdullah II's Government Excellence Award” which address the public sector leaders and employees. It indicates the high level of involvement and the priority that is given to reform the public sector by his majesty since his ascendance to the throne.
“We indicated this clearly in our first speech from the throne, we delivered in 1999. In that speech we specified that our government shall proceed with concrete steps to restructure and modernise the administration, eliminate bureaucracy, update and simplify procedures and employ an institutionalised approach based on teamwork, thus opening the way for administrative cadres and leaderships capable of innovation and excellent performance” (King Abdullah II 2002)

It might be difficult for observers from other countries to comprehend the value of the king’s personal involvement in implementing the e-government project. But, the following quote, by an employee working at one of the public sector institutions, explains the magnitude of such involvement from the top leader of the country:

“The greatest motive to e-government adoption in Jordan lies beneath the fact that it is a royal initiative; when His Majesty the King adopts a project, this always act as a magic stick to get things done faster”

Another participant commented:

“When his majesty, King Abdullah, issues a magistrate, everyone gets excited and shows willingness to work”

In fact, monarch support and strong will seems to be crucial factors to move towards e-government in Jordan.

This result concurs with Krishna and Walsham (2005), Al-Mashari (2007) and Al-Sobhi and Weerakkody (2010) who assert that change cannot happen easily and challenges cannot be minimized unless there is a high level of commitment and full support from top political leaders in the country.

Findings of this study reveal that even though the e-government programme is receiving the full support of the king and other influential leaders, it is still progressing very slowly due to several hurdles (see section four of this chapter, 5.4).

5.3.1.3 Services Decentralization

The centralization of public sector and governmental institutions in the capital Amman requires citizens located in other cities to commute to the capital in order to complete certain transactions. The hassle and inconvenience this causes motivated the government to think of ways such as utilizing the internet and other electronic channels to decentralize its services and make them more accessible to all citizens across the country. This point was addressed by the member of House of Notables, when she said:
“Let’s admit that public transportation is not one of Jordan strongest assets. Our citizens have to endure so much to travel to Amman to attend to some of their needs. Having e-government will facilitate this issue and save them time and effort”

It could also be concluded, from the objectives of the e-government programme in Jordan, that the government is very keen to reach stakeholders across the country regardless of their geographical location by automating its services and implementing e-government. This point was supported by an official in charge at Amman Municipality, when he said:

“Previously, all citizens from all parts of Jordan had to come to Amman Municipality main building which was located at the first circle for all needed transactions but after the automation of our services, the centralization disappeared and people currently can accomplish many services from various locations”

This is in line with Esteves and Joseph (2008) and Sarantis et al (2011) who assert that e-government is about having centralized, yet distributed operations in order to increase productivity, effectiveness, efficiency, services delivery and reduce information cost. Additionally, Seifert and McLoughlin (2007) believe that decentralization of e-government systems allows different institutions to have more control over their services and as a result increases their sense of ownership.

In fact, services automation and transformation towards e-government are few of the many steps Jordanian government implement to ensure services decentralization. Another effort which has been taken by the government of Jordan to achieve decentralization is making available to its citizens knowledge stations or kiosks which are spread out through the kingdom.

One of the interviewees working at the Ministry of Information and Communications Technology claimed:

“We are working on a project called e-kiosk. We have already established 170 knowledge stations distributed all over the Kingdom in 12 governorates offering services free of charge, such as Al-Qwera and Al-Mreqa. Citizens can access the portal and conduct any transaction from wherever; a mall, trade centre or even at a governmental institution with no need to stand at the counter waiting for an officer”

Knowledge stations would offer nomadic people living in remote areas in the desert a better chance to be included in the technological advancements taking place in the country and make them feel that they are part of the large society. This is in agreement
with Schuppan (2009) who states that people living in rural areas require additional consideration when providing access to e-government services.

Another benefit of these stations lies in the fact that government can use them as a way to promote its online services upon the completion and implementation of the e-government project. These knowledge stations are equipped with computers and trainers ready to assist all citizens to use them free of charge, hoping that this new and creative step will reduce the burden of having to travel to the main city and will also motivate all Jordanians to eventually trust conducting electronic transactions.

Jaeger and Bertot (2010) note that many people avoid accessing e-government services because they lack the required literacy to find what they are looking for without being assisted. Hence, it is obvious that the availability of trainers in kiosks would motivate these segments of the Jordanian society to access e-government.

However, the researcher believes that although having trainers as intermediaries at the knowledge stations is very helpful but it is also a security risk issue that should be addressed as private and sensitive information of citizens could be exposed to them. She also believes that it is not enough to have the services decentralized. E-government leaders need to focus on decentralizing the decision making process in the government also as this will simplify and accelerate the development process. According to a few participants, problems that occur sometimes require quick and immediate decisions that cannot be postponed until the person who is entitled to make these decisions becomes available.

5.3.2 Economical

Economical motivations have been found to be amongst the drivers that support the development of the e-government project in Jordan.

5.3.2.1 Economical Aims

MoICT (2006) proclaims that e-government initiative contributes to Jordan’s economic development and for this reason it is a major element of the country’s national agenda. Additionally, several interviewees perceived e-government as a means that could enhance the image of Jordan and attract local as well as foreign investments to the
country. They illustrated further that the process of automation and implementation of e-government helps in encouraging internal and external investors to consider capitalizing on the modern and simplified electronic procedures offered by the new system. As one employee explained:

“It is a well known fact that Jordan is not an oil producing country such as neighbouring gulf states, so foreign investment plays a big part of the country’s economy and the government is trying to provide them with incentives to consider Jordan”

Interviewees’ viewpoints concur with King Abdullah II perspective, when he confirmed in one of his royal speeches to the nation:

“We depict a bright image of Jordan to whomever deals with Jordanian institutions from within the country or abroad” (King Abdullah II 2002)

Other participants in this study mentioned that e-government could potentially assist in reducing services cost to all parties involved: government, businesses and citizens.

Economical motivation has been one of the vital forces influencing the implementation of e-government projects as discussed by many scholars (i.e. Sharma and Gupta 2003; Huang 2006; Reffat 2006; Park 2008). However, it is worth mentioning that since 95% of the Jordanian government’s budget is derived from external donors, grants and loans (Ciborra and Navarra 2005), the researcher was not able to list financial issues (availability of funds) as one of the drivers to the e-government programme in Jordan neither she was able to list it under the barriers categories due to the fact that funds allocated for implementing the project are only sufficient as illustrated by most participants.

5.3.3 Socio-Cultural

This category addresses social and cultural factors that have been found to encourage and support the progress of the Jordanian e-government. Major themes of this category are: High Level of Education, Young Population, The Holy Month of Ramadan, and Social Inclusion.
5.3.3.1 High Level of Education

The government of Jordan believes that education is a human right not a privilege to each child in the country, therefore it facilitates access to education to all young children including ones that are living in poor and remote areas free of charge throughout elementary and secondary school making it compulsory upon students till the age of fifteen. Any small village or remote community with at least 10 children that are going to school is provided with a school nearby to alleviate the burden of commuting (Embassy of The Hashemite Kingdom of Jordan-Washington D.C. 2008b).

These steps have worked well as it produced a highly educated population with about 19,000 people who are holders of post-graduate degrees, and more than 17% of workforces in the country who have higher education certificates which makes Jordan one of the highest educated nations regionally (Sahawneh 2002). Government efforts in providing access as well as free and compulsory education have assisted in building strong educated generations that are able to meet tomorrow’s challenges and accept new technological advancements such as e-government.

It is worth mentioning that the Ministry of Education is always on the lookout for new trends to be included in the education system. They also utilize ICT as a tool in education reform (Int@j 2009). For example, teachers in primary and secondary schools have been asked to acquire the International Computer Driving License to enhance their IT skills (Ciborra and Navarra 2005). Additionally, computer classes have been added as part of the curriculum at elementary schools in Jordan as well as it has become obligatory upon all university students, regardless of the degree they are seeking, to take computer modules that are assessed and counted in the marking scheme of the universities (Al-Nagi and Hamdan 2009). This act aims to ensure that Jordanians are not left behind in regard to the digital revolution that is affecting all parts of our lives globally.

This recent alteration to students’ curriculum has influenced the new generation to be more familiar and acceptant of technology which is an important factor to advance the e-government programme. An interviewee commented:
“I think the key to e-government success is in having an educated society. We in Jordan look at education as an investment that returns countless benefits to the individual and the whole society at large. Some of these benefits are represented in the development of skilful citizens that are able to understand and interact with various national projects such as the e-government initiative”

In spite of the fact that was declared by various participants about the high level of education in Jordan as a driver to the e-government programme, many others believed that being educated or a holder of a high degree does not necessary make you technology literate. Many of the considered highly educated people in Jordan cannot navigate their way and surf the Internet.

This finding is in line with Ferro et al (2011) who discuss that education in general and IT literacy in specific are necessary elements for accessing the internet and using e-government services.

5.3.3.2 Young Population

The fact that Jordan demographics consist of 58.89 % of the population being under the age of 25 (DOS 2009) is a good reason as seen by many interviewees for the e-government programme to be successful in the long run. As this young segment of the society opt to use technology and internet much more than the older generation. Interviewees are convinced that e-government is for the upcoming generation not the existing one. An interviewee believed:

“We are working for the future generations not the current one. Future generations are the ones who are going to benefit from the e-government, because they have been introduced to technology at an early age at schools so their mindset is different and they believe that technology brings positive changes to their lives”

Another point that was mentioned by a few participants is that having relatively young leaders in Jordan is amongst the drivers that push towards the adoption of e-government. They claim that open-mindedness, acceptance of technology and willingness to change are all factors that are associated with having young leaders. As one interviewee affirmed:

“His Majesty was only 37 years old when he ascended to the throne, so as a young leader he came to power with change is on top of his agenda aiming at moving Jordan to the technological age. As such he always surrounds himself with young leaders to assist him accomplishing that”

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This result is in agreement with Niehaves and Becker (2008) who find that age is a critical factor that strongly affects the adoption of e-government. They illustrate that older people are less likely to use e-government services due to several reasons such as being unfamiliar with new technologies, lack of the basic skills, satisfied with the traditional face to face contact, and concerns about security measures.

5.3.3.3 The Holy Month of Ramadan

Another important issue the researcher came across has to do with religion. As a country where most of its citizens are Muslims, Jordan observe the holy month of Ramadan. During this month, Muslims fast from sunrise to sundown. Therefore, all affairs including schools, universities, businesses, private companies and public sector institutions reduce the working hours to ease the burden on individuals while they are fasting. As such, citizens wishing to conduct various governmental transactions are limited to fewer daily hours and are faced with exhausted and short-tempered employees due to the fast.

Some participants firmly asserted that implementing e-government will allow Jordanians to avoid interacting in person with moody irritable employees because they are offered alternative electronic options besides the traditional existing one. One participant working at the public sector acknowledged:

“It might sound strange. Even though I’m an employee working for the government, but I really avoid doing any personal transaction with governmental entities during Ramadan as most employees become easily irritant because of the fast, and I have a bad temper which makes me become angry quick if dealt with in an improper way”

This is in line with Gilbert et al (2004) and Shareef et al (2011) who found that interacting with governmental employees is one of the things that citizens try to avoid; therefore e-government system will assist in achieving that.

E-government will also help in eliminating the work load on employees so they do not have an excuse during the holy month or during other months for that matter to claim that they are too tired or they are overworked. One interviewee working in the private sector commented:
“Most government employees use fasting in Ramadan as an excuse not to do their jobs; as they claim they are too tired to concentrate and work. I believe having e-government will assist in solving this problem”

It is worth mentioning that some of the interviews the researcher conducted were during Ramadan and some of the interviewees were trying to put off the interviews until after the holy month was over. The researcher overcame this issue by explaining to them that she had a limited time for her fieldwork before she had to return back to the United Kingdom; they responded positively and agreed to take part in the study.

5.3.3.4 Social Inclusion

Since Jordan has very limited natural resources, the focus in the last decade or so has shifted to developing the human resources in order to compete globally. Therefore, educating people and improving IT literacy amongst all Jordanians have taken big parts of the planning and budget of Jordan. This could be seen through the efforts that the government of Jordan undertake in order to reduce the illiteracy rate in the country and familiarize Jordanians with ICTs. For example, education is compulsory and free of charge to all students under the age of fifteen (Embassy of The Hashemite Kingdom of Jordan-Washington D.C. 2008b). Also, computer courses at primary and secondary schools are obligatory. In addition, public sector employees including government employees as well as teachers at schools and universities are asked to take the ICDL which could help them in future promotions and increase in their salaries if they obtain it.

Additionally, the government is taking sufficient measures and attempts to make available to all citizens especially the under-privileged ones the required resources and facilities needed to use and access e-government services. For example, they created kiosks all over the country to facilitate access to e-government services. They also support citizens to gain access to the internet and own computers through several initiatives such as ‘a computer for each university student’, and ‘connecting Jordanians’. Schuppan (2009) suggests that if governments wish to reap the maximum benefits from implementing e-government, they should put more efforts into providing services to poor groups in the society.
Furthermore, several interviewees revealed that e-government does not mean elimination of other communication channels. They assert that public sector institutions will continue to provide their services through various channels, besides the Internet, in order to avoid excluding less privileged people who do not own computers or do not have internet connections.

A document published by Privacy International (2007) clarifies that Jordan has been working on establishing all the requisites needed in order to become a knowledge-based country, including modern ICT infrastructure, new virtual laws and an IT-oriented educational system. One official commented:

“We have launched an initiative that states ‘a computer for each citizen, a computer for each university student’ to encourage citizens to interact online”

Doing so will enable bridging the digital divide gap in the country, which consequently will help in bringing people together and make them feel that they are included and part of the society, forming what is called social inclusion. In an article written by Tom Peter in the Christian Science Monitor magazine, he mentioned that Jordan has reached a very advance level in bridging the digital divide in comparison to other countries in the region (Peter 2010).

Reducing the digital divide in Jordan through providing equal access to learning and technology will certainly affect the e-government success, as seen by many of the interviewees. For instance, one employee working at the e-government management office emphasized:

“As you know, in Jordan we have diverse types of population, such as the Urban, the Bedouin and the Villagers. So, we try our best to reach all segments of the society and to have them included in this national project, regardless of their educational level or financial situation. E-government is for all and it’s our duty to provide the necessary facilities for our citizens. I believe that e-government and other initiatives we are working on will assist in bringing Jordanians together and decrease the digital inequality in our society”

As a matter of fact, e-inclusion has been identified as one of the top priorities for many countries around the world. For instance, the European strategic plan for 2010 is “to ensure that the benefits of the information society can be enjoyed by everyone, including people who are disadvantaged due to limited resources or education, age,
gender, ethnicity, etc., [and by] people with disabilities as well as those living in less favoured areas” (Helbig et al 2009, p.89-90)

Chen et al (2006) claim that e-government technologies can enhance the lives of 80% of people who live in developing countries. However, Shareef et al (2011) recommend that different countries around the world and particularly developing countries should not directly implement e-government projects; rather they should start with reducing the digital divide by launching various programmes targeted to less educated segments of the society in order to make them aware, familiar and capable of using the e-government system first.

It is worth mentioning that not only the poor and technology illiterate people need to be included in this national project but also people with disabilities and special needs must be considered as well. Unfortunately, this is not the case. All interviewees without exception were in agreement that this issue should be left alone for now as there are more important issues need to be focussed on before thinking about including that segment of the society. As a matter of fact some of them found it strange to ask about people with disabilities. As one participant commented:

“We have not tried to accommodate the needs for disabled people in the current system we have now, as you see our building is five level and we don’t even have a lift, so before thinking about how to include them in the online services we ought to find solutions to the issues are facing them with the traditional system first”

Ignoring disability access on the website means that it fails to reach out all people in the society (West 2000), which works as counterproductive to one of the Jordanian e-government programme main objectives which is reaching social inclusion. That is why they need to pay a great attention to this issue.

5.3.4 Legislative and Regulatory

A decisive aspect in e-government development in Jordan is related to legislative and regulatory matters. Few participants addressed the availability of e-transactions law in Jordan as a fundamental element that encourages the progress of e-government.
5.3.4.1 Availability of E-Transactions Law

As claimed by one of the key officials at the e-government management office at MoICT, Jordan was one of the first countries in the region to issue e-laws aiming to regulate online transactions. This Electronic Transactions Law No. 85 of 2001 was issued to encourage and give all parties (citizens, businesses, employees and government) reasons and confidence to start using and performing all kinds of online transactions. The aforementioned official said:

“We were one of the first countries in the Middle East that has e-laws to protect the rights of participants in any government transaction, but we still have a long way to go with respect to individuals’ privacy”

However, another official working at MoICT was brave enough to admit that the e-transactions law in Jordan is temporary and has many defects that need to be amended, when she commented:

“In 2001, e-transactions laws were enacted. Although they were supposed to be provisional laws but they are still valid and we still work under them, yes they contains some defects but we are working on fixing that”

As a matter of fact, privacy and data protection laws are noticeably missing from Jordan’s agenda which makes it difficult for citizens to exercise their privacy rights (Privacy International 2007). In their article, ‘Regulating Electronic Contracting in Jordan’, Al-Ibraheem and Tahat (2006, p.1) state two main hindrances that might affect the application of the e-transactions law in Jordan. The first is the lack of customer protection rules as “neither the Act nor the civil code nor, indeed any other regulations in Jordan, provide safeguards to consumers from the abuse and risks existing in the online environment. The second hindrance is that the internet technology infrastructure is not regulated with standards that achieve stability and trust for consumers in Jordan”.

E-government leaders in Jordan should respond quickly to this issue as it can strongly affect the development of the e-government initiative. One of Ebrahim and Irani (2005) recommendations for a successful implementation of e-government is that governments should always provide a privacy policy on their websites to make citizens aware of what private information may possibly be collected and how will be used.
5.3.5 Environmental

Based on the participants’ perspectives, environmental aspects have been recognized amongst the driving forces that push towards a successful implementation of e-government in Jordan. Major themes in this category are: Strong IT Private Sector, Competitive Environment, and Time Factor.

5.3.5.1 Strong IT Private Sector

Jordan IT private sector is strong and well developed. Actually, since 1995, the Information Technology field within the private sector in Jordan is considered one of the big influential fields on Jordan’s economy (ESCWA 2003).

In regard to information technology, the public sector in Jordan relies heavily on the success and achievements of the private sector. As such, the Jordanian IT private sector is considered to be the backbone of supplying the public sector with the technical skills and equipments needed.

Previous literature (i.e. Ndou 2004; Al-Mashari 2007) reveals that partnership, cooperation and collaboration between public and private sectors are very essential for the development of the e-government because it can save in expenditures. The aforementioned scholars believe that the IT private sector can supply government with the required ICT resources such as the infrastructure and technical personnel whereas educational institutions such as colleges, schools and universities can provide government with the needed training courses and qualified skills.

“For instance, REACH (regulatory framework; estate; advancement programmes; capital; human resources development), supported by the Information Technology Association of Jordan (int@j)—a non-profit private sector initiative that resides under the patronage of the MoICT—is highly reputed internationally as a truly dynamic public-private partnership” (Ciborra and Navarra 2005, p.151).

Various interviewees highlighted the importance of partnership between government entities and private sector institutions. Some of them even claimed that e-government efforts could be wasted and ineffective without the appropriate alliances with private sector companies. One IT director working at a governmental institution claimed:
“It is important to have the support of private sector to e-government. We need their continuous contribution with regard to providing us with skilled IT personnel and supplying us with the best practices and technologies”

This result is also in agreement with Hill (2004) and Krishna and Walsham (2005) who found that integrating multiple groups and resources (i.e. bureaucrats, consultants, IT staff) from public entities and private enterprises will add value to the e-government project because doing so will help to strengthen it.

5.3.5.2 Competitive Environment

The royal initiative started by King Abdullah II for launching e-government was motivated by his wish for Jordan not to be left behind other developed and developing countries.

Once the e-government initiative became a reality and work started, governmental officials were inspired by other countries experiences. They believed that regional and global comparisons could be beneficial to the Jordanian experience.

Officials working at the e-government department at MoICT told the researcher that they have studied advanced countries experiences such as Singapore, Korea, Belgium, Canada, Japan and America, in addition to regional countries experiences such as Egypt, Dubai, Qatar, and Tunisia. There were also site visits for those who worked in the Jordanian e-government management office to several countries that applied e-government, with the purpose of benefiting from good experiences and avoiding bad ones. As one employee of the government confirmed:

“We try our best to benefit from the phases that different countries went through to avoid bad experiences and focus our energy on successful ones. There were site visits to those employees who worked in the e-government programme to several countries that have already implemented e-government projects such as Singapore and Dubai to take a look and learn from them”

According to the interviewees’ opinions, the most useful experience at the World level is Singapore, followed by South Korea and Japan. They elaborated that Singapore is doing things in a very simple manner. Regionally, they clarified that it differs from one country to another; for electronic documentation, Egypt is the most useful experience; in addition to its advanced infrastructure jointly with Sudan. For CERT, Emirates and Qatar are on the top. Tunisia is the superior regarding legislations of information. Oman
is good to some extent in terms of implementing their plans properly; it has smart card implementation project. The most appealing country to the interviewees is Saudi Arabia. They illustrated that Saudi Arabia works in the same manner as Jordan; focusing on the government infrastructure to create the core components and implementing one project at a time (A-Z implementation). However, interviewees pointed out that what distinguishes Saudi Arabia’s e-government programme is the availability of financial resources which are much greater than the financial resources available to the e-government programme in Jordan.

However, comparisons were not limited to regional and global levels only. There were also competitions and collaborations at the national level amongst entities from the public sector. As one of the participants admitted:

“Often we look at other departments and learn from what they have done; so we do not have to fall into the same mistakes that they encountered”

Likewise, Cook et al (2002) believe that during the planning and implementation phases of the e-government project, initiatives should share experiences and learn from each other.

It is worth mentioning that comparison is good as it could persuade other institutions who like to wait and see proven benefits before following or really committing, because they are not considered risk takers. So it is logical that while some institutions are considered early adaptors and are willing to take risks and implement new e-government technologies immediately, others prefer to wait until these technologies are proven to be beneficial and safe (Seifert and McLoughlin 2007). This point has been addressed by one employee, when he testified:

“In the beginning some institutions rejected the idea of e-government and were against it, but once they have seen their counterparts reaping the benefits of what e-government offers, they came on board”

However, one interviewee mentioned an important factor which is comparing with others and benefiting from their experiences does not mean exactly copying them, because the contexts are most likely different, when he said:

“They should not rely solely on studies conducted on other countries; they have to realize that not everything done successfully by other e-government experiences has to
be a priority for us; they started many projects imitating other countries and ended up having to cancel them”

Another participant confirmed the above mentioned point when he commented:

“They provided us with a questionnaire because MoICT wants to establish a call centre; we understood nothing from the questionnaire as it was very ambiguous. I think it was copied and pasted from the internet. We told them that we didn’t understand the questionnaire; a lady came and tried to explain it to us, with no luck at all due to misunderstanding and communication issues. So we had to answer it randomly”

MoICT needs to be careful and take this issue seriously in order not to jeopardize the e-government initiative and put it at risk of failure.

5.3.5.3 Time Factor

Changes at the beginning are faced with resistance, lack of conviction and mistrust especially if they are not communicated and promoted properly with stakeholders. E-government is no exception, therefore, government officials in Jordan realize that changes need time and have to be gradual in order for people to accept and buy into them. Most interviewees from both public and private sectors agreed on one point which is the time factor. They believed that time is on the side of the e-government initiative. As one employee commented:

“Just like anything else; it takes time for people to accept and familiarize themselves with new technological trends such as e-government”

Another interviewee believed that it is a matter of time for Jordanians to accept and adopt the e-government project. He reflected back on the mobile technology experience and how it was faced at the beginning with huge resistance from Jordanians. He went on to explain further that people eventually accepted the mobile technology with open arms and that it became part of their daily lives.

A participant working at one of the ministries emphasized that time could wipe out the negative beliefs rooted deeply in the Jordanian society, when she said:

“Technological advancements and trends such as e-government are critical in nature, especially for a developing country like Jordan, due to negative social beliefs in regard
to technology which need many years to disappear. I am of the firm opinion that since these beliefs accumulated over many years, it would take just as long for them to be changed”

The present finding is consonant with Meijer and Zouridis (2004, p.2) who assert that “it is only a matter of time before every government has made the transition to e-government”.

5.3.6 Organizational

This category is related to the driving forces that were found to push Jordanian public sector institutions to adopt e-government.

5.3.6.1 King Abdullah II Award for Excellence

One interesting driver found is that e-government project in Jordan is linked to King Abdullah II Award for Excellence, which participation in it is obligatory upon all governmental and public sector institutions. This award is considered the most distinguished prize for excellence, at the national level, that public institutions are after.

Reforming the public sector in Jordan was the main reason behind the establishment of the award as highlighted by his majesty in his royal speech titled “King Abdullah II's Government Excellence Award”:

“I have decided to establish an award, to be called the King Abdullah II Award for Distinguished Governmental Performance and Transparency, with the aim of enhancing the role of the public sector in the service of all sectors of the Jordanian society, as well as the investment community” (King Abdullah II 2002)

Since e-government is one of the awards’ criterions that institutions will be judged for, the interest to win the award had pushed and motivated the institutions to become more supportive to the e-government project. One of the senior officials working at e-government management office stated:

“We have recently noticed that institutions are wondering about what they should do for the e-government programme to qualify for king Abdullah award. They became adherent and started planning well for e-government inside their institutions”

This point was also expressed by another interviewee who declared:
“Our employees are well aware of the importance of e-government because it is a national programme as well as it is a requirement to win King Abdullah Award for excellence”

As a matter of fact, offering incentives, such as the King Abdullah prize for government excellence, at the government level is a great way to promote and reinforce the change required. This is in agreement with one of the conclusions adopted at the 4th OECD conference for e-government officials. It declares that awards which recognize the quality and performance of an institution work as a powerful tool to carry out the changes needed as it creates conditions for motivating employees to accomplish more (OECD 2004).

5.3.7 Administrative

This category is related to the driving forces that motivate e-government and institutions leaders to implement e-government.

5.3.7.1 Change Management

E-government systems are causing fundamental and continuous changes to the existing government model, therefore, government administrators should find out ways to direct the process of change. Managers should be able to guide employees and organizations through the transformation period so they can accept and adapt to the new electronic environment. Change management is a critical factor for the success and progress of e-government initiatives (Meijer and Zouridis 2004; Ndou 2004; Ebrahim and Irani 2005).

Many participants perceived change management as a key element for a successful implementation of the e-government project in Jordan. As one interviewee commented:

“E-government means transforming into a new environment and changing the way we work and think. In my opinion, change management is an essential factor for the success of the e-government project”

A premier step that took place to embed and manage the changes that emerge during the transformation towards e-government in Jordan was establishing an entity to be in charge of directing and implementing the e-government project in all governmental and public sector institutions called the e-government management office which is overseen by the Ministry of Information and Communications Technology (MoICT). However,
implementing e-government throughout all institutions by one entity was identified to be a very difficult task. Therefore, e-government management office decided to duplicate itself by establishing standardized entities, called e-government units, within each governmental and public sector institution to be responsible for guiding institutions during the transformation towards e-government. These entities will be the main representative of the e-government programme in the institution and will also act as the bridge that facilitates coordination and communication matters between all parties involved. An official working at MoICT was convinced that e-government units play a major role in the progress and acceleration of the e-government project in Jordan, when he said:

“One of the key success factors is the e-government units that were created within the institutions themselves. These units will speed up the implementation of e-government within the institutions and will guide them through the transformation period”

Another employee who happened to be a senior official at e-government management office mentioned another reason for establishing the e-government units, when she stated:

“As it is difficult to get in touch with top management employees at governmental institutions due to their busy schedules and the heavy workload that they already have, we decided to create units that are strictly dedicated to implement e-government in these institutions”

On one hand some interviewees appeared pessimistic and believed that change seems to be difficult to achieve due to many factors including change resistance, lack of innovative incentives, lack of appropriate authority to enforce decisions, weakness and variation of ICT infrastructure within institutions, certain religious beliefs, reluctance to take risky decisions, lack of e-trust...etc, on the other hand, other interviewees appeared very optimistic and believed that hard work, strong willpower and collaboration will assist in transferring the e-government initiative from vogue to conviction. They referred their positive perspectives to the many efforts carried out by the e-government management office to support public sector institutions in the transformation from the existing bureaucratic situation to a more modern electronic one.

Some of these efforts are represented in the promotional campaigns that are carried out in order to spread awareness amongst employees in addition to the training workshops...
they implement on basic and advanced IT skills that are designed to empower employees and encourage them to interact with the new evolving technologies in their workplace. This concurs with Ebrahim and Irani (2005) who affirm that government employees should be well equipped and trained to be able to deal with modern innovative technologies that emerge during the transformation towards e-government. Also, it is in agreement with Krishna and Walsham (2005) who emphasize that high level of awareness and education about IT are requisites for accepting and adjusting with change in organizations.

Likewise, Li and Steveson (2002) confirm that change management means that issues of training, communication and management have to be developed and budgeted by decision makers to ensure a smooth transformation towards e-government. An official working at one of the ministries commented:

“When a new system is established such as e-government, employees fear to lose their jobs. So, we provide them with opportunities to develop their skills in order to get involved and be part of the new system. We have already trained 10,500 employees on basic computer skills and more than 1,500 on advanced IT skills such as Microsoft and Cisco”

The researcher was also told by some of the officials being interviewed that upon the completion of each training course, participants are asked to evaluate their experience to help in determining the effectiveness of the training that was given. A government official proclaimed:

“When our training courses are chosen through the process of government tenders, we make sure that an evaluation at the end of the training course is given to employees in order to assess the benefits that were gained and therefore determine whether to use the same vendor or a different one should be considered”

Despite the fact that training is a powerful tool that helps employees to be prepared for new changes, many of them complained that the information provided at the training workshops are repetitive and could not be applied at work. As one governmental employee said:

“The materials for the training courses we get are always the same and limited to certain issues”

Another public sector employee disclosed:
“Many of my colleagues have taken the same courses several times without being able to apply what they learn to their jobs due to the fact that what they were trained on is too advanced to be implemented at the current situation”

Besides the complaints about the training being repetitive, cannot be applied at work and limited to certain issues, participants also added other complaints such as cancellation of training without prior notice, training materials are sometimes given in English which they do not understand, and the long periods between training courses (up to 18 months in some cases). The previous complaints by some of the interviewees indicate that the process of change is not a straightforward task and it requires huge efforts, full attention and proper strategies if it is aspired to be carried out without great resistant and smooth transformation.

It also requires the full involvement and support of all strong influential leaders in the public administration (Meijer and Zouridis 2004).

The following section will present findings of the empirical study in respect to the barriers that impede the development of the Jordanian e-government initiative.

**5.4 Barriers to Electronic Government Initiative in Jordan**

This section covers the barriers that impede the progress of the Jordanian e-government initiative, generated from the analysis of the data collected during the fieldwork in Jordan. Seven major categories were identified. These are: Political, Economical, Socio-Cultural, Technological, Legislative and Regulatory, Organizational, and Administrative. The following subsections highlights and discusses these categories and their associated themes.

**5.4.1 Political**

Political leadership and support is essential for the success and development of e-government initiatives. Barriers related to political issues are: Bureaucratic Nature of Government, and Ministers Reshuffling. They are described below.
5.4.1.1 Bureaucratic Nature of Government

Bureaucracy is found in all government systems around the world. However, in developed countries one will find that bureaucracy is efficient and well-organized, whereas in developing countries bureaucracy is inefficient and obsolete.

The bureaucratic system in Jordan has a reputation of being rigid and inflexible. It is very common for Jordanian citizens to use the words ‘slow’ ‘lengthy’ and ‘complicated’ to describe the nature of the current governmental procedures and transactions. However, it is very ironic to hear them coming from government employees. One employee who works for the government complained about the complexity of governmental procedures, when he stated:

“Personally, I would prefer to do anything in this world rather than doing a single government transaction because they are very complicated”

Another employee working at one of the ministries gave an example of how slow government procedures are, when he claimed:

“Believe it or not, since 2005 until now, the e-service project at our ministry has not been applied because the tender has not been awarded yet. It’s still being considered”

A participant working at MoICT also criticised the lengthy process of hiring in the government and clarified how sometimes it causes indirect delays to the e-government project, when she said:

“The process of hiring in the government takes a long time; usually between four to six months. This is caused by unnecessary governmental policies and procedures that individuals who need to be hired have to go through. Doing so have delayed various projects from being accomplished on time due to the immediate need for certain positions to be filled”

Some participants highlighted an additional problem related to the bureaucratic nature of government in Jordan. They illustrated that the decision making process in the government involves going through multiple personnel which delays getting things done and consequently affect the progress of the e-government project. As one official working at the e-government programme pointed out:

“E-government project has been delayed due to bureaucracy and all the unnecessary channels that we have to go through in order to get an approval for certain tasks or to wait for a decision to be made”
Therefore, it is very obvious that the complicated and bureaucratic nature of the traditional government in Jordan is negatively affecting the development of the e-government project. This finding has been highlighted by many scholars in the previous literature. For instance, Sharifi and Zarei (2004) and Irani et al (2005) declare that implementing e-government systems is not an easy task due to the bureaucratic nature and enormous size of a government.

5.4.1.2 Ministers Reshuffling

Jordan has had 38 prime ministers and 94 government cabinets since its establishment in 1921 (PM 2011).

A major problem facing the government of Jordan in general and the e-government project in particular is the continuous reshuffling of ministers. Ministers assume the new positions knowing that their days are numbered and one morning without even an advanced notice they might find out through the media that they are no longer the minister. An interviewee declared:

“In the last two years we have had three different ministers. Each one of them assumed the office with different agenda on mind. This created confusion amongst us as employees due to the radical changes that each minister tried to implement”

This is in line with another interviewee comment:

"While we were half way done working on a project, our existing minister has been changed. The new appointed minister asked us to stop working on the previous project and assigned us to work on another one”

This issue has been pointed out by Bonahm and Seifert (2003) who illustrate that one of the e-government projects in India has failed to sustain itself and was eventually subverted due to the transfer of the project leader.

Most participants strongly believed that this instability in ministerial positions has severe consequences on many of the projects in Jordan which e-government is one of them.

First, it makes ministers’ priorities personal rather than institutional, and shifts away their focus from long-term goals to short-term ones so they can claim that during their
terms in office they were able to accomplish so and so. This point was identified by an
interviewee who acknowledged:

“Ministers are not concerned about laying the foundation for long-term projects such as
the e-government because they know that their term in office will not last long and they
won’t be around to see their accomplishments when these projects are completed. So
instead, they focus on short term projects that could be realized while they are still in
charge in order to get the credit for them”

Second, it causes ministers to avoid making risky decisions in order not to be blamed
for abusing their positions or accused of being incompetent, especially because their
time in office is very short and they perceive it as not worth it. So each minister leaves
these kinds of decisions to the next upcoming one to make. This issue has been
highlighted by an interviewee who declared:

“In the past, our accounting manager could not sign checks that are payable for an
amount above 200 JD, which complicated things as all checks with higher amounts
needed the signature of the minister himself. This policy was based on an old rule that
kept getting ignored by all previous ministers. Now we have a new minister who was
brave enough to take the risk in spite of the accounting section objection. He changed
this policy, and gave the power to the accounting manager to sign checks for up to 5000
JD. This is what we need; courageous ministers who are willing to take risky decisions”

In the real world of business those who are risk takers usually are rewarded accordingly
and benefit the most. Therefore, government should encourage calculated risk takers
from top management officials rather than punishing them for their advanced thinking.
In many instances lessons learned from failed projects could be valuable in the success
of other new projects (Jutla et al 2002)

It can be said that there were a consensus amongst the majority of interviewees that the
instability in ministerial positions causes ministers to make unreliable decisions and
have unrealistic time frames as well as false expectations for what should be
accomplished and when should it be done. Therefore ministers’ reshuffling has been
identified as an obstacle to e-government development in Jordan. Actually, in an
interview dated 28th of March 2011 on one of the Jordanian channels named (Ro’ya
Channel); Prince Hasan bin Talal, the former crown prince of Jordan for few decades
and the uncle of Jordan current leader (King Abdullah II), mentioned the issue of
continuous reshuffling of ministers as one of the key barriers that stand in the way of
ture political and economical reforms in Jordan.
However, one participant disagreed and saw the change as a benefit to the e-government programme explaining further that sometimes replacing a top leader who carries traditional thinking and does not believe in technology with another one who is supportive of new thinking and technologies will actually advance the e-government project. He gave an example that the e-government project, at the ministry where he is currently working, did not receive the full support of the previous minister whereas the new minister is fully committed and believes that e-government will bring great benefits and conveniences to all stakeholders.

An employee in charge of implementing the e-government project suggested a solution to overcome the issue of ministers reshuffling. He recommended that all decisions which have to deal with e-government should be enforced regardless of changing ministers:

“We need binding decisions to all institutions from higher authority so we can implement the projects related to e-government and not stop them with each new minister”

One of the participants disclosed an interesting reason behind ministers appointments and reshuffling when he explained that his majesty King Abdullah II is aware of the nature of the Jordanian society which consists of many influential tribes that could affect the politics of Jordan, therefore he insists on maintaining their loyalty and continuous support to the throne by appointing members of the tribes to high positions in the government. The following quote is by the former participant:

“His majesty is very keen to please all powerful tribes as they are the corner stone of Jordan’s stability by appointing members of them to the government to ensure their devotion to the throne”

This is in line with Al-Suwa’idi (2008) who justifies such act if the political leader wishes to reinforce the overall political structure in the country.

5.4.2 Economical

Economical hurdles have been addressed amongst the major barriers that negatively affect the development of the Jordanian e-government project. Two interesting findings have been discovered from the empirical study. These are Poverty and High Cost of Computers and Internet Connections.
5.4.2.1 Poverty

Poverty is often associated and caused by having uneducated, unemployed citizens with large families. According to UNDP (2010), 13.3% of Jordanians live below poverty line. Many of the interviewees discussed the affect of poverty on the implementation and acceptance of the e-government project in Jordan. They believed that poverty is a major burden that the government should consider and deal with when adopting the e-government project as it would be difficult to convince people of the benefits of having e-government when they cannot afford the very basic things in life such as food and shelter. Some interviewees affirmed that improving citizens standards of living is worthy of being addressed by the government prior to implementing technological innovations such as the e-government. As one interviewee put it:

“It is hard for the poor segment of the society to comprehend the value of e-government and what could it offer them while they hardly can afford to buy bread for their children. I believe government should work to alleviate their suffering before thinking about providing e-services to them”

Another governmental employee complained that many citizens living in remote areas do not even get the basic services such as electricity and sewage system which are more deserving of being provided to citizens first. He indicated:

“We can’t neglect the fact that there are remote areas without electricity. How do you expect these areas to be included in the e-government project? There are basic services that citizens are more concerned about receiving before worrying about e-government”

As a matter of fact, Shareef et al (2011) mention that poverty, scarcity of electricity, telephones and other related issues are considered the most dominating obstacles impeding the development of e-government projects in developing countries.

Many of the interviewees expressed that the government should enhance its existing services to citizens by providing suitable facilities and infrastructure such as proper health care system, paved roads, improved schools conditions, strong transportation system, and well suited housing, before launching ambitious initiatives, like e-government and a computer for each student, that are unreasonable at the current stage while a considerable amount of citizens are still suffering from poverty and unemployment. Likewise, Li and Steveson (2002) indicate that one of the major barriers getting in the way of implementing a successful e-government project in Scotland is that
IT investments such as e-government are often not perceived as a top priority when it competes with other fundamental projects such as building new schools and roads. This issue has been pointed out by a member of the House of Notables, when she declared:

“It would be a losing battle trying to sway citizens who cannot find work and live in poor conditions to support any initiative that does not benefit them immediately such as the e-government. That’s why in my opinion government should understand citizens’ needs and set their priorities in the right order”

5.4.2.2 High Cost of computers and Internet Connections

The cost of living in Jordan is considered high in comparison to other neighbouring countries, therefore, many families rely on more than one income to survive and overcome the financial difficulties. Most of the times, men who are considered to be the head of household in the Jordanian society and in most of the Middle Eastern countries are forced to have morning and evening jobs in order to provide for their families, meet their monthly obligations, and try to save up for their children’s education. This results in kids being deprived from the guidance of their father and brings a huge amount of stress to the family. Therefore, some women are left with no other choice but to leave their kids at home or in day cares to go and find low paying jobs in order for their husbands to avoid working two jobs. One of the females’ interviewees who works at one of the ministries disclosed:

“I will be honest with you. I consider myself amongst the lucky ones because my family lives close by which allows me to keep my children with them while I go to work and earn some money in order to contribute in paying the bills and assist my husband in leaving his second job. Even though my income is relatively low but I was able to manage and purchase a computer with monthly payments for my children so they won’t feel that they are less fortunate than their friends. The only problem is we still can’t afford to pay for internet connection as it is very high”

As mentioned by some interviewees, great percentage of Jordanians are faced with high cost of living which consumes most of their salaries without leaving them with any extra money to spend on other items or things such as technological gadgets including computers and internet connections which they still consider as luxuries not necessities. An interviewee said:

“Most people can’t afford to buy computers and have a high monthly bill for internet connections to go with it. They are more interested in feeding their families and paying the necessary bills”
This finding concurs with Ferro et al (2011) who believe that income is associated with Internet access, as it can either positively or negatively influence peoples’ decisions to subscribe to the internet.

The combinations of high cost of living and high cost of computers as well as internet connections are greatly contributing to having a low internet penetration rate (13%) in Jordan (UN 2008), which is seen by most participants as a big national challenge facing the e-government programme.

Akman et al (2005) is of the firm opinion that lack of access to the internet is an essential barrier to the development of e-government initiatives. Additionally Shareef et al (2011) affirm that inability to access information and services of e-government will eventually lead to its failure. Szeremeta and Kerby (2005) also believe that inadequate infrastructure such as bandwidth, connectivity, and networks prevent developing countries from obtaining the potential benefits of e-government in the developing countries. They confirm that even if a country has the greatest e-government system, it would be useless if citizens cannot access it.

Various participants suggested that the Jordanian government needs to have a strategy that motivates citizens to purchase computers and subscribe to the internet. This could be accomplished by either subsidizing computer prices or helping in reducing the costly prices of internet access, which eventually will help in increasing the internet penetration level and consequently will assist in the adoption of e-government. As one participant explained:

“Government should reduce the cost of the internet to increase the internet penetration in the society first. If people don’t have internet to begin with, how will they conduct electronic transactions? They should have solved the issue of internet connectivity prior to lay down the infrastructure for the e-government project”

On the other hand, Ebbers et al (2008) believe that access is not restricted to the possession of a computer, but it also involves people ability to use the computers. Therefore, other participants suggested that the government should make use of public universities and libraries by utilizing them as access points to the internet for all citizens and ensure that a trainer is available on hand when needed.
However, one of the officials working on the e-government project at MoICT mentioned that there is a strategy in place to increase internet penetration rate in Jordan to reach 50%, when he claimed:

“We do have a strategy which aspires to raise the internet penetration amongst citizens from 13% to 50% within the next four years”

An interesting point was discussed by one of the participants who was convinced that e-government could assist citizens retaining some of their salaries by not having to take some time off from their work that they will not be paid for or having to spend money on gas or transportation to reach governmental institutions to conduct certain transactions. She believed that doing so will leave citizens with extra money that could be spend on purchasing PCs and getting internet access.

5.4.3 Socio-Cultural

This category entails the socio-cultural aspects that hinder the development of e-government initiative in Jordan. Findings related to socio-cultural aspects are classified into six main themes: Religious Beliefs, Lack of Ownership, Preach Without Practicing, Change Resistance, Wasta, and Corruption. These are addressed below.

5.4.3.1 Religious Beliefs

Among the issues revealed as barriers to the development of the e-government initiative are the religious beliefs of Jordanians; Jordan is one of the Islamic nations where religion is deeply rooted within a large percentage of Jordanians’ lives. Even though the Internet is perceived as an essential information tool for development (Gati et al 2003), a number of religious interviewees believe that the introduction of technology in general and the Internet in particular would have a negative impact on the society at large as it would make it possible for young generation to access unwanted materials such as pornography. They made it clear that the Internet is a dangerous tool of the devil and thus they avoid having access to the Internet in their homes to protect their children from this evil. This kind of thinking is an obstacle facing e-government development in Jordan. One participant pointed out this concern when he said:
“Since the introduction of the internet, our kids behaviours and morals have went down tremendously, so I really don’t blame religious people when they say that the internet is one of the devil’s tools that should be banned”

Another interviewee stated:

“Although I might sound contradicting myself since I work on the e-government project, but I personally believe that the internet offers more disadvantages than benefits, for that I would not want my family to use it”

This concurs with Al-Saggaf (2004) who states that the introduction of the Internet has been delayed in Saudi Arabia till 1999 due to a heated debate about installing a huge filter system that prevent access to certain undesirable websites and materials; government were concerned that allowing access would violate and contradict a core religious and cultural beliefs of the Saudi Islamic society. However, another interviewee did not prescribe to the idea that internet is a bad thing and said:

“We have wrong understanding about the concept of internet in our society; that it is only for bad things such as time waisting or pornography. This is not true”

E-government leaders need to clarify these wrong perceptions via awareness campaigns and through educational materials offered at school, so the students and the new generation would better understand the various benefits that are associated with the Internet and that it is not only bad things.

5.4.3.2 Lack of Ownership

The researcher noticed that many of the public sector employees lack the feeling of ownership in regard to the e-government programme. This was obvious through many of the interviews that were conducted. For example, some participants when being asked about the e-government project at their institution, they started being sarcastic by the way they talked about the e-government programme or MoICT, while others became very hostile towards the officials at the e-government management office at MoICT and started blaming them for the delays that are facing the initiative. As a matter of fact, employees at these entities strongly believed that the responsibility of implementing the e-government project at the national level lies totally on MoICT and they refused to be implicated or accountable for it. They justified their stance to the fact that MoICT was assigned to carry out the implementation of the programme, which made them think that they are released from being responsible or involved. These
wrong perceptions, deliberate or not, are counterproductive to the progress of the e-government programme in Jordan. The following quote by one of the participants working at a governmental institution illustrates the lack of ownership feeling:

“MoICT is responsible for the e-government initiative. Therefore, they are the only entity that can make the e-government programme succeed or fail in Jordan”

Another justification for the lack of ownership and support from employees at the executive level has to do with the work overload they are already faced with. Various participants clarified that they were already overwhelmed working on several projects at their institutions before they were also assigned to work on projects that are related to the e-government. This issue caused many employees to ask officials in charge of the e-government initiative to hire dedicated employees to strictly work on projects related to the e-government. As one employee suggested:

“Why don’t MoICT employ individuals for the sole purpose of working on e-government projects instead of assigning additional tasks to the existing overworked employees?”

Another employee confessed:

“Frankly speaking, we are not fully dedicated to the e-government unit; because we have our own work in the ministry to worry about”

An important fact to be stressed here is that even though MoICT was assigned to put the e-government initiative into practice at a national level, their core responsibilities are limited to provide guidance and support to institutions and not to implement each and every project within these institutions; rather the implementation process of e-government projects in the institution themselves is decentralized. This means that individual institutions are responsible for implementing e-government projects within their departments and are accountable for any services they provide. They are also responsible for funding their own e-government projects and allocating the right human resources for them. Therefore, lack of ownership and wrong perceptions amongst institutions are serious issues that cause various delays to the programme. Supply-side of the e-government initiative should try their best to achieve the programme objectives. This can only be done if they are truly convinced about the importance of the initiative in order to be able to persuade other users especially the demand-side stakeholders to buy-in and adopt the e-government system.
Officials at MoICT are alarmed by the lack of ownership amongst employees at governmental institutions which forces them to frequently visit these institutions to promote awareness and make it clear that they are part of this great initiative and that MoICT role is to guide and assist them but not physically to implement the e-government project at their institutions. MoICT officials insisted that institutions are the true owners of their services, therefore they are responsible to introduce and maintain their e-services to stakeholders. As one official in charge of the e-government initiative at MoICT stated:

“We have noticed that employees at other institutions lack the feeling of ownership. They rely on us to perform the actual job in implementing e-government in each of their institutions. They need to understand that there are 116 entities linked to the portal and our role is advisory only”

Lack of ownership has been identified by Elliman *et al* (2007) as a key obstacle that impedes the implementation of e-government projects.

5.4.3.3 Preach without Practicing

Many employees claimed that officials at MoICT carry slogans only which they do not really practice. Some employees even think that the adoption of the e-government initiative by various institutions is only to show off and that e-government is just a fad that soon will disappear just like any other trends. Several participants from different institutions believed that unless officials at MoICT put their slogans into practice, they will be lost and will lose their intended message and meanings. The following quotes were mentioned by several participants that support the above mentioned points:

“Frankly speaking e-government in Jordan is just a show off. It is about which institution will announce first that they have e-government or e-services”

“To give you an example, we started a project and due to change in management, the project stopped. MoICT did not follow up with us or even ask us why the project stopped. We feel that they are only preaching to us about e-government and not really practicing it”

“MoICT are all talk with no actions; it has been 7 months now since they promised to provide us with training courses on Oracle, we have yet to see it”

For instance, an employee working at one of the ministries declared that there is a discrepancy between what MoICT officials say and what they do in reality. He
explained further that it is nearly impossible to reach officials at MoICT through the phone when immediate help is required or needed even though they were promised for any help at any time.

Moreover, one of the CIOs for an e-government unit at one of the governmental institutions explained that he accepted the CIO position in addition to his current job because he was promised a higher salary to make up for the new responsibility; he then complained that MoICT officials lack credibility because they did not honour their promise. He stated:

“MoICT promised to allocate a monthly salary of 1800 JD for the CIO of the e-government unit. However, my salary remained the same”

As a matter of fact, the researcher herself was exposed to few instances where people in charge of implementing the e-government initiative appeared as if they were just showing off.

The first was when officials at MoICT claimed that a steering committee had been established back in 2006, with the aim of discussing the challenges and providing leadership to direct the e-government programme development in Jordan. Once the researcher started asking detailed questions about the committee and showed interest in interviewing some of its members, MoICT officials then revealed the fact that the mentioned committee is inactive because the appointed members rarely meet and most of the times each one of them sends a representative to attend the scheduled meetings. They even convinced the researcher that meeting any of the committee members will not be of any help to her research and discouraged her from proceeding with her request when they did not provide any information about the committee members.

The researcher believes that the already established committee should be immediately activated as it would be a powerful tool to enforce the decisions related to e-government projects, encourage institutions to keenly participate and support the development of the e-government initiative.

The second instance took place when the researcher was browsing the Jordanian e-government official website. As one of the e-government news headlines on the first page of the website dated 26th October 2010 reads ‘The service to obtain the no
conviction certificate recently became available to citizens online’. From reading the above headline one might think that the whole transaction to get the no conviction certificate can be completed online. Unfortunately, this headline is misleading. As reading through the article one will discover that a visit to request that certificate to the local court house is initially required then a visit to one of the police stations for biometrics is necessary and finally a visit to make a payment and to pick up the certificate upon completion is a must as the postal service is still incapable of delivering to home addresses. The only online service is the flow of information between the three institutions which will save citizens having to travel to each entity in person and supply them with the necessary information in order to have them sign off on the transaction.

E-government officials rushed into advertising and promoting the service to inform citizens that obtaining the no conviction certificate is ready when in actuality it is not. Citizens would perceive this as deceiving and purposely misleading act. They could have mentioned that the service is partially online and it will be some time before it is fully completed. Officials at MoICT should be aware that setting strategies and carrying great slogans without real actions to implement them will frustrate employees as well as citizens and will eventually create credibility issue that would be difficult to overcome.

5.4.3.4 Change Resistance

Change resistance is one of the significant findings that came out of this study. All interviewees stressed the importance of this issue and considered it to be amongst the main obstacles that impedes the progress of the e-government programme in Jordan. Participants agreed that employees’ resistance to change is so critical because it has a severe and direct effect on the e-government programme such as delaying or halting some of the planned projects. One interviewee confirmed this point when she clarified:

“We had a project that was suspended for 3.5 years because of an officer resistance to it, and when that officer resigned, the project was executed”

Participants revealed that change resistance is not restricted to a certain category of employees, as it is noticeable throughout the chain of commands. They also provided many reasons to employees’ resistance to change.
First, there are wrong perceptions and beliefs about the e-government programme. Even though government jobs are considered secure as employees cannot be fired easily (Krishna and Walsham 2005), many of the Jordanian public sector employees strongly believe that e-government is an unknown phenomenon and perceive it as a threat that could jeopardize their positions. They think that the introduction of e-government and e-services means replacing them by computers and other machines. This point was supported by an employee who works at one of the governmental institutions, when he said:

“The bureaucratic nature of government, in many cases, requires several employees to perform the same job that could be done by fewer employees. For that, employees fear that e-government will eliminate many of the unneeded positions and leave them out of jobs”

Second, fear of being introduced to technology; some employees do not accept the idea of technology invading their workplace and causing major changes to their environment so they resist it and try to guard against it. Others are afraid that dealing with the new technology will require them to learn new skills that they do not have and might be difficult to acquire due to age limitations in some cases. As one interviewee revealed:

“Some employees have been working at their jobs for over thirty years and are close to the retirement age, so they find it difficult to learn new technology at this stage of their lives”

This particular finding concurs with Niehaves and Becker (2008) who assert that elderly people are less likely to become accustomed to new skills because they find it difficult to understand and remember new complex methods. Older people also have a negative attitude towards new technologies because they did not adapt to them during their years of work and they prefer to stick to the face to face interaction which they are used to. On the other hand, van Dijk et al (2008) suggest that employees can change their old habits of relying on traditional channels if they are appropriately introduced to new alternatives. However, that was not the view of one of the participants as he believed that habits are hard to break, when he stated:

“I don’t believe it’s a qualification matter; because a considerable amount of officers hold the ICDL certificate. It is just the fact that old habits are hard to break. Many
employees are comfortable with the way things run and prefer for it to stay unchanged so they reject any new idea or method”

Third, some employees’ pride prevents them from admitting that they do not know how to use certain technologies or to accept someone to show them how to deal with it especially if they are in the middle to upper management category. This point has been acknowledged by an interviewee when he stated:

“Managers’ prestige prevents them from confessing that they need training courses and many of them also feel shy to ask for help. So instead they always claim that they are busy”

Fourth, employees mistrust the use of technology which is caused by bad previous experiences some of them encountered and the fact that they still deeply believe that using traditional methods is much safer than introducing new technology to the workplace. As one employee commented:

“Personally I’m not in favour of using e-services due to the story I just mentioned to you”

Fifth, self serving purposes; many employees are convinced that changing from the manual existing system to the new automated one will cause them to lose their power, authority and control over certain tasks. These power hungry employees feel resentment toward new technologies as explained by one of the interviewees who illustrated:

“There is a problem in our culture and the mentality of our people; employees want to have control over what they do and would like to be seen as important key personnel in their workplace”

This is in agreement with Ebrahim and Irani (2005) who clarify that some employees in the government are reluctant to accept e-government because they perceive it as a threat that puts their power and authority at risk.

Sixth, language barrier; some employees shared with the researcher that the software used at their institutions is in the English language which they do not understand. While others criticized the training material they got because it is offered in English. They claimed that they have repeatedly asked for translation of these materials in order to be able to benefit from them. Others admitted that although they attended few training
courses in Arabic, sometimes officials from MoICT use English words in their explanation which they cannot understand.

However, MoICT officials claim that they are aware of these issues and are asking institutions to use Arabic software rather than English ones; they are also working on translating the training materials which is a lengthy process. For instance, it took the security stream four months to translate one training course related to information security. The reason for taking such a long time had to do with difficulty finding the exact Arabic term to express the English ones. They believe that translation should be done carefully in order to prevent misconceptions. An official at MoICT gave a good example on how misconceptions occur due to translation from English to Arabic, when he demonstrated:

“No Joke, this is a real story happened in one of our ICDL courses with one of the instructors working at the Ministry of Education; the instructor says "I was explaining viruses when suddenly one of the attendants stood up and said that he had seen the virus; when being asked where had he seen it? He answered by saying that it had been walking on the monitor". Now this person's conception of virus obviously was wrong. He thought or imagined it as a bug or a disease, and this is one of the problems we face when we try to translate”

Various studies (i.e. Schuppan 2009; Ferro et al 2011) have shown the affect of language on internet adoption and usage by citizens. But the researcher did not find any studies that discuss the importance of providing training material and software in the native spoken language to users in order to overcome change resistance inside organizations.

MoICT officials who are in charge of implementing the e-government project in Jordan recognize that their role is very critical in convincing employees of the change and also in getting them involved. Therefore, they have established an entity that specializing in dealing with and trying to overcome change resistance issues and they called it the change management stream which is responsible for the human side; the users or service providers. It supports stakeholders’ acceptance to the changes took place due to technology and developments. It supports two domains: human resources and organization culture.
One of the top priorities of the change resistance stream is to gain employees loyalty and cooperation and ensure their commitment and support to the e-government project, therefore, officials at that stream launch awareness campaigns, but these awareness campaigns are very limited, and so are the training workshops that provide employees with the required skills and clarify misconceptions about the new change. One interviewee shared with the researcher a nice story that shows the affect of awareness on overcoming the issue of change resistance, when he said:

“I will tell you a short but interesting story that happened in our department. You know how it is when you go to Fastlink and take a ticket from the machine to wait your turn. We tried to implement this system and use this machine in our department, but we discovered that the employee who is standing at the door to direct and guide people where to go depending on their needs, for example, if it is a passport renewal then it is the second floor or if it is issuing a birth certificate then it is the third floor and so on. When the new automation system was implemented, this employee resisted it and was against the change to a degree he claimed that the machine is down every two days. We monitored what is taking place and surprisingly find out that this employee is the one who is causing the machine to malfunction, so we had more than one choice to fix this situation such as punish him, terminate him, or to get him to realize that this machine will not replace him. The solution taken was to assign him to work on the machine in order to help citizens on how to use it. Doing so we guaranteed that he will never abuse the machine again, as a matter of fact he is the one who repairs it when needed now. You see how understanding and awareness are important”

However, most employees suggested another method to motivate them to accept and be more supportive of the e-government programme; that is the financial incentives. As one employee declared:

“Government employees’ salaries are very low, so they are not encouraged to work and instead of being loyal they are always looking for other better opportunities. Employees should be granted financial incentives to stay”

MoICT officials understand these wishes, but they expressed that as a guiding body all they can do is to recommend such incentives to institutions and it is up to the institutions to follow through on those recommendations and make them part of their strategies. As one official at MoICT said:

“To support the process of change, we believe in providing employees with financial motivations, but since officers are not only working for our ministry but also working with other ministries; it is hard to control rewarding them and we consider this as a barrier. As MoICT, we just recommend rewards, but the institution has to carry it out. We try to submit letters of support; but ultimately the final decision is up to the
institutions to give the officers rewards or not. We cannot control this; it depends on the institution itself"

5.4.3.5 Wasta

Loewe et al (2007, p.55) define Wasta as the act of “asking for and/or benefiting from preferential treatment instead of going through official channels”. Wasta also means “either mediation or intercession. It denotes the person who mediates/intercedes as well as the act of mediation/intercession” (Cunningham and Sarayrah 1994, p.29). The aforementioned scholars affirm that Intermediary Wasta are efforts put to resolve conflicts amongst individuals or groups. This is considered as good Wasta that returns benefits on the society as a whole. Whereas, Intercessory Wasta is the intervention on an individual’s behalf to obtain a specific benefit such as a government document, a job or acceptance to universities. This is considered as negative Wasta since it relies on how powerful the Wasta is rather than the qualifications of the individual.

A large majority of interviewees firmly asserted that Wasta is negatively affecting the performance of the institutions in both the public and the private sector. They mentioned a fact which is if someone would like to advance or to amount to anything he or she has to have a strong Wasta or most likely they will never progress. They strongly believed that this is what halting Jordan from becoming amongst the advanced countries as it impedes the development of the country and the e-government initiative. As one interviewee described:

“Wasta is imbedded in every aspect of our daily lives. I have worked with many talented employees who were very capable and knowledgeable to get promoted to higher positions within the government, yet they continued working at the same position for many years with no advancement because they do not have Wasta to support them getting promoted. At the same time we have few recent college graduates that were hired and then promoted so rapidly not because of their qualifications, rather it was because they have powerful relatives in the government who support and back them up”

Another interviewee mentioned:

“If you employ the right people you should expect to have the right services, but if you employ people only because of Wasta, you will end up with bad services”

Interviewees perceived Wasta as a fundamental element that negatively affects the development of e-government initiative, because it leads to hiring unqualified personnel rather than the talents and skills that are needed. They affirmed that appraisal should be
done on the work itself and based on merits not on who you know. As one employee confirmed:

“The evaluation should be made on the work itself not based on any other criteria, such as the tribe that the employee belong and connected to or his/her position and religion”

This finding harmonizes with Loewe et al (2007) who note that people in Jordan generally depend on Wasta rather than on their capability to compete.

Actually, several participants acknowledged that Wasta leads to governmental contracts being awarded to specific companies with a performance below the required standards, which impact the e-government project negatively, as one interviewee pointed out:

“E-government project management should grant contracts to qualified vendor and right technical providers, not to undeserving companies that get awarded tender proposals just because of Wasta and they really lack the proper qualifications”

Most participants believe that Wasta is a cultural issue and it is found in Jordan and throughout the Arab world. One participant suggested that if people follow Islamic laws or what is called Sharia’a law, they will easily overcome this barrier; as Islam is very clear about the Wasta issue and has particular rulings forbidding it. He also expressed his wish for people to return back to be more religious, when he commented:

“Many people have wrong perceptions about Islam, are you aware that if we really apply Islam into our lives, most of our problems would be solved and disappear. Do you know that Wasta has been mentioned in Quran? Islam encourages Wasta if it leads to goodness only and warned against using it wrongly”

Wasta has been mentioned in Quran. It has been termed as Shafa’a:

“Whoever intercedes, mediates or helps for a good cause will have a share in its blessings, and whoever intercedes, mediates or helps for an evil cause shares in its burden. God has full watch over all things” (Surat An-nisa 4:85)

“Hence, the act of Wasta is encouraged in Islam if it would lead to a good act such as recommending the right person for the right position. On the other hand, the negative side of Wasta is discouraged in Islam because it leads to unethical acts, such as recommending unqualified person for a position to attain personal gains” (Al-Suwaidi 2008, p.23).
5.4.3.6 Corruption

Corruption is found at various parts within the Jordanian government. It is very noticeable even for outsiders to recognize the high level of corruption that manifests itself in the daily life of Jordanians. Corruption has caused the country’s deficit to increase well beyond 16 billion JDs in the last few years. Even his majesty, King Abdullah II, has acknowledged that and pointed it out to members of the House of Representatives when he met with them on the 27th of January 2011, he told the members that there are a lot of rumours amongst citizens in regard to various issues such as corruption, personal connections, Wasta, and bribes along with other issues that must be discussed and answered by the Parliament (Anon3 2011).

Most participants asserted that the high cost of living, poverty, unemployment and low salaries offered to large segments of the society are the main reasons for corruption in Jordan. They believed that these factors push employees to search for alternative methods to survive such as accepting bribes. This point has been confirmed by an official working at the public sector when he said:

“There are many evidences of bribe I have seen during my work. I have not even been working here for 6 months, when bribes started to get offered to me, and if bribe were permitted in Islam I would have made 70 thousand Jordanian Dinars at least, and nobody at work would have been able to do anything to me”

Many participants claimed that corruption has also penetrated the e-government programme from the beginning, for example some officials used their positions to award tenders based on self serving and personal interests rather on the interests to the public sector and the citizens. As one interviewee said:

“I know a top management official who was involved in the purchase deal of the PCs for our department. He selected that supplier because he was promised once the deal goes through, the vender will show appreciation to the work he done by giving him two laptops for him and for his son”

As a matter of fact, bidding for government projects in Jordan is still done without clear requirements, which raises the question how e-government is meant to enhance transparency and eliminate corruption (Ciborra and Navarra 2005).
However, the changing political environment in the Middle East including Jordan inspired many citizens including ordinary non political people to take to the streets of most cities to protest against the high level of corruption and demand the government to implement fiscal responsible policies and accountability to public resources, which forced the top political leader of the country, King Abdullah II, to address this issue and act to the request of the people by solving the current government of Mr. Al-Refaey and appointing a new Prime Minister Mr. Al-Bakheet in order to form a new government to fight this dangerous problem. The researcher believes that this step which was taken by his majesty will not truly solve the issue of corruption as true reform is not just about bringing a previous government that has been already accused of corruption itself back in 2007 and ask its prime minister to form new government. True reforms start by changing the laws to permit citizens to have a say in choosing who will represent them and having strict laws and policies to deal with people that break the law and get caught in these kinds of acts. One of the ironic comments the researcher heard recently following the appointment of Mr. Al-Bakheet is:

“Jordan is the greenest when it comes to governments and officials, we recycle like there is no tomorrow”

Krishna and Walsham (2005) declare that corruption is a major issue that e-government leaders should consider because it can hinder the development and the process of change.

5.4.4 Technological

Technological obstacles vary. According to the research context, three main technological barriers are hindering the development of the e-government initiative in Jordan. These are: Weakness and Variation of Public Sector Infrastructure, Digital Divide, and Improper Use of Technology.

5.4.4.1 Weakness and Variation of Public Sector Infrastructure

The Jordanian public sector is like all other public sectors in different countries; it consists of large amount of entities. As participants declared, it consists of 24 ministries and 116 governmental institutions.
One of the critical factors in achieving a successful e-government is having a proper infrastructure in place and to try to have all public sector institutions on the same level of readiness if possible. Unfortunately this is not the case in Jordan. The diverse levels of technological advancements amongst different institutions are very obvious. Several interviewees from different institutions expressed this existing gap. As one interviewee stated:

“When we compared our infrastructure to other institutions we found out that we are lagging behind, for example they have a lot of computers and skilled technicians and we don’t, it will take us many years before we can get to the same level that they have already reached”

It is well understood to see a gap and variation in the level of readiness amongst institutions in both the physical infrastructure and in the human resources, but it is quite dangerous if this gap is huge. The researcher discovered that some of the institutions are very advanced in regard to their human and e-readiness infrastructure such as the Civil Status and Passports Department, Jordan Customs, and Municipality of Greater Amman which are fully automated before even the start of the e-government programme while others lag behind such as Ministry of Agriculture and Ministry of Education. While some institutions have adequate skills and are using the latest software applications and benefiting from the newest technologies, others are short of qualified employees and have obsolete technologies. Another noticeable variation is in the level of awareness amongst employees of the same institution as well as between employees of different institutions about the e-government initiative.

Moreover, the researcher realized that there is a variation in the software applications used in different institutions, as some are using Arabic language software while others are using English language software. Several institutions also are using different standards, guidelines, and platforms which complicate the process of connecting them together and make it difficult for them to share data. In addition to that, institutions are using different hardware and software, which increases the incompatibility between them. Also some institutions are investing in buying the most modern hardware while they cared less of spending money on software applications, as they only invest in tangible things and neglect investing in intangible things that might not show immediate benefits.
Another obstacle found to hinder the development of the e-government initiative is establishing or eliminating ministries or departments without considering its impact which causes waste of money, time, and efforts that were spent on connecting them to the e-government network. Furthermore, she found out that headquarters were the only entities that are linked to the Secured Government Network (SGN) whereas all other institutions are not. Additionally, in spite of the urgent need to exchange all kinds of information between various departments, the lines connecting departments together are suitable to transfer texts but not images.

Findings of the empirical study coincides with Al-Nagi and Hamdan (2009) who also identify that there is a lack of intranet amongst governmental institutions in Jordan, and that the Jordanian public sector lacks proper local networks, as well as it does not have highly qualified individuals. They also mention that computerization is missing amongst many of public sector institutions. The aforementioned scholars also state that there is a significant overlap between governmental departments which causes duplication of efforts and results in more complicating processes.

However, the fact that the Jordanian e-government portal acts like a one-stop shop for stakeholders increases the need for bridging the current infrastructure gap between different entities. This is because many of the services offered by different institutions on the portal do not begin and end within one institution (vertical services), rather they require the involvement of several institutions (cross services). An example of that is the ‘No Conviction Certificate’ in which the citizen concerned will have to deal with 3 different institutions (The Justice Department, The Public Security Directorate, and the Civil Status and Passports Department) to obtain it. Therefore, weakness of one institution involved in providing a cross service will negatively influence other involved institutions, even if they have the best infrastructure, as they all are interdependent on one another, which consequently will end up in providing a bad or delayed service to stakeholders. An interviewee who works for one of the Ministries stated:

“Our ministry deals a lot with the Ministry of Agriculture. We face many issues when we work with them on various projects because we already have the adequate technologies and all our departments are linked electronically together but they are not. This causes big headache for us and forces us to provide delayed services and projects”
Additionally, despite the benefit that the Jordanian e-government portal provides; facilitating for stakeholders to complete a cross service (see 2.12.7) with various institutions without having to visit each institution separately in multiple physical locations. There is a big challenge associated with this web integrated portal. It is the multiple user names and passwords which are created to the same individual by different institutions, because each institution has different requirements. This issue confuses citizens and makes it hard for them to remember all of these user names and passwords. As one interviewee acknowledged:

“Most people I know can’t even remember what they had for dinner the night before so how could we expect them to remember a huge number of user names and passwords for each governmental institution”

Another technological drawback found from the empirical work in Jordan is that there is a lack of a unified database that has all citizens’ information. Regrettably, stakeholders have to fill out several forms for diverse institutions, even though these forms request similar information. This contradicts with Ebrahim et al (2004) conviction that e-government is about improving communication between government entities so that individuals are not repeatedly asked for the same information from different institutions.

This finding is in line with Ebrahim and Irani (2005) who affirm that having an unreliable IT infrastructure in public sector institutions will decrease the performance of the e-government.

### 5.4.4.2 Digital Divide

As mentioned previously Jordan has various citizens’ segmentations such as the nomadic Bedouin in the south, the farmers or villagers in the north, and the urban in the middle. The education level of each segment varies and so is the way they live their lives. For example, a considerable percentage of the citizens that reside in the south are poor, cannot afford to buy computers and even if they were able to buy them they will not be able to use them due to the fact that they are computer illiterate while most urban citizens are educated, technology literate and financially better off which enable them to buy and have access to technology. This issue has been highlighted by Jaeger and Bertot (2010) who affirm that there are still considerable gaps in most societies in terms of IT literacy and capability to access the internet.
It is important to help all segments of the Jordanian society to reach an acceptable standard level of educational, financial, and technological advancement which enable them to afford and interact with the new technologies. This will give them the opportunity to use the upcoming e-services that e-government provides. Otherwise the new e-government project will be only directed at a specific segment of the society and it would not include all citizens in Jordan. A government participant commented:

“What good is it to have e-government that caters only to certain group of people and leaves out large number of citizens? I think MoICT have spent millions of JDs on the e-government project that would serve a limited amount of citizens who have computer knowledge and trust the use of technologies”

Another interviewee who works in the private sector was of the firm opinion that e-government in Jordan serves only people who live in the capital Amman. She stated:

“Personally, I believe that all the services which will be provided by the e-government project will be used by citizens living in the capital. I don’t see citizens live in Tafeleh or Ma’an able to benefit from such a project. First, people living in Amman are very different from those who live in other cities in terms of their education, awareness and culture. Second, the infrastructure for high speed internet connections exist in Amman while many remote cities don’t even have the proper infrastructure to get landlines”

West (2000) wonders if e-government is the tool that will reduce inequities amongst citizens, or it will exacerbate this issue. Since e-government initiative in Jordan is considered a national project that aims to benefit all citizens throughout the country, it is essential to be careful and take measured steps to include all segments of the society and try to bridge the existing digital divide gap. As one official said:

“If we wish to advance the e-government project then we need to work on bridging the gap in regard to the internet and computers accessibility in Jordan”

Many scholars have discussed the vitality of bridging the digital divide gap that occurs “between technology haves and have-nots” (West 2000, p.3), and amongst “those with, and those without, internet access, and between those that use and do not use ICT” (Gauld et al 2010, p. 178) and between those with, and those without, access to computers (Basri 2010), in order to advance e-government projects development.
5.4.4.3 Improper Use of Technology

By looking at the high percentage rate (74%) of mobile usage in Jordan (UN 2008), one could conclude that Jordanians are putting this great technological tool to good use. Unfortunately this is not the case as these numbers are misleading. Most mobile subscribers are using them strictly to talk, text message, and in some occasions just as a method to randomly dial numbers to disturb and infuriate others.

Remarkable evidence that shows the inappropriate utilization of mobile phones in Jordan is the high number of electronic divorce cases (450) that took place in the year 2009. Husbands used SMS to notify their wives of divorce. This issue forced Jordan’s highest judicial authority to issue a law that limits electronic divorce, but does not eliminate it (Anon2 2010).

Also, it is very prestigious to own a mobile phone in Jordan. Hence, it is not unusual to find poor families that are struggling to make ends meet owning at least one or two mobile phones as they consider this to be their way of fitting in and being part of the show off society. Sometimes one might even see some homeless on the streets of Jordan begging for money while they are talking on their mobiles. A participant confirmed this:

“I know a lot of people who spend most of their salaries on getting the latest mobile models that have all kind of features just to look cool and the only features of the mobile they use are making phone calls and text messaging others. We are way behind other countries that are taking advantage and utilizing mobiles as a learning method”

Another deceiving indicator is the high number of internet cafes throughout Jordan (Al-Nagi and Hmadan 2009). In one street in the second largest city of Jordan (Irbid), the concentration of internet cafes is the highest worldwide (more than 200 internet cafes) which qualified it to be in the Guinness Book of World Records (Wheeler 2006). Sadly, instead of utilizing the internet for good use such as gaining online knowledge, researching and trading, people in Jordan mainly use it for chatting purposes and for the opposite sex to meet online. This is in agreement with Wheeler (2006) who notices that most internet cafe users in Jordan use the internet to chat, make friendships, and cross the existing gender boundaries rather than transacting business. One interviewee went on to say:
“Citizens use to the internet is very limited. A friend of mine who owns an internet cafe told me that most of his customers spend hours online chatting with others, listening to music and playing video games”

A fascinating point that appears in Jordan is that there is a segment of the society who are capable of buying and obtaining the new technology but they are unable to properly use it, as they lack the required basic technical skills. This issue was raised by a team member at the e-government management office at MoICT, who said:

“One of our biggest national challenges is the inability of people to use technology even if they can afford it”

The continuous inappropriate utilization of technologies by Jordanians eventually will hamper the progress of the e-government project, as an individual at the e-government management office at MoICT believed:

“If we create the best model and purchase the latest technologies, but they are not properly used by people, they will be considered failure at last”

5.4.5 Legislative and Regulatory

Three main barriers found that are related to this category are: Lack of Authority to Enforce Decisions, Lack of E-Trust, as well as Security and Privacy Concerns.

5.4.5.1 Lack of Authority to Enforce Decisions

All officials interviewed who work at the e-government management office at MoICT complained that even though they were assigned to implement and oversee the e-government project activities in Jordan at a national level, they were not given the proper authority to accomplish this new project or to enforce it. They claimed that employees in other ministries and governmental institutions do not accept the fact that they are in charge of the project and in some situations they even refuse cooperation, challenge them, and question their authority to carry out the needed changes. Few employees at MoICT referred to their lack of authority to enforce decisions as the main reason for other ministries and employees not to take them seriously. As one official pointed out:

“It is true that our unit has been assigned by the king to implement the e-government project throughout the public sector institutions, but we lack the proper power that allows us to enforce the needed changes. We feel that other institutions have a problem
with us when we ask them to do something. They feel: why should we listen to officials from MoICT as long as we hold the same positions as them but in a different ministry?”

Other official said:

“Sometimes we suggest certain changes to take place in some departments to advance the e-government project and right away we get bombarded with many questions such as: who are you to tell me what to do? And what kind of authority do you hold over us?”

In fact, officials at MoICT believed that they must be granted the legitimate authority and power that enables them to enforce and follow through on the e-government project implementation. They also stressed the need for an external entity that has the power to direct e-government development in the country, evaluate its progress as well as set specifications and specify time frames for achieving the desired outcomes. They suggested that this entity could be the prime minister and that their proposals should be directed to him as he holds the highest power in the government and therefore could use his authority to ask his cabinet members to enforce these recommendations at their ministries and institutions.

They are firmly convinced that leadership from other institutions in the public sector must be supportive to decisions made by them, so their employees will have no other choice but to implement the changes requested and move towards e-government. As some officials declared:

“We cannot impose decisions on an institution as an external entity without the support of the top management of such institution”

“Top leaders from other entities should be on the same page with us. We need their support to enforce their subordinates”

What is ironic though that participants from other ministries and institutions expressed their desire and wish as well if the e-government team at MoICT had the power to enforce the implementation of e-government upon them. As one employee disclosed:

“It is not enough to provide recommendations only, MoICT should have the authority to enforce them as well in order to achieve satisfactory results”

Another employee informed the researcher that he stated his opinion to the Minister of Information and Communications Technology himself in one of their meetings, when he said:
“Suggestions proposed by MoICT are taken as advices only that does not carry any weight. This is wrong because e-government project must be forcibly implemented upon institutions in order to be completed and successful”

On the other hand, some participants went even beyond calling for enforcement of decisions and strategies to actually ask for severe penalties for institutions that do not cooperate. As one interviewee clarified:

“Unless there is a system put in place with penalties and severe consequences to enforce all decisions in regard to the e-government project and hold individual’s accountable, things will not get done”

The fact that the e-government management office at MoICT strives to convince ministries and institutions to get on board, is impeding the progress of the e-government project. However, one participant asserted that other institutions will be more convinced when they start seeing and feeling the benefits that e-government brings to them, when he stated:

“They have to focus on the change management; what’s in it for me? Employees will not change if there is no benefit for them from the system”

This finding concurs with Ciborra and Navarra (2005) who identify that the e-government initiative in Jordan is at risk of failure because of the striking lack of an entity that has a valid enforcement power to implement the e-government project.

5.4.5.2 Lack of E-Trust

Many of the interviewees revealed the fact that a considerable amount of citizens in Jordan are very doubtful about the technology and do not trust it. They illustrated that Jordanians in general do not trust electronic means of communications and still prefer to conduct their transactions in the traditional ways although the risk in them could be higher sometimes (i.e. fire). They referred back the lack of e-trust to the mentalities of people that are not yet prepared to accept and deal with technologies. In their opinion, this complicates things and makes it harder to build trust and confidence amongst stakeholders. However, Lee et al (2011) propose another reason for lack of trust within e-government users. This is users’ past experiences with the technology.

One of the employees demonstrated how untrusting Jordanians are to technology, when he stated:
“I’m going to tell you something that might shock you. For the period of 2003 – 2006, we launched an e-service that allowed citizens and businesses to pay for customs duty online, and we had an agreement with Jordan Kuwait Bank to facilitate acceptance of e-payments. Do you know how many transactions were made? Zero! Our citizens neither trust nor believe in electronic transactions. We had to stop this service after 2006”

It is very obvious that the above participant is blaming citizens for not adopting the new electronic channel which was offered. In contrast, Ebbers et al 2008 disagree on putting the burden of responsibility on the citizens’ shoulders and argue that policymakers are the ones who fail to understand the real characteristics of the citizen-organization interaction when multiple communication channels are available. As they rush into adopting and implementing new electronic channels without taking into consideration the personalities, preferences and problems individuals have that direct their choice for a specific channel. The aforementioned scholars also declare that sometimes the characteristics of the transaction itself as well as the financial factor are additional elements that influence citizens’ decisions to prefer using a certain channel.

One of the e-government team members illustrated that they are aware that Jordanians avoid conducting any e-service if it is associated with paying online. As they fear that institutions might claim not receiving the payment which causes them to double pay the same transaction. Therefore, they come up with an idea to solve this issue which allows citizens to perform the transaction online and when they reach the payment phase they can stop and continue the transaction physically by paying the fees at one of the banks.

However, lack of e-trust has been found as a key obstacle that affects the e-government project mainly when e-services are provided online because online transactions require citizens to enter personal and private information that they feel uncomfortable in providing to someone they do not know and cannot see. Participants affirmed that Jordanians in general prefer face to face contact as the best way to assure that things get done properly, especially as mistakes are already present in the existing traditional system. One of the participants gave an example of himself, when he said:

“Although I went in person and paid my own electricity bill for the previous month, I have received a letter three days ago stating that no payment has been received. It took me few phone calls and another trip to the electricity company to sort things out and provide them with the payment receipt. Such mistakes are very common in the public
sector institutions. So how do they expect citizens to trust e-payments while they still have issues within the existing system?"

Lee et al (2011, p.2) reveal that “user's prior interactions with the government through offline service channels shapes their belief, confidence, and trust in the government, which in turn translate into the perception of the quality of service provided online”. Therefore, institutions should first work on reforming their traditional services before they start offering e-services, as several participants suggested. This coincides with Shareef et al (2011) who argue that governments should initially work on enhancing the credibility and performance of their traditional departments, if they wish to gain citizens e-trust.

Furthermore, many interviewees emphasized that ensuring successful offline experiences is not adequate and that people in charge of e-government have to make sure that citizens’ first online experience must be successful as well. As one participant addressed:

“An initial successful experience with e-government, would definitely encourage citizens to use the service again, but if their first online experience fails; it will negatively affect them and others”

On the other hand, one interviewee insisted that even providing good services does not guarantee their success, if lack of trust exists. They gave an example from the banking sector when banks introduced the ATM machines as most people neglected using them and preferred dealing with the tellers to deposit and withdraw money. He claimed:

“It took people years to feel comfortable using ATM machines and most people use them for withdrawal purposes only as they don’t dare using them to deposit money thinking that it might not be recorded into their accounts”

It is very obvious that lack of e-trust has already affected various sectors in Jordan especially the ones that offer financial transactions. Therefore, people in charge of the e-government programme should take into consideration issues of mistrust towards technology and deal with them seriously.

Findings of the empirical study show that lack of trust in regard to the use of technology exists even amongst governmental employees themselves. This was mentioned by a
couple of participants who explained that many employees are hesitant to use and interact with technology as they perceive it as untrustworthy. One interviewee said:

“Even simple things such as sending and receiving emails is looked at as risky by many employees and they prefer not to use it”

Interviewees from the private sector as well complained that many of the public sector employees avoid communicating with them via emails because they fear that the recipient might claim not receiving the email which may cause them some troubles.

It can be concluded that Jordanians still prefer to use the traditional communication channels, but considering all the money, efforts, and time spent on the e-government initiative forces one to think of solutions to encourage citizens to overcome this issue in order to increase their trust to use the electronic channels. Participants suggested various ways to overcome the obstacle of lack of e-trust.

The first and most common suggestion amongst participants was providing financial incentives for employees in order for them to be encouraged and use the new system. However, other participants believed that e-government leaders should enhance the confidence of the employees in the e-government system by launching awareness campaigns that allow employees to understand the benefits of the new system. This concurs with Bonham and Seifert (2003) who believe that building awareness and confidence as well as winning public officials’ hearts and minds is the key for e-government success.

Whereas few interviewees provided a good solution to develop the trust in e-government amongst citizens. They recommend that e-government should be an interactive system. They explained further, that the system should immediately respond to citizens in order to create confidence. This is in agreement with Shareef et al (2011) who assert that designers of the e-government system should put emphasis on creating some instant acknowledgement procedures in order for citizens to make sure that the system is effective. This also agrees with Gauld et al (2009) who suggest that a responsiveness mechanism should be built into the government website, so that citizens can directly communicate with officials and departments.
Additionally, several participants recommended that government should improve its traditional relationship with citizens first. They discussed further that reliable and positive traditional experiences would eventually lead citizens to trust e-government. This recommendation harmonizes with Lee et al (2011) who affirm that positive offline experiences lead users to believe that online experience would be reliable.

5.4.5.3 Security and Privacy Concerns

Ebrahim and Irani (2005) limit e-government success to when all stakeholders feel confident using electronic channels to conduct transactions. They also emphasize that all public sector institutions should increase their security and privacy measurements since they collect, use and disseminate sensitive private information of stakeholders all the time such as personal, health, and financial information.

Additionally, West (2000) believes that investing in security and privacy protection devices is worthwhile and perceives this as a valuable asset for the government.

Several interviewees stated that issues of confidentiality, privacy, and security are not only causing most Jordanians to be suspicious of disclosing their personal information online, but also preventing various institutions from sharing information with each other or accepting to communicate via the electronic channel.

Online transactions must be secure in order to gain the trust of the people and institutions by ensuring them of privacy and motivate them to communicate online; otherwise e-government would be at risk of failure. As one interviewee commented:

“Before providing services online we better make sure that the network is 100% secured even if it takes us longer time to provide these services because all it takes is one incident of insecurity to happen and all citizens and institutions will never use the system again”

A wide range of interviewees insisted that a well secured network is a must when personal information and financial transactions are taking place online. Some of them explained further that a secured government network (SGN) has already been established to protect the data from unauthorized acts or from being misused. However, findings from the empirical study reveal that although a secured government network is in place, it only connects the ministries (headquarters) amongst themselves and it
neither connects the ministries with their own departments nor connects other institutions together. As one participant disclosed:

“Why do they connect only the ministries themselves and ignore other departments that are related to or part of it? For example we have 72 courts spreading in 52 different locations all over the Kingdom. Each of these courts communicates by sending employees to one another. We are forced to do so because they have not included any of our courts on the secured government network. The secured government network should not be only restricted to the Ministries. All other courts that serve under the authority of the ministry of justice need to be connected as well”

Another security concern has been raised by one of the participants who admitted that the ministry where he works still lacks having manual alternatives for the hardware equipments if they fail to work. For example, if a printer breaks down during the workflow, it delays all the processes until it is fixed. He illustrated further that if things like that are still happening offline, they might be bearable, but it would be very risky and intolerable if something fails to work when things are more automated and online. He demonstrated that there are no clear strategies in regard to technology failures and insisted that e-government leaders should develop a manual and online backup plans in case of any failure. In addition to that, an employee disclosed that the Jordanian culture and people are used to reacting to things only, when he explained:

“We don’t plan beforehand. We just wait for things to happen, and then we react accordingly”

Moreover, many employees complained that the e-government management office at MoICT does not share responsibilities with any institution for the failure of any project related to the e-government initiative or for any security threat issues that might occur. They also criticized MoICT for it and demonstrated that they are not security experts to be hold accountable for the online services they are being asked to provide. Additionally, they also illustrated that their institutions are short on security protection devices as well as of security experts and MoICT must assist them in this regard at least at the beginning. As one interviewee said:

“MoICT rushes us to provide online services while we are not ready yet. We do not have adequate security tools or well qualified security experts. When we asked MoICT if they are willing to hold the responsibility of any insecurity incident that might happen, they refused and said we must assume that responsibility which we can’t”
Officials at MoICT are aware that this issue is causing most institutions to delay launching e-services. As one official was brave enough to confess that it is not the right thing because institutions already have their various concerns about adopting e-government and that MoICT should not add to their concerns, rather they should try to help in reducing and overcoming these concerns. He suggested that the only solution for this problem is to create an external separate entity that is in charge of providing the right security measures to all institutions and this entity should be accountable for any threats that happen, when he recommended:

“*There should be an independent entity responsible for managing security related issues to the e-government programme in all institutions*”

Another official at MoICT told the researcher that lack of qualified individuals in the field of security is a problem for the e-government management office and for other government institutions as well. As a matter of fact he firmly believes that this is a national problem that exists in both public and private sectors in Jordan which forces many organizations to hire foreign specialized security companies to provide the needed measures.

It was obvious that security and privacy concerns were very high amongst interviewees’ concerns. Most of them lack conviction in the online security. They believed that once services are online, it means they are open to threats and attacks. Even when the researcher was discussing with them the availability of various tools that can ensure the security of data exchange, they were not convinced. An interviewee who was unconvinced of the online security was adamant that the old traditional method of doing things is better and there is no need to change it, when he noted:

“We are safe and happy in the way we conduct business currently. Once we lock the files inside the drawers and put the keys in the designated safe storages we ensure that they are safe and secured and as an extra security measures we have cameras to record everything. The way we do it now is the same way I do it when I leave home by closing off all windows and lock all doors, so I don’t need someone telling me leave your doors unlock and install an alarm system and everything will be fine. That is rubbish to me”

This issue has been addressed by Meijer and Zouridis (2004) who give many reasons for the slow transformation from government to e-government such as lack of leadership support and inadequate technological solutions, but they strongly believe that
the most significant reason causing the delay is the meaning, power and norms that exist in the current structure of government.

Employees need to understand that the electronic channel provides many benefits. It connects all institutions together which facilitates exchanging services, saves time and money. It also saves enormous amount of data in a safe way which ends up saving them piles of paper work, files, and storage areas. Therefore, fear of security threats should not stop institutions from adopting e-government system; rather they should work hard to find ways to overcome the security concerns in order to advance electronically. As one interviewee believed:

“It is important for employees to be aware that going online does not mean losing security. Quite the opposite, new technologies make it easier and quicker to safely backup the information electronically. Electronic information can be protected in several ways, such as encryption, information closure, access control such as username and password or fingerprint. Security could be compromised manually, not just electronically”

It should also be mentioned that the availability of trainers in the knowledge stations, although helpful, is a security risk issue that should be addressed as private and sensitive information of citizens could be exposed to them.

Security and privacy barriers have been found to impede the development of the e-government programme in Jordan. Hence, leaders should not ignore the vitality of these issues and need to find practical solutions for them. Additionally, Shareef et al (2011) persist that privacy policy should be explicitly published on the government website in order for users to be confident that the government is the entity which will be held accountable if any devastating situation occurs.

Therefore, the researcher reviewed the privacy policy of the Jordanian e-government website (portal) on 31 March 2011 and found out that it assures users that their information will not be collected unless they interact with the government (i.e. if they register or send an enquiry), otherwise, cookies will not collect personal information if they are browsing the site only.

Information collected will not be shared except with government entities if needed and will only be used to customize the user profile. In addition to that, it declares that the
portal provides access to other governmental and non governmental entities that have different data protection and privacy policies. Therefore, they are not responsible for the contents and practices of those other websites. Furthermore, it is mentioned that security procedures are always updated according to the new technologies that emerge. There is also a security notice that states that storage and dissemination of personal data are secured with appropriate security tools.

The researcher did not find any statement that ensures users of the system of who will be accountable in case of security compromised issues. E-government leaders in Jordan should bear in mind this point, if they really wish for a successful adoption of the e-government system.

5.4.6 Organizational

Implementing e-government means transforming organizations from the traditional model of bureaucracy to the new electronic model. Usually organizations do not transform smoothly and during the transformation process various organizational barriers appeared. Findings from the empirical work in Jordan show two main organizational obstacles hindering the progress of e-government. These are Turnover, and Isolated Entities.

5.4.6.1 Turnover

Many participants complained that low salaries and lack of incentives are negative factors that affect the implementation of the e-government project because they cause employees turnover and that the management in charge lacks the true understanding of how to overcome the turnover problem. One interviewee shocked the researcher when he said:

“Last month I had 12 programmers, now I have only 7. This is a disaster”

The majority of interviewees confirmed that turnover takes place mostly within IT personnel. As one employee stated:

“We suffer from employee’s turnover, especially employees in the field of IT”
Staff turnover appears to be a problem that is invading all institutions in the public sector. It even has reached people in charge of implementing the e-government programme at MoICT. As one official working there declared:

“The turnover in the e-government management office itself is very high as our employees benefit from gaining an exceptional experience, working on a big national project, that they won’t be able to get working on any other project. Therefore, this makes them great candidates to be recruited by outside entities”

As a matter of fact, when the researcher went to visit the e-government team at MoICT two years after the interviews took place, she found out that the director of the e-government management office has resigned and was recruited by the Saudi e-government team to work on their programme. It is unfortunate because he appeared very loyal but it is a known fact that loyalty without incentives might not last forever.

All participants admitted that the salary of employees in the public sector is much less than the salary of their counterparts with the same qualifications in the private sector which causes the turnover problem. They also went on to explain that the public sector not only has to compete with the private sector to maintain its employees but it also has to compete with other regional countries such as the gulf states that are willing to pay much higher salaries than even the Jordanian private sector. One participant said:

“When it comes to the income issue, I really don’t see how the government will be able to compete with the private sector as well as other countries seeking to recruit our qualified human resources. For instance, the head of our programming department who is an Oracle certified, was approached to work for Oracle Company for a salary that is four times more than his current salary”

Another employee working for the government expressed his frustration about low salaries when he commented:

“There is a high level of frustration amongst us as government employees in regard to our salaries. Our salaries are low and not enough, most of the time they are spent before they even hit our bank accounts”

Government inability to retain qualified personnel or provide them with motivations or incentives to gain their loyalty causes staff turnover, as seen by several participants. One employee disclosed:
“We are losing too many talented employees to the private sector due to lack of work drive and incentives”

However, other participants strongly believed that even if government was able to motivate employees by increasing their salaries, it will face another problem which is trying to retain them. Employees prefer to work in the private sector because they are more able to acquire new skills and develop themselves by getting advanced training courses and opportunities to be sent abroad to attend conferences and get further qualifications. One interviewee mentioned:

“Even if the government is willing to offer employees high salaries, it needs to retain them longer; because the more an employee stays with us the more resources we have, and this will help to develop the e-services until we reach the stability stage”

Another official admitted that government is struggling to keep its human resources, when she said:

“We have a problem in retaining human resources while the private sector knows how to recruit our experienced employees”

There is much support in the pre-existing literature for this specific finding. For instance, Bonham and Seifert (2003) and Barzilai-Nahon and Scholl (2007) illustrate that e-government initiatives struggle to retain skilled labour due to their low salaries and the inability to offer benefits that allow them to compete with the private sector.

The issue of employees’ turnover should be taken very seriously because the consequences of not addressing this issue properly will cause the government not only to lose financially which is the money that was spent on training of those employees, but also to lose the required human resources which is represented by the qualified employees themselves.

The following are statements for some of the interviewees expressing how public sector institutions are very short handed for qualified manpower:

“One of the biggest challenges is the staff resignation after being trained and qualified. There are no restrictions that obligate them to stay, so they leave to the private sector which gives them much more salaries”

“We lack specialized personnel. For example, we don’t have enough project managers. The fact that there is a lack of incentives and motivations in the public sector makes employees always look for better opportunities in the private sector and Gulf countries”
“IT people should be well compensated. Otherwise we are going to lose them. Our institution has already lost many competent and qualified personnel. We had a civil engineer working for us, who was well known throughout the Middle East, ended up leaving to go and work for Sheikh Zayed, the ruler of Dubai for 40 thousand dirham with accommodation and other fringe privileges”

It is worth mentioning that from the perspectives of some interviewees, the gap that was created and caused by the turnover of the qualified human resources leads to interruption and discontinuity to the projects being worked on by them. One official expressed this point when she said:

“One of the many challenges facing our e-government programme is the inability to hire and attract qualified staff as a result of low salaries in the public sector in comparison to the private sector. Skilled employees end up leaving after a relatively short period of time which causes interruption and stoppage to many of the projects they are assigned to work on”

An employee working at a governmental institution suggested that the e-government team should solve this issue by informing new staff of the stages that previous employees have reached so they would avoid having missing links in the projects.

Another official working at MoICT clarified that employees turnover had already affected the progress of the e-government programme and referred it back to the hiring and appointment process in the government which is usually very slow especially because the applicants have to go through the civil service bureau and wait for their turn to get employment, when he said:

“The turnover to some of our key employees has already delayed many of the side projects related to the e-government initiative because we were forced to wait for the slow and lengthy process for an employee to be appointed to take over the duties of his/her predecessors”

Even though some participants was very pessimist about finding a solution to overcome the issue of low salaries in the public sector which is the main factor that causes turnover, as one employee said:

“Frankly speaking, I don’t see a solution for the income problem; because whatever employees are offered by the government, they can always get more outside”

This harmonizes with Li and Steveson (2002) who affirm that public sector is generally characterized with a more rigid salary scale than the private sectors.
However, other participants were optimistic and suggested several things that could be done to better control turnover and create employees loyalty such as increasing salaries and providing innovative incentive plans. They went on to explain that these measures will enable the public sector to compete with the private sector and to retain its existing employees or attracting new skilful and qualified staff.

5.4.6.2 Isolated Entities

Isolation amongst different entities in the public sector has been recognized by a number of participants as a significant obstacle that hinders the progress of e-government in Jordan, as each institution acts as a separate entity by itself. One participant described the issue of isolation, when he commented:

“Some governmental departments act as if they are on an isolated island; they neither want to share information with other entities nor agree to coordinate”

Participants described lack of coordination, lack of communication, lack of knowledge sharing, and lack of follow up amongst public sector institutions themselves as well as between them and the e-government management office at MoICT as main factors that cause isolation amongst public sector institutions.

Various employees claimed that lack of coordination amongst public sector entities is creating a significant overlap between institutions and causing many of the projects to be repetitive. They expressed their wish that they could benefit from each others’ experiences. As one employee clarified:

“We need coordination between ministries so we don’t waste time working on projects which have been already completed by others. We don’t want to repeat what others have already achieved. We should utilize their successful experiences and take it in consideration in our planning and focus on other projects. If we do that we can save a lot of time and effort”

Other employees complained about the communication process between their departments and the e-government department at MoICT. They illustrated that officials at the e-government department choose to implement certain projects that relate to e-government without coordinating with the involved institutions which interferes with other projects that are already being worked on at these institutions.
As asserted by a large number of interviewees, there is also a communication problem with MoICT which causes them to lose time and money by holding training workshops which very few employees attend. One employee said:

“MoICT don’t communicate with us properly. In many occasions, they fail to send invitation letters about the training workshops they offer, so our employees end up missing out on the opportunity to attend”

Another problem in regard to communication was highlighted by a number of employees who stressed their frustration trying to reach officials working at the e-government management office at MoICT. One interviewee stated:

“I ask the e-government team at MoICT to answer their telephones; because we suffer a lot trying to talk to them. Sometimes, there are some issues that are possible to be solved and handled over the phone, and don’t need official correspondences and routine procedures which take long time”

Other participant burst out laughing and commented:

“Due to the ineffectiveness, weak communication and lack of continuity by the e-government team; there are some silly comments made about them. They call them cartoon government instead of electronic government”

Additionally, an employee criticised the way institutions still communicate amongst themselves and explained that even though currently all employees at the public sector have email addresses, the preferred method of communication is via paper correspondences. He said:

“We claim that we are introducing e-government. Why are we still using paper correspondences then?”

On the other hand, several interviewees revealed how lack of knowledge sharing amongst governmental agencies is also causing delays to the e-government project. They gave two different reasons of why governmental entities prefer to isolate themselves and conceal information from each other. First, they fear losing power as they believe that who has the information has more control. Second, they fear providing wrong information which might jeopardize and compromise their reputations. An employee said:
“We have wasted so much time and effort due to the lack of knowledge sharing amongst governmental entities. MoICT could have saved us so much energy by sharing with us the experiences of other institutions”

Another participant commented:

“Each entity thinks it is a separate kingdom and refuses to share data. I don’t know how are we going to reach automation if they continue to have that kind of mentality”

An interviewee outlined that even when entities are willing to share information, they tend not to provide all information required because it may be perceived by them as private or confidential.

This finding has been identified in the previous literature by Seifert and McLoughlin (2007) who state that lack of coordination or communication between governmental institutions is creating what is called ‘islands of automation’ within and amongst various levels of government.

Likewise Ndou (2004) believe that cooperation and collaboration at all levels in government is not realized and that governments exhibit great resistance to transparent and open systems because they try to preserve their power and authority.

Moreover, various participants showed concern in regard to the MoICT not following up with them. They claimed that officials at the MoICT initially contact them to setup meetings with the aim of discussing various plans and steps that should be taken to implement projects related to e-government. After the concerned institution meets with the MoICT, they put a plan of action in place and allocate the necessary budgets as well as the human resources needed to work on that project. Unfortunately after spending so much time, efforts and resources they find out that no follow up is done by the MoICT and that they were left alone without the support and guidance they were promised. As one interviewee indicated:

“MoICT don’t follow up on our progress. They don’t even care about getting a feedback from us to see if we are heading in the right direction or not”

The MoICT, on the other hand, claimed that other institutions are the ones to be blamed for lack of communication and that the communication process is one way only. They also mentioned that when institutions do communicate with them it is too late anyway
and that they refuse to modify their organizational structure, the MoICT end up having to convince them to do so.

The researcher believes that the lack of follow up obstacle is the responsibility of the project management stream in the e-government management office at MoICT because this stream is the one that is responsible for monitoring the progress of e-government projects at all institutions and following up on their implementation.

5.4.7 Administrative

Administrative obstacles have been addressed amongst the barriers that affect the progress of the Jordanian e-government initiative. Findings discovered from the empirical study are discussed below.

5.4.7.1 Lack of Gradual Change

Bureaucracy is found in all government systems in both developed and developing countries but on a different level or scale. Unlike developed countries which started their e-government programmes from efficient bureaucratic systems, Jordan as a developing country has begun the transformation towards e-government from an inefficient, obsolete and complicated bureaucratic system which already has various administrative, technological, organizational and other challenges that should be reformed first in order to have an effective e-government programme. Hill (2004) emphasizes the vitality of reforming the current bureaucratic system before implementing e-government.

Several interviewees stressed the importance of reforming the existing system before going online. They believed that e-government does not mean transforming the current traditional inefficient practices into electronic format, rather it means utilizing technologies to achieve reform. They also emphasized the fact that placing incompatible processes online neither simplifies nor decreases the workload for employees. They insisted that e-government entails a complete overhaul of the current obsolete system. Additionally, they affirmed that e-government leaders have to work on improving and restructuring the current model of bureaucracy before they jump to implement e-government. This can be done by setting the appropriate plans and strategies to remodel and reorganize the existing obsolete processes and procedures.
Some employees thought that automating current processes and procedures will facilitate the transformation process towards e-government. As one participant noted:

“Before MoICT ask us to jump to e-government, they should assist us in automating the current traditional system we have. We cannot simply move forward and change the current complex system to e-government prior going through the transformation period of automation”

It is true that computerization and automation of work processes are important aspects to achieve reform, but they are not sufficient, as reengineering the work processes is a pre-requisite for automation. “A classical adage of the IT business perfectly expresses this need: ‘If you automate a mess, you get an automated mess.’” (Meijer and Zouridis 2004, p.3). Therefore, e-government does not simply involve giving government employees computers or computerizing the current processes. E-government aims at eliminating inefficiencies, not automating them (Lanvin 2002). This point has been acknowledged by one participant, when he commented:

“Computerization alone will not make things get better; the manual routine should be eliminated before the process of computerization”

Many participants explained that many steps should take place before implementing e-government such as building the appropriate infrastructure, preparing employees for the change, changing the way current tasks are performed, and eliminating overlap between different institutions. This harmonizes with Ebrahim and Irani (2005, p. 601) who firmly believe that “technology itself would not guarantee success with e-government but, it is necessary that any e-government initiative must ensure that it has sufficient resources, adequate infrastructure, management support, capable IT staff, and effective IT training and support.” One employee exemplified:

“Issuing of passports by the Civil Status Department used to be done manually but now it is fully automated and they are ready to provide e-services. It really helped them that all their employees are trained on computers and deals with technology daily to accept the idea of providing e-services and carry them out as well. So they are ready for e-government and in my opinion their institution will succeed 100%”

A variety of interviewees suggested that the MoICT should make sure that the services, processes and transactions are effective in the traditional way then they should think of automating them and implementing e-government. They added that technology might
increase the problems not solve them if the services which are provided in the traditional way already have problems. As one participant declared:

“E-government is not a magical tool. MoICT needs to work hard on re-engineering current processes before they launch them online. The implementation process needs to be carried out step by step”

Other participant regretted the time which was wasted during the preparation period without utilizing it wisely, when he said:

“One of the challenges is taking uncalculated big jumps from the bottom to the top. This jump we took was not done right. We should have benefited from the time while we were setting up the infrastructure. We should have developed a transition period”

Carbo and Williams (2004) confirm what has been said by the interviewees and state that there should be a genuine attempt to re-engineer the work processes within governmental institutions, not just shuffling them.

MoICT claimed that they do try to re-engineer the work processes on their end but problems arise when an employee from other institution forgets one of the steps or something essential in the process. Example of that is an employee not offering complete information about the requirements of the system such as concealing a piece of information, intentionally or unintentionally, which would have a big impact on the re-engineering process. This happens often and it causes a big challenge to the MoICT especially as many of the government employees are careless and do not care about progress and they rarely get reprimanded or fired.

Additionally, employees at public sector institutions complained that the e-government team at MoICT are rushing things and rapidly jumping to implement e-government without paying adequate attention to the details involved in re-engineering the work processes or achieving the automation phase.

Some employees justified the MoICT hastiness to the fact that they just want to show off. Others said that the MoICT lacks setting the rational goals and appropriate approaches which cause them to confuse things together, while others blamed them for being overambitious. As one participant said:

“When the e-government project started in 2001, MoICT claimed that within a year everything will be finished. There was no infrastructure. How could they finish within a
year? They were very enthusiastic more than they should have, so of course they failed. If Tony Blair stated that the e-government project in the United Kingdom needs 6 years to be done, how come we say that we need one year. It’s unrealistic of course"

Many participants believed that the implementation process of e-government should be gradual. The followings are some of their quotes:

“The e-government programme aspirations are big, but they should be gradually implemented so that the citizens will accept them and not get scared off. Take a look at Europe and Dubai experiences”

“The development itself is a long process, so change will succeed if it happens slowly and gradually, because it will create lots of problems if it happens at once”

This is in agreement with Lee (2010) who is of the firm opinion that failure of most e-government projects in developing countries is due to the rapid implementation that takes place without sufficient preparation and testing.

E-government leaders need to understand that transformation towards e-government should be done gradually and should not be forced upon employees, citizens, government departments, or businesses. All stakeholders have to be ready to allow for a smooth transformation.

The next section will provide some reflections on the findings of the empirical study.

5.5 Reflections on Research Findings

The researcher would like to share some further reflections in reference to her experience in the field work, the interviews she conducted, and the study findings.

- It should be initially mentioned that the researcher took the opportunity of the vacation she spent in Jordan in June 2010 to informally meet with some of the officials working at the e-government management office at MoICT. She also called some of the employees at other institutions who have been already interviewed during the field work which was conducted in 2008 to inquire if things are the same or they have changed. The purpose of doing so was to check on the status of the e-government and see if things are any different since the interviews were conducted in mid 2008. Officials at MoICT told the researcher that there had been a progress in the e-government programme and some of the
previously discussed barriers such as lack of ownership, change resistance, lack of e-trust, and isolation amongst entities have been deeply reduced in the 20 champions, but they are facing them with the other new entities and institutions that are linked to the portal. They also added that there are more successful experiences in e-government projects that are encouraging other institutions to get on board and to increase their trust in e-government. Additionally, other barriers such as turnover, variation of public sector infrastructure, lack of authority to enforce decisions, as well as security and privacy concerns are still there. On the other hand, officials at public sector institutions declared that they have noticed some progress in regard to the training courses provided by the MoICT. They are offered more frequently and the gap between them is less but some are still repetitive and a few are still given in English. They also said that the MoICT are still preaching and rushing them in some areas. Additionally, they still suffer from high turnover, continuous change in employees, managers and ministers; the MoICT is exerting more efforts to follow up with institutions but still fail to do so in many instances.

- Interacting with the public sector employees made the researcher feel as if she is dealing with two parties; officials of e-government management office at MoICT and all other institutions. Each one of them blamed the other directly. There must be some justifications for the accusations by governmental employees to the MoICT officials and vice versa. However, the researcher believes that these misunderstandings are caused by weakness in the communication channels and once recognized and sorted out things will run much smoother.

- The researcher noticed that officials at the MoICT seem to be very loyal and dedicated to the initiative as they perceive it a national programme that will serve all Jordanians including generations to come, that is why many of them hold on to their jobs regardless of the many lucrative offers they get from the private sector and the neighbouring countries. Additionally, on many occasions, when outsourcing certain stages of the project become necessary and allocated budget is set aside for it, the MoICT officials take it upon themselves to work
extra hours, without being paid, just to avoid incurring other expenses to the programme.

- Findings of this research are based on the perceptions of the supply side stakeholders of drivers and barriers to the development of the Jordanian e-government initiative. It is a well known fact that people usually have different opinions and they may agree or disagree on the same thing. So, they might agree or disagree on the severity of drivers and barriers that motivate or delay the progress of the e-government initiative. It all depends on their perceptions and the way they measure success or failure or measure drivers and barriers.

- Most of the study findings confirmed previous studies about drivers and barriers to e-government initiatives around the world. However, this study added some new and unique findings that were not discovered in previous literature: (1) Drivers Unique Finding(s): The Holy Month of Ramadan. (2) Barriers Unique Finding(s): Ministers Reshuffling, Religious Beliefs, Preach Without Practicing, Wasta, Improper Use of Technology. These new findings emerged distinctively from the Jordanian, Arabic and Islamic Contexts.

- The researcher believes that the issue of identifying the key forces that affect the development of e-government is more complicated than just having a list of drivers and barriers, as neither drivers nor barriers are static forces. E-government is a continuous process which requires a constant update. This means that what might be perceived as a driver at a particular phase could be a barrier at a different stage, and vice versa. Therefore, the drivers and barriers continue to change according to the participant view, the interpretation of the researcher, the resources they had at that particular time as well as the environment when participants were approached. It also means that drivers and barriers differ in each stage of development. There are some existing drivers if not appraised and activated could easily become barriers such as the e-government management office although it exists but it lacks the proper authority which defeats the purpose of establishing it.

- Drivers and barriers to e-government development intertwine just like tree branches. The point is that all elements are integrated with each other and rely on one another, so a lack of one of them leads to lack of others and thus to
slowness or failure for e-government programme. Therefore all forces must be looked at and examined together as a group not just separately by the people in charge of the e-government programme in order to understand the interdependent nature and connections of these factors; as finding a solution to one core problem will lead to solving other associated problems as well. For example, solving the income issue would resolve change resistance, ownership, and turnover problems.

- Some of the things noticed by the researcher included the official website for the Jordanian e-government. Although it is meant for the citizens whose native tongue is Arabic once clicking on the website it opens up in the English language. Additionally, the website design is a bit complicated and in many instances it opens blank pages and might even take the visitor to information that was not requested and it keeps asking for more buttons to be clicked. Also the website is just an informative one and not all entities have active website addresses. Additionally, even though the portal itself is in both languages English and Arabic many of the other institutions’ websites are only in Arabic. The researcher suggests that websites should be provided in both Arabic and English languages. Also no effort was made to make the website accessible to people with special needs or with disabilities. Moreover, the English version of some of the websites which were reviewed is totally different than the Arabic version in regard to their content as there are more details in Arabic. In summary the websites viewed by the researcher were unfriendly, poorly designed with many broken links, and lack the basic features that other reputable government websites usually have.

The next section will propose some recommendations to overcome the aforementioned barriers, based on the interviewees’ suggestions.

### 5.6 Recommendations and Strategies

A key question that rises from this study is how e-government leaders in Jordan can utilize the findings of this study to increase the chance of a successful implementation of the initiative and reduce the possibility of the initiative failing?
First and foremost, they need to be aware that drivers do not necessarily lead to the success of the e-government initiative nor would barriers immediately lead to the failure of the initiative. It all depends on the way they cope with these forces.

The researcher argues that the best way to make the most out of these drivers or barriers is to look at them as opportunities that needed to be dealt with. If leaders are able to handle these opportunities properly then they are considered as strength forces that lead to e-government success, whereas if they are unable to handle them properly, they are considered as weakness forces that lead to e-government failure. Therefore, recognition of potential drivers and barriers represents a massive opportunity that should not be missed by Jordanian e-government leaders. They can increase the chance of a successful implementation of the initiative by working on sustaining, enhancing, and improving the identified drivers. They also can reduce the possibility of the initiative failing by trying hard to search for logical solutions to overcome or decrease the identified barriers.

The above discussion provides a general strategy to e-government leaders on how to deal with and manage the potential drivers and barriers in order to reduce the possibility of the initiative failing and enhance the chance of its success.

However, the following subsections will discuss the primary recommendations that emerged from the analysis of the empirical data as well as other recommendations and strategies that are proposed by the researcher, in order to answer the third and final research question for this study.

It is worth mentioning that most of these recommendations and strategies can be used to tackle more than one barrier.

5.6.1 Update and Reinforce Planning Strategies

Poor project planning seems to be one of the focal points that negatively affects the development of the e-government initiative in Jordan. Thus, the e-government management office should revisit and update their plan constantly to keep it effective.

Analysis of the data collected during the interviews has led the researcher to realize that there is an insufficient planning for the implementation of the e-government project in
Jordan. The implementation process is characterized with poor strategies, inappropriate approaches, unrealistic time frames, irrational goals, and lack of reliable decisions. Most interviewees mentioned that the MoICT officials have defects in their planning strategies. Many of them complained that the MoICT plans are rigid, obsolete, and do not evolve with the development of the e-government project.

As a matter of fact, various indicators demonstrate this issue. For example, when the researcher approached participants in mid 2008, they claimed that a new strategy was set to cover the period 2006-2011 which included 116 institutions to be linked to the portal. In mid 2008 they were able to have on board only 20 champions out of 116 which is way less than what they expected. So this is obviously an unrealistic goal. The researcher believes that they rush into committing themselves to accomplishing goals that are beyond reach with the resources at hand. The MoICT must acknowledge that better planning is essential and that learning from own mistakes is actually very beneficial.

Additionally, they rush into signing agreements with banks to accept payments online, invest in big contracts with software companies, purchase computers and software licenses which will expire after a certain period of time without benefiting from them. They also send employees for theoretical training workshops for things that they will not be able to work on or implement at work anytime soon and employees might forget what they have learned for lack of using the new knowledge that they have obtained. All of these things are costing them lots of money that they do not need to waste.

In addition, although training courses are provided, but many problems are noticeable with them such as cancellations or postponing without prior notice as well as repetitiveness in the nature of materials given.

A famous proverb says “If you fail to plan, you plan to fail”. Hence, the MoICT officials need to carefully rethink and reinforce their planning strategies to ensure a successful implementation of the initiative. They can do that by setting a new long term gradual plan, combined with well defined strategies, clear identification of roles and requirements as well as clear and rational objectives and of course a realistic timeframe in order to successfully achieve the objectives of the initiative.
5.6.2 Reinforce Institutionalism

Institutionalism encourages the reform, increases transparency, reduces corruption and Wasta, as well as dispenses power amongst employees equally. Institutionalism means despite the continuous change in leadership or management, tasks will be achieved according to the overall plan. It also means, despite the turnover of a certain employee, the project will continue to be performed as expected without any delays, which will enhance communication and reduce wasting efforts needlessly. Additionally, institutionalism prevents employees from having full control over certain tasks and it also allows protects against unreasonable and ill advised decisions. It forces employees to be accountable and transparent. Ultimately institutionalism means that no one is above the law and each one is responsible for his/her actions. The researcher recommends several ways to achieve institutionalism. These are:

- Set clear regulations and requirements for all government services as well as for all employees’ promotions and appointments in the government. This will help in uncovering and exposing corrupted or power hungry employees at all levels and prevent them from using their power in the wrong way. Clear regulations and requirements will eliminate confusion amongst citizens and will accelerate reengineering the work processes. It also helps in reducing the red tape and makes things run more efficiently which eventually could increase public sector reform. When requirements are clear the decision making process will be facilitated in a way that decreases Wasta and corruption.
- Ask employees to document everything they do so anyone can track the workflow processes and understand clearly who does what.
- Consequences for breaching the organization’s rules must be clear and swift. This will make employees think twice before committing anything that will break the set rules.
- Decentralize the decision making process at all levels in the government. This will simplify and accelerate the development process because problems that occur sometimes will require quick and immediate decisions that cannot be postponed until the person who is entitled to make these decisions becomes available. It will also eliminate subjective actions by those who have the authority to employ Wasta.
Training workshops should not be strictly provided by the MoICT. All institutions should allocate part of their budgets to cover their own employees’ training expenses. In addition, Jordanian universities and NGOs should take part in supporting training workshops of government employees.

The MoICT should designate an organizing body that oversees the progress of all institutions in terms of their technological and human infrastructure. This body should direct e-government development in Jordan, evaluate its progress as well as set specifications and designate time frames for achieving the desired outcomes in order for all institutions to advance equally and simultaneously to the next phase. This body should focus on setting unified standards that all institutions should apply in order to bridge the variation gap amongst institutions. The new body in charge should also facilitate communication and coordination amongst entities to decrease the issue of isolation. It should also monitor the projects being implemented in order to have an exact knowledge of the projects that have been completed which will help in avoiding repetition of same projects. Additionally, this body should stand in the way of and prevent any personal agendas and encourage all employees at all levels to concentrate on the institutional agendas only.

Ministers need to understand that their role is not to come up with new plans or ways to carry out the needed changes; rather their role is to implement the plans which are set for the institutions in order to achieve the overall objectives. The interest of the public at large has to supersede self interest. This could be done by conducting awareness campaigns which educate and promote the new culture. Ministers also need to understand that even if the results did not materialize during their term in office, eventually the results will emerge and benefit future generations.

Regular meetings for employees should become the norm in order to share and benefit from each other experiences. This will motivate collaboration amongst all institutions so they can learn from successful experiences and avoid repetition of the same projects. Also, it will allow employees from different institutions to get to know each other which will assist them in building up and creating trust that could be beneficial to their institutions by exchanging ideas on
5.6.3 Ensure you Have the Right Competences

Having the right competences is vital for the progress of the e-government initiative. It assists in reducing employees’ change resistance, overcoming the turnover problem, encourages and motivates employees to buy-in the new system, and decreases the lack of trust in e-government. Therefore, the researcher suggests many solutions as follows:

- The design of the training courses should not be done randomly; rather it should be done based on the needs of the employees. Employees should be involved in deciding their training needs. MoICT officials should carry out a pre-assessment analysis to investigate employees’ preferences. This can be done by distributing a form to the employees on a regular basis and based on their answers, training materials should be prepared. Another strategy they can follow is to design an exam that assesses the employees’ IT skills, and based on the exam results, they can provide employees with customized training courses. Doing so will increase governmental employees’ retention because they will be able to develop their skills. This will serve as motivation and incentive which encourage employees to stay at their jobs rather than keep looking for other jobs and opportunities that can develop or enhance their skills. Training materials also should not be restricted to IT literacy; rather it should be diverse to include educating employees about the vitality of privacy, communication skills, and security issues.
- Training courses should be obligatory to make sure all required employees do attend and do not claim they are busy to avoid attendance, whatever their reasons might be.
- ICDL should be obligatory upon all current government employees or to add this requirement for all new employees who will be appointed in the government. In the long run, this will ensure that all employees have the adequate computer skills required to use the new system and will eventually eliminate resistance to change.
- Have strict rules with regard to employee’s wishing to quit without legitimate reasons especially if the government has invested heavily in developing their skills. This could be done through making all employees aware of the new policies which carries financial penalties and by having all of them sign a document renewing their commitment.

- Invest in the employees. Institutions understand the need to allocate the right funds to invest in purchasing the latest software, applications, and make the necessary agreements. However, they do not understand the value of investing in their employees. Institutions need to allocate funds to maintain the human resources that they currently have. Budgets need to be allocated wisely and part of it should be put aside to be used towards employees’ financial incentives and advanced training courses and conferences. Employees need to feel that their skills are being improved continuously and that they are able to acquire the needed knowledge. They also need to feel that their exceptional efforts are being recognized and appreciated. If institutions acquire the best technological infrastructure ever but neglect to focus on improving and maintaining their valuable human infrastructure, the e-government project will never succeed because high turnover will keep hurting the project and change resistance will never disappear or decrease.

- Financial budget for the programme as mentioned before is just sufficient but does not allow them to explore alternatives so the e-government team need to seek the contribution of the private sector and the NGOs to donate some equipment and assist in training.

5.6.4 Improve Organizational Culture

Various obstacles emerge due to change resistance and high level of turnover amongst employees who work on the e-government projects throughout public sector institutions. These include lack of qualified personnel, discontinuity of projects, delays in the workflow, and financial loss. Providing a proper working environment by the MoICT will encourage employees loyalty and will create a sense of attachment to the workplace. It will also discourage employees from leaving or looking for other jobs just to feel that they belong. The appropriate organizational culture would definitely
decrease the level of turnover as well as resistance to change. The MoICT needs to give employees the appropriate time, skills, resources, and incentives to accept the transformation. This can be done through applying the following suggestions:

- Change employees’ mindsets, negative beliefs, and attitudes by marketing the benefits of the e-government system to them. MoICT officials need to enhance employees trust in e-government by making them aware of the advantages of the new system and by emphasizing that this new system can reduce the work overload they currently experience. If the employees feel that there are some benefits for them in the system, they will adopt it.

- MoICT should plan social gatherings for governmental employees through arranging to take them on trips and launch parties which include some games and prizes in addition to short meeting about previous and current work activities that are considered important to both the employees and the e-government project. Employees should know exactly “how e-government can benefit them”, and “why they are implementing the new e-government system”.

- MoICT should create the right conditions in order to encourage all institutions and employees to put e-government into practice. For example, they should offer awards to employees and institutions who put efforts into adapting the e-government system in order to motivate others to do the same. Also, financial incentives should be considered for qualified employees who show exemplary work and assist in advancing and implementing the e-government project; they should be recognized and rewarded in a way that will motivate others to follow them.

- The overall interest of the institution is more important than keeping employees who resist the change and reject the new system; so MoICT could promote the following suggestions and policy: A slogan which emphasizes the importance of team work such as “if you are not part of the team, you do not belong here” and for those employees that have been working with the government for a long period of time and who happen to have a negative perceptions about new technologies or innovations and they are unwilling to be part of the team, they have a choice of an early retirement with financial package to entice them to
leave. This would ensure that anti-change and anti-e-government employees will not influence other employees’ attitudes negatively.

- A decision from the highest level of authority is required in order to truly increase the salaries of governmental employees. Paying a little more for qualified employees (i.e. increase their salaries) is certainly a smart investment for the Jordanian government on the long run. E-government leaders and high level of authorities need to understand the tremendous saving opportunities that could be gained from retaining some of the competent and skilful employees.

- Top management officials who take calculated risks should be encouraged and rewarded rather than being accused or punished.

- Invest in the managers and ensure the right leadership is in. The researcher noticed that some of the leaders of the e-government units at different institutions lack having the commitment and support to the e-government initiative. They have just been appointed because they either are good at IT or maybe because of Wasta. They also lack ownership because they are overwhelmed with projects in their institutions as well as e-government projects without any increase in their salaries. So, the MoICT needs to find a way to increase the salaries of those particular individuals or to hire dedicated individuals to work at those units. Moreover, leaders do affect their subordinates; so extraordinary leaders will be able to push employees towards success. Leaders need to be trained on how to manage people. They need to set good examples for their subordinates. MoICT officials need to focus on investing in e-government projects leaders in all institutions to ensure that these leaders do communicate the right messages and feelings about the new change to guarantee employees’ commitment to the change. Leaders role are vital in decreasing resistance to change by employees. This could positively affect the whole organizational culture. Also, special training and communication courses should be given to leaders in order to market the e-government project effectively to employees and subordinates. Once leaders become loyal, committed and have the appropriate communication skills, they will be more able to persuade other employees of the value of e-government because leaders do ‘lead by example’.
The government is incapable of paying its employees high salaries but it provides them with job security which they may or may not get from the private sector. However, to improve the working conditions or increase employees’ salaries, the government should seek the support of regional and international donors in order to enable them to offer more training and provide a better environment for employees to stay.

5.6.5 Apply an Enforcement Approach

All decisions related to the implementation and progress of the e-government project in Jordan should be enforced upon all entities involved rather than being recommendations only. This can be done through following the below recommendations:

- Coordinating between the MoICT and one of the highest authorities in Jordan (i.e. the prime minister). The MoICT proposals and decisions should be directed to prime minister himself because he holds the highest power in the government and therefore could use his authority to ask his cabinet members to enforce these recommendations at their ministries and institutions. It is very essential that leadership from other institutions in the public sector is supportive of decisions made by the MoICT, so their employees will have no other choice but to implement the changes requested and move towards e-government.

- Activate the role of the steering committee, as it is the ultimate guiding authority that can steer all institutions to stay on track in regard to the implementation of the e-government programme on the national level.

5.6.6 Employ Appropriate Marketing Techniques

Many employees admitted that the usage of the provided e-services was very low. The MoICT must understand that most stakeholders will not automatically use the e-government system or services once they are available. That is why they need to exert great effort in marketing the e-government concept for all stakeholders. They can rely on both traditional and online media such as radio, television, brochures inside government departments, SMS, website...etc. Employing the appropriate marketing and awareness practices is important to communicate their vision of change and persuade stakeholders to get involved and accept this new innovation. It will also help
stakeholders to realize the complete characteristics of the e-government and understand that the e-government project is an investment not an expense. Once stakeholders are aware of this fact, their commitment level and involvement will increase.

However, MoICT should bear in mind that different stakeholders have different preferences, attitudes, and concerns; hence various methods, strategies, and solutions are needed as what might work with a particular segment of stakeholders might not work with the other.

Additionally, they need to clarify the wrong conceptions people have about the Internet and new technologies, as it is not enough to make stakeholders aware of the available services, but they need to be convinced to use them. MoICT need to educate stakeholders and explain to them the various benefits that can be generated from the internet and erase some cultural or religious misconceptions a number of people have about internet and new technologies. They also need to promote that technology should not be improperly used. It can be used to save time and effort, for research purposes, and other good things. This means that their awareness campaigns should be continuous and offered to the right people in the right time and place.

They should also start with children at an early age while they are still attending computer courses at schools; this will help the new generation growing up to have the right perceptions of how to interact and benefit from technology not to abuse it. Because if people are ignorant of something they could end up abusing it without intention but if they understand how to use it properly and realize its benefits, they would enjoy it in the right way that was intended. People need to be aware that technologies are there to benefit societies and not to be utilized in a wrong way. If they reach this level of awareness, they will have the needed power for governance and regular citizens will have their say in the political system and in other concerning public affairs (Eickelman 2002; Wheeler 2006). An example of taking advantages of the new technologies is what happened recently in Tunisia and Egypt, and how youth groups have utilized the social networks (facebook, twitters) and the internet to liberate themselves from tyrants’ rulers they had for decades.
Another thing they could also do is utilize the universities and public libraries to teach and train other segments of the society to benefit from technological tools and use them to their advantages. Furthermore, the government needs to launch other initiatives parallel to the e-government project and advertise them so citizens could feel and see that the country is aware of all their needs and not only implement complimentary projects as seen by some. For instance, they can launch other projects such as paving roads, building schools or power plants to generate electricity and link all of these to the e-government project. They can communicate the message to the citizens that they are in the process of implementing e-government which needs a particular infrastructure. Doing so would make citizens appreciate e-government more because they will feel that it is benefiting them in their daily lives.

5.6.7 Stop Preaching

MoICT officials have been blamed for preaching without practicing. This has ruined their reputation as they have been accused of lacking credibility and that they defeat the purposes of many of the things they do such as establishing the e-government units, the e-government steering committee, as well as the SGN. There are no benefits in having great things or ideas on paper only, these units and committee need to be active and effective. SGN should link other departments not only the headquarters. It is not enough and unacceptable to think that having e-government units means that all communication issues are solved, doing so means that they are not serious about overcoming this issue and that they are only showing off.

MoICT is losing the trust of many employees as it continues to break promises. Furthermore, it has been noticed that there are major delays in providing promised services despite the promotional campaigns that appear in the media. Starting the advertisements or promotions too early before services are ready is just as bad as not starting it at all as it leads to distrust and frustration of the citizens. The right message needs to be communicated properly with citizens without deceiving them and without any hidden agendas in order to maintain credibility and gain their trust.
5.6.8 Solve Corruption and Wasta

The researcher provides many suggestions to overcome Wasta and corruption barriers. These are:

- Establishment of an anti-corruption department with an active website and phone numbers dedicated for both employees and citizens to report any suspicious activities as to where and how corruption happened. All received comments must be taken seriously and investigated within a reasonable timeframe; feedback of the investigations’ outcome must be shared with the concerned individuals as well as being published internally and externally in order to motivate everyone to fight corruption or stay away from it.

- Transparency and accountability must start at the top, so high level of authority in the government should exert great efforts to develop policies that lead to transparency and accountability, officials should set good examples for other employees to follow.

- Tenders and agreements with partners must be unbiased. They also should not be under the control of one individual; rather they should be controlled by a committee that is able to modify them if needed.

5.6.9 Provide Alternative Communication Channels

The two well known facts about the high percentage usage of mobiles and the high cost of internet connection in Jordan should lead the government to consider utilizing mobiles to market and provide the new e-services. They should offer citizens the chance to subscribe to specific services and information in order to stay up to date and informed in regard to the new changes and developments about e-government.

Also government should play an active role in decreasing the prices for the internet connection fees. All internet connection providers are from the private sector; government could either reduce taxes on internet connections services or launch an initiative to establish an internet provider supported by the government which offers subsidized connection fees that would ultimately lead and force other private companies to decrease their fees for the services they provide.
Moreover, the fact that citizens do not have equal access to computers and the internet means that the government should work on finding a solution to this issue such as make use of public universities and libraries and utilize them as access points to the internet for all citizens, and ensure that trainers are available for those who need help. All of the previously mentioned suggestions will help overcome the digital divide gap and the high cost of computers and internet connection fees which both have been identified as barriers to e-government development in Jordan.

5.6.10 Open Communication Channels

Employees at institutions claimed that they rarely understand how MoICT decisions are made. This lack of transparency stops them from positively participating in the e-government initiative. Therefore, e-government team at the MoICT should engage other employees working at all other departments in the decision making and the implementation process of the e-government initiative. Employees are important sources for suggestions on how to improve the institution and increase performance as they can provide great ideas that can be used to enhance and develop the work. Employees’ opinions and feedback are great opportunity for the MoICT to identify certain challenges and try to avoid, overcome or even solve them.

This can be done by holding regular meetings with affected employees from all other departments to listen and document their problems and concerns and take them into consideration and work on solving them by making the necessary changes and modifications. Making employees feel that they are active participants in the reform is extremely important for the success of any project in the private or public sector. Employees who directly work on the implementation of a project are best suited to give suggestions than others because they would give genuine opinions and perceptions of what is really happening. Doing so will also ensure employees’ commitment to the government because it makes them feel that they are a big part of the new change rather than feeling helpless and that the change is forced upon them.

Moreover, communication channels should be open with academics in Jordan in order to get them involved in finding solutions by preparing workshops with responsible officials that would combat the barriers that are negatively affecting the progress of the
Jordanian e-government implementation. Academics’ involvement means a continuous research, data gathering and assessment which are vital to this great national project.

5.6.11 Increase E-Trust

Various procedures can be implemented to increase security measures and encourage stakeholders to trust and use the e-government system. These are:

- Create an external separate entity that is responsible for providing the right security measures for all institutions and this entity to be accountable for any threats that occur.
- E-government leaders should develop a manual and online backup plans in case of any failure.
- Create unified database that facilitates the search process across all institutions. Citizens will feel that all institutions are aware of important information and that they are all on the same page.
- Convince citizens to use the online services. This can be done by allowing them to conduct the whole transaction online and when they reach toward the end which is the payment stage they could stop the transaction and continue it by physically stopping by one of the banks and pay it in person to ensure security. Also they can add a clear statement in the privacy policy on the main website of the e-government which ensures all users that the government will be responsible and accountable in case of any security issues. This will motivate as well as put citizens at ease to try and use the online services.
- Perform frequent assessments and tests to ensure that security measures are being implemented.
- Ensuring successful offline or traditional experiences is not enough; officials in charge of implementing e-government must make sure that citizens’ first online experience is a successful one as well because the first impression is very important and usually lasts a long time.
- Since all institutions are connected to the same portal, a single sign on (user name and password) is possible and could be given to each citizen to access various services offered by different institutions on the portal.
5.7 Summary

This chapter examined the research findings. It started by proposing the final model based on the findings from the empirical work in Jordan. It proceeded to discuss the major key forces (drivers and barriers) that affect the development of the e-government initiative in Jordan. Based upon the proposed conceptual framework, seven major categories were identified for drivers; Political, Economical, Socio-Cultural, Legislative and Regulatory, Environmental, Organizational, and Administrative. Seven major categories were identified for barriers as well; Political, Economical, Socio-Cultural, Technological, Legislative and Regulatory, Organizational, and Administrative. It also provided some concluding remarks and further discussion of research findings. Finally, it offered some recommendations and strategies to manage and overcome major challenges identified. The next chapter presents the conclusion for this research.
6) Chapter Six, Conclusions

6.1 Review of Research Process

E-government throughout the world has been recognized as a powerful tool that can add a competitive advantage to the government agenda. Although e-government has the potential to improve the public sector performance and enhance the quality of public service delivery, there are still many obstacles and challenges that are impeding the development of e-government initiatives especially in developing countries.

Therefore, the principal aim of this research, as illustrated in chapter one, was to investigate the key drivers and barriers that stimulate or impede the development of the e-government initiative within the context of a developing country (Jordan), and recommend strategies to e-government leaders on how to overcome and manage the encountered forces. To achieve this aim, the researcher focussed on answering three main questions:

- What are the key drivers that support the implementation of e-government initiative in Jordan?
- What are the key barriers that hinder the progress of e-government initiative in Jordan?
- How do e-government leaders in Jordan attempt to overcome the encountered barriers?

In chapter two, the researcher reviewed the existing literature to enhance the awareness of the development of e-government and understand the major characteristics of e-government. This included an overview of the transformation process in the public sector towards e-government, definitions of e-government, classifications of stakeholders and stage models. Additionally, she examined other relevant literature to distinguish between e-government and other IS concepts. This included recognizing the similarities and differences between e-government and e-commerce, as well as the correlation between e-government, information technology and information systems.
The researcher then proceeded to analyze a large number of studies in both developed and developing countries about the drivers and barriers to e-government development. Two major outcomes derived from this analysis. The first was producing two comprehensive lists of the key drivers and barriers affecting the development of e-government. The second was identifying eight core categories of e-government drivers and barriers as follows: political, economical, socio-cultural, technological, legislative and regulatory, environmental, organizational, and administrative.

The following step reviewed relevant conceptual frameworks in the e-government literature in order to propose a suitable framework that assists in investigating the drivers and barriers that affect the development of e-government in Jordan. The analysis of this part of the literature revealed that there is a lack of a comprehensive framework of drivers and barriers to e-government and that many of the existing frameworks failed to present the impact of drivers and barriers for the success or failure of e-government initiatives.

As a result, the researcher developed a new conceptual framework which was used as a helpful guide in the process of data collection and analysis for this study. The proposed conceptual framework was synthesized from the previous e-government literature to investigate key drivers and barriers that affect the development of e-government in Jordan and their correlation to the initiative success or failure.

The three main components of the framework are: Upper (Stage Model), Lower (Action Plan for a Successful Implementation of E-Government Projects), and Core (Key Forces: Drivers and Barriers). (see chapter two section eleven; 2.11).

Finally, the researcher proposed an overall view of the research context (Jordan). This included background to Jordan’s history, political system, economy, resources, culture, ICT environment, and its e-government programme.

Chapter three comprised two main parts; the first discussed the philosophical paradigms within the field of information systems and looked at various research approaches, methods and different sources for collecting data. The second part proposed the research methodology used for this study along with justifications for the chosen methodology. It gave reasons for the choice of an interpretive paradigm over positivist and critical
paradigms. It also justified the selection of qualitative approach over the quantitative approach. It explained the motivations behind the selection of the case study method over other qualitative research methods (action research, ethnography, and grounded theory). All data sources chosen to be carried out in this research (interviews, documents and field notes) were also discussed, together with explanations for such choices. The following discussion is to briefly illustrate the chosen methodology for this research.

This research was conducted to gain an in-depth understanding of the e-government phenomenon by discovering the subjective meanings that participants assign to it (Orlikowski and Baroudi 1991; Easterby-Smith et al 2002), therefore it followed the qualitative approach which is grounded in the interpretive paradigm. The positivist paradigm was not selected because this research is neither using an existing theory nor testing a hypothesis. The critical paradigm was also excluded because this research is not aiming to assess or change the status quo. Additionally, it made little sense to select the quantitative approach since it works with numeric data and relies on statistics rather than relying on generating rich and descriptive data (Oates 2006).

A case study was the most appropriate method for this research as it helps in exploring the phenomenon within its real-life context and allows researchers to collaborate closely with the participants, which makes it more possible to understand their actions because they are able to share their views and stories (Baxter and Jack 2008). It also assists in studying the phenomenon in its early stages of development and helps in discovering how innovations and context interact (Benbasat et al 1987).

Semi structured interviews were the major method of data collection for this study as they enable researchers to explore in depth personal experiences and feelings of participants. This method allows investigating sensitive matters or confidential information that participants might not feel comfortable to share through other tools such as on a paper for somebody they have not met (Oates 2006).

Chapter four described in detail the procedures which the researcher carried out during the stages of data collection and analysis. A fieldwork approach has been chosen for this study and was conducted over a period of 3.5 months. The preliminary step of data
collection was browsing the Jordanian e-government website, exploring the literature and reviewing several documents to get an overall overview and background information about the e-government project in Jordan in order to facilitate the identification of an appropriate setting to conduct the empirical study. The result was choosing supply-side stakeholders as key participants for this study. An interview guide has been prepared at this stage and an approval has been obtained from the Ministry of Information and Communication Technology for the research subject and informed consent. Following these acts, the e-government management office at the MoICT was contacted and subsequently eight appropriate individuals were interviewed. Three different settings were identified after the review of the data collected from officials at MoICT. These are: ministries and government institutions, private sector institutions, and legislation and authority bodies. As a result, arrangements and interviews took place. Termination of interviews as well as the process of data collection relied on the concept of data saturation. Every week; 3 interviews were conducted, verbatim transcribed, and sent back to participants for feedback and comments. At the end, 29 semi-structured interviews were conducted with officials who are involved in implementing the e-government project across Jordan and who were chosen through purposive, snowball and convenience sampling techniques. Most interviews were tape recorded. All interviews were conducted in Arabic. Interview time lasted between 45 minutes up to 2 hours. A male assistant to the researcher was present during the interviews. Detailed notes were taken throughout all interviews. The interviewees were asked to sign a consent form and were provided with a participant information sheet that illustrates the aim of the study, the voluntary nature of participation, and assures participants that their identities and information provided will be treated in confidence. Finally, a review of all additional documents, provided by interviewees, took place by the end of the data collection process.

The next step was to move to the analysis stage. Therefore, a literature analysis was conducted to examine the potential theoretical approaches to qualitative data analysis. Template analysis was then chosen to be employed in analyzing the data because it is a flexible technique that involves clear steps on how to conduct the analysis (King 2004), which helped the researcher not to get overwhelmed with the enormous amount of textual data especially as she was adopting qualitative research for the first time.
Mauthner and Doucet (2003). Several steps were used to analyze the data which are discussed in brief. First, the transcribed interviews were translated into English by the researcher. The outcome was 262 pages. A line by line manual coding to all interviews transcripts was carried out next. The next step was uploading all interviews transcripts on the qualitative data analysis software package, NVivo, which facilitated the process of segmenting the textual data into particular themes, editing pre-defined themes, and developing new themes. Themes were initially stored in free nodes. Relevant nodes were grouped into broad higher-level themes. Once themes became more distinguished, they were classified into categories and moved into tree nodes, which produced a hierarchal coding structure.

The last section of this chapter described the trustworthiness criteria which were applied to evaluate the quality of this qualitative research.

Chapter five proposed a discussion of the key findings of this research. It started by presenting the modified version of the research conceptual framework after it has been empirically validated within the Jordanian context. It presented the key drivers and barriers which are affecting the development of the e-government initiative in Jordan. Seven major categories of e-government drivers were identified as follows:

**Political:** Research results revealed that there are three major political drivers that support the development of the e-government project in Jordan. Based on the analysis of the interviewees’ perspectives, political drivers are: Expectations to Reduce the Red Tape, Monarch Support, and Services Decentralization.

**Economical:** Research evidence indicated that economical drivers offer enormous opportunities to progress the Jordanian e-government initiative. The identified economical driver was classified into one major sub-category; Economical Aims.

**Socio-Cultural:** Research findings pointed out various socio-cultural motivations. Major themes of this category are: High Level of Education, Young Population, The Holy Month of Ramadan, and Social Inclusion.

**Legislative and Regulatory:** A decisive aspect in e-government development in Jordan was related to legislative and regulatory matters. The availability of the e-transactions
law in Jordan has been found as a fundamental element that encourages the progress of e-government.

**Environmental:** Results of this research recognized environmental aspects amongst the driving forces that push towards a successful implementation of e-government in Jordan. Three sub-categories were specified: Strong IT Private Sector, Competitive Environment, and Time Factor.

**Organizational:** One main driver has been found to push Jordanian public sector institutions to adopt e-government. It is the availability of King Abdullah II Award for Excellence.

**Administrative:** A key motive recognized from the research results was that e-government practitioners in Jordan have a change management perspective in implementing e-government.

Moreover, seven major categories of e-government barriers were identified as follows:

**Political:** Based on the research results, barriers related to political issues are: Bureaucratic Nature of Government, and Ministers Reshuffling.

**Economical:** Research findings addressed economical hurdles amongst the major issues that negatively affect the development of the Jordanian e-government project. Two interesting findings discovered from the empirical study are Poverty and High Cost of Computers and Internet Connections.

**Socio-Cultural:** In this category; six main themes have been recognized to impede the development of the e-government project in Jordan, Religious Beliefs, Lack of Ownership, Preach Without Practicing, Change Resistance, Wasta, and Corruption.

**Technological:** The research findings indicated that technological obstacles vary. According to the research context, three main technological barriers are hindering the development of the e-government initiative in Jordan. These are: Weakness and Variation of Public Sector Infrastructure, Digital Divide, and Improper Use of Technology.
**Legislative and Regulatory:** Results of this research distinguished legislative and regulatory issues amongst the key barriers that hamper the development of e-government project in Jordan. Three main themes were identified; Lack of Authority to Enforce Decisions, Lack of E-Trust, as well as Security and Privacy Concerns.

**Organizational:** Findings from the empirical work in Jordan showed two main organizational obstacles hindering the progress of e-government. These are Turnover, and Isolated Entities.

**Administrative:** A critical aspect affecting the progress of the Jordanian e-government in a negative way was related to administrative matters. Lack of Gradual Change has been recognized as a fundamental element that hinders the development of e-government.

Further reflections and discussions of research findings were provided close to the end of the chapter. Finally, based on the research findings, various practical recommendations and strategies were proposed to provide guidance to e-government leaders in Jordan on how to manage the encountered forces.

After reviewing the research process, the following section will highlight the major contributions of this research.

### 6.2 Research Contributions

This research proposed original contributions to the knowledge at theoretical, practical, and methodological levels, as follows:

#### 6.2.1 Theoretical Contributions

This section discusses the valuable theoretical contributions this research has added to the e-government literature.

The first theoretical contribution of this research is that it could enrich the e-government literature by providing a comprehensive inventory of the key forces (drivers and barriers) that stimulate or impede the development of e-government initiatives at different maturity levels within different contexts (developed and developing countries). Although the existing literature provides various discussions about drivers and barriers
that affect the development of e-government projects, it lacks having a general list of drivers and barriers.

Also, very few studies (Lam 2005; eGovernmen Unit 2006) have classified e-government barriers into categories, whereas none of the studies which have been reviewed classified e-government drivers into categories. The second contribution of this research is the classification of the e-government drivers and barriers, which are found in pre-existing literature, into common larger categories. This taxonomy helps in recognizing the diverse broad areas that associate and affect the development of e-government projects around the world.

The third contribution of this research is that it proposed a novel conceptual framework (Figure 2-9) that could be used as a tool to understand the key forces (drivers and barriers) that affect the development of e-government and their correlation to e-government initiatives success or failure. This framework provides a general guide, for practitioners in charge of implementing e-government, on the potential key forces that might stimulate or impede the development process. The key features of this framework are:

- It provides a combination of the influential contexts that have a significant role in affecting the development of e-government initiatives.
- Consists of categories and factors that are not static; they may vary depending on the own interpretations of the researchers, the maturity level of the e-government project, and the context the framework is applied in.
- It includes an action plan that illustrates what e-government leaders should do to manage the encountered forces in order to ensure a successful implementation of e-government projects.

The fourth and final theoretical contribution of this research is that it proposed a comprehensive model that embraces the key drivers and barriers that affect the progress of e-government projects inside public sector institutions in Jordan. This model helps in reducing the existing confusion regarding the potential forces that influence the development process of e-government in Jordan. The key characteristics that distinguish this model are:
- It did not only recognize the drivers and barriers to e-government initiative in Jordan but also showed that there are significant interrelationships between them. This means that drivers and barriers are interdependent in nature.
- It presented some new drivers and barriers to e-government initiatives (i.e. the holy month of Ramadan, ministers reshuffling...etc) that previous literature has failed to recognize.

### 6.2.2 Practical Contributions

This section identifies the beneficiaries from this research, when they will use the research findings, as well as how they will benefit from the research findings. The practical applications of this research are as follows:

The final model proposed (Figure 5-1) can be utilized by e-government managers as a tool to support and improve the decision making process regarding the implementation of e-government in Jordan. It can help in outlining a roadmap for e-government leaders to be aware of the key forces that affect the progress of e-government projects. It will also help in facilitating the development of e-government by defining the primary evolution stages and their requirements. Also, the findings of this research have implications that can assist practitioners in charge of the implementation of e-government in Jordan to anticipate future challenges and determine why or why not e-government projects are progressing inside different institutions.

Moreover, after analyzing eighty four papers in e-government research from two refereed journals and one conference series, Heeks and Bailur (2007) were disappointed to discover that they are poorly tied to practice. Four papers only provided guidance to practitioners on how they should move towards a successful implementation of e-government whereas the rest just illustrated what practitioners have to do. This research motivates changes in practice as it provides practical recommendations and guidance for practitioners and leaders of e-government in Jordan on how they should take actions to overcome and manage the encountered forces in order to increase the chance of the initiative success and reduce its chance of failure.

Furthermore, the fact that this research is based on a single case (e-government in Jordan), presents limitations to generalize the research results. However, findings from
this research could be valuable to e-government practitioners in other countries in same conditions and similar contexts.

In addition to that, the researcher has contacted the e-government management office in Jordan and offered to present the findings of this research through workshop(s). This will enable them to benefit from the research results by examining the identified key forces that can stimulate or impede the development of the Jordanian e-government initiative. It will also give them the opportunity to discuss the proposed recommendations and strategies, with the researcher and Professor Trevor Wood-Harper in person, so they can learn how to handle the encountered forces and gain a competitive advantage form the implementation of e-government. They welcomed the idea and promised the researcher to contact her back to arrange for a convenient time for all parties involved.

6.2.3 Methodological Contributions

This section proposes the methodological contributions achieved from this research.

Heeks and Bailur (2007, p.257) were very disappointed about the bad treatment of research methods and methodology within the current e-government research. Nineteen papers out of the eighty four papers they have reviewed presented a section explaining the research method whereas three-fifths of them completely overlooked this issue. They declare that “there are honourable exceptions but the modal image of e-government “research” is of academics sitting in their offices producing “I think it, therefore it is true”-type work”. This interesting finding about the poor methodology presented in the majority of e-government papers along with the lack of clarity and rigour in the process of data collection and analysis pushed the researcher to increase the rigour of this case study research by clarifying in details all the procedures that were carried out during the process of data collection and analysis. Presenting a case study research of high rigour is amongst the methodological contributions derived from this study.

Another methodological contribution is the empirical validation of the proposed novel conceptual framework within the context of a developing country (Jordan).
Additionally, the presence of a researcher assistant who is a male participant added value to the research methodology at the level of data collection. It helped to gain access to the field because most of the male participants appeared to be conservative and religious as they were questioning who will be present besides the researcher in the interview.

Finally, this research differs in accordance to the research context and the undertaken methodology. To the researchers’s knowledge this study is one of the preliminary studies that employs case study method along with template technique in a longitudinal way to investigate e-government drivers and barriers within the Jordanian context.

Research limitations are to be discussed next.

6.3 Research Limitations

This section addresses the difficulties and limitations that have faced the researcher during this research.

One of the limitations encountered by the researcher is the nature of the research topic, as “e-government can be seen as sitting at the cross-roads between a number of other research domains, particularly computer science, information systems, public administration, and political science.” (Heeks and Bailur 2007, p.252). This issue forced the researcher to put more effort into gaining knowledge and making use of other related areas, which made the research more challenging.

Another restriction was related to the development of a new framework for this study. Even though it was not an easy task and it required relentless and persistence efforts but it was worthwhile because it added to the field of e-government and was one of the major contributions for this thesis.

There were limitations in collecting and analyzing the data as well. Access to many of the interviewees was a serious issue. Participants in this study especially government employees are usually overworked and for this reason arrangements for the interviews were difficult. Some of them initially were unable to fit in a meeting with the researcher so she had to use her social skills to convince them to re-arrange their schedules and take part in the study. Also, it was not easy to contact many of the political leaders for
security, privacy concerns and busy schedules. However, family connections made it possible to reach and interview two political figures.

In addition, another limitation was related to religious issues. For example, most potential participants were males and many of them were uncomfortable to be with a female in the same room beyond close doors. Therefore, finding a male assistant who is familiar with academic research settings, aware of confidentiality issues, and available within the specified time frame of the field study was not an easy task for the researcher.

Also, the researcher was getting conflicting information, in some instances, from the participants about the same subjects. This issue was very misleading and required spending more time and asking additional questions to realize the correct piece of information.

Moreover, the location of some interviewees’ offices were far and could not be easily reached without being so familiar with the surrounding areas, which forced the researcher to hire taxis in order to reach some of her destinations, which was very costly.

Another issue to be mentioned is that some of the conducted interviews fell during the holy month of fasting (Ramadan) which the researcher and interviewees have to endure while conducting the interviews while fasting the long hours from sun rise until sun down. Data collection was also during the heated summer of Jordan when people usually avoid going out and prefer staying indoors.

Furthermore, the fact that all interviews have been conducted in the Arabic language made the translation process into English very challenging for the researcher. In some instances, interviewees used certain Arabic expressions that were very difficult to find words in the English language that carry the same exact meaning for them.

Time constraint was a major issue too. The researcher’s time frame for collecting the data was limited in its nature. In addition, the researcher’s time is limited to the period of the registration of her research degree, therefore she tried to utilize this limited amount of time to learn and gain knowledge in various aspects. For example she
registered on two courses to learn how to use the NVivo software in addition to other various courses that develop her writing, communicating, networking as well as other skills. She also spent a significant time immersing herself in the context of the collected data via making sure to translate and transcribe all the 29 interviews by herself.

Another restriction is that the volume of data collected was very high. However, the researcher did not rely on only reading through the interviews and coding what the researcher considers important or related to her research, she rather carried out a line by line coding for all the interviews in order to avoid any bias and to ensure that the data coded reflects the genuine perspectives of the participants. This caused the process of data analysis to be long-lasting.

The analysis process was tough but enjoyable. An abundant amount of codes emerged in the initial stages of analysis which forced the researcher to revisit the coding drafts in order to revise and refine the codes if possible. Also, the researcher’s interpretations of the themes slightly changed during the process of grouping them into more distinguished higher-level themes and categories. Although this issue was tricky and resulted in having multiple drafts of the template, it has certainly increased the researcher’s understanding of the data.

It was also difficult to include all the findings from the interviews in this thesis. Therefore, the researcher tried to focus on the most relevant and important data that can achieve the research objectives and answer the research questions sufficiently. However, the rest of the findings may appear in the researcher’s future work.

Finally, the empirical study was confined to Jordan. Consequently, findings of this research cannot be generalized to other countries. However, the research provided an overview of the drivers and barriers within the Jordanian context, which could be beneficial to e-government leaders and practitioners while implementing e-government projects.

The acknowledged limitations of this research lead to recommendations for future research. This is to be described in the following section.
6.4 Future Research Opportunities

This study provides various recommendations for future research. For instance, the conceptual framework which was proposed in chapter two section eleven (2.11) could be expanded to include other categories. The categories included in this conceptual framework were found in previous studies in the e-government literature. Therefore, further research could be done to include other categories such as ‘marketing’ from other related fields in order to improve the framework. In addition to that, other researchers could adopt the proposed conceptual framework and empirically validate it in different contexts.

Furthermore, the current research assisted in understanding the phenomenon under study as it provided a useful snapshot of the drivers and barriers affecting the development of e-government in Jordan. However, it did not investigate if drivers and barriers change over time or not. Therefore, another direction for future research is to carry out further investigations with supply-side stakeholders in Jordan in order to determine whether or not drivers and barriers change over time.

Moreover, this research examined supply-side stakeholders’ perceptions of drivers and barriers to e-government development. Hence, a remarkable expansion of this study would be to examine the demand-side stakeholders (citizens and businesses) views and perceptions. Addressing the perceptions of both supply-side and demand-side stakeholders would lead to a more successful and effective implementation of the e-government initiative.

Another interesting implication would be to study the impact of the current political situation taking place in the Middle East and North Africa (MENA) region (The Arabic Uprising) and to explore in detail its influence on the development of the e-government initiative in Jordan and in other Arab countries.

There are also two significant implications for further research that arise from the study findings. First, one of the significant barriers that impede the development of the e-government initiative in Jordan is related to socio-cultural aspects. Hence, there is a need to learn more about these issues and identify their impact on the performance of public sector institutions in general and on the implementation of other ICT projects in
particular. Second, it would be valuable to investigate the findings of this study (drivers and barriers) in other contexts in order to find out if they are of the same significance or not. Additionally, it would be useful to conduct studies on drivers and barriers that affect the development of e-government initiatives in other developing countries and compare and contrast the findings in order to develop a strong theory.

6.5 Summary

This chapter initially started by presenting a review of the research process. It provided brief descriptions of the major procedures that were carried out in each chapter as well as it proposed the key outcomes of each chapter. It then proceeded to illustrate the theoretical, practical, and methodological contributions of this research. Research limitations were also described, and finally suggestions for future research opportunities were proposed.
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Appendices

Appendix 1 Interview Guide: Themes and Questions

General and Demographic Information:

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1) General Questions:

1. How long have you been working in this department?
2. Can you tell me (explain to me briefly) about the nature of your work?

2) Background information about e-government initiative in Jordan:

3. How did e-government project come to exist (How did the idea come about?)
4. In your opinion, why the decision makers are interested in implementing an e-government project?
5. Why did it take such a long time for the implementation of this project?
7. What are the Jordanian e-government initiative vision, mission and goals?
8. Were there previous studies about e-government initiatives before implementing it in Jordan? If yes, how did it benefit the implementation process of the Jordanian e-government project? Any lessons learnt?
9. Were there any studies conducted to investigate key drivers or barriers to the Jordanian e-government initiative? If yes, what are the results?
10. Were there any pre-arrangements before implementing the e-government project? Training? Awareness campaigns? Buy new hardware and software?...etc

3) Background information about the e-government initiative in a particular ministry / institution / department:
   11. Will you explain the nature of the e-government unit at your ministry / institution / department?
   12. Is there any e-services provided by your ministry / institution / department? If yes, how many e-services provided and what are they?

4) Interviewees’ perceptions of e-government initiative in Jordan:
   13. In your opinion, what’s the importance (benefits) of e-government?
   14. In your opinion, what are the disadvantages of implementing an e-government project?
   15. How do you think e-government differs from the traditional government? (What distinguish e-government from traditional government?)
   16. Do you think that e-government initiative fits under your responsibility or is it the responsibility of the e-government management office at MoICT alone?

5) Interviewees’ perceptions about the drivers to e-government initiative in Jordan:
   17. Can you describe the current successful indicators to the Jordanian e-government project?
   18. Can you describe general key drivers and specific ones that are found in your ministry / institution / department that encourage the adoption of e-government project?
   19. Can you describe the drivers generated so far from the implementation of the e-government project?
20. In your opinion, how and why Political, Economical, Socio-Cultural, Technological, Legislative and Regulatory, Environmental, Organizational and Administrative aspects can accelerate the development of e-government initiative in Jordan?

21. What recommendations you suggest for e-government managers in Jordan in order for the initiative to be successful?

6) Interviewees’ perceptions about the barriers to e-government initiative in Jordan:

22. Can you describe the threatening indicators to the Jordanian e-government project?

23. Can you describe general key barriers and specific ones that are found in your institution that inhibit the adoption of e-government project?

24. Can you describe the barriers that so far faced the implementation of the e-government project?

25. In your opinion, how and why Political, Economical, Socio-Cultural, Technological, Legislative and Regulatory, Environmental, Organizational and Administrative aspects affect negatively on the implementation of e-government initiative in Jordan?

26. How do e-government leaders overcome or manage the encountered barriers? What do they do?

27. How do you think e-government initiative could better overcome existing barriers? Any suggestions?

7) Interviewees’ perceptions about other issues related to e-government initiative in Jordan:

28. Can you describe the extent of the overall acceptability of the e-government project in your ministry / institution / department? Any change resistance faced? From whom? Top management or employees? How was it dealt with?

29. Do you believe that ministries / institutions / departments which have progressed in the implementation of e-government affect other ministries / institutions / departments decisions (including yours) to expedite the
adoption and development of the e-government so as to stay competitive?

30. How do you communicate and share information with other ministries / institutions/ departments? Manually or electronically?

31. Can stakeholders communicate and share their comments and experiences with e-government? How is it planned to deal with stakeholders’ comments?

32. Do you believe that the ICT infrastructure (readiness) in your ministry / institution / department is sufficient to keep up with the e-government project?

33. Do you believe that the human infrastructure in your ministry / institution / department is sufficient to keep up with the e-government project? Or there is lack of skills?

34. How does the top management support affect the adoption of e-government project?

35. How does the employees support and acceptance affect the adoption of e-government project?

36. How does your ministry / institution / department increase the e-readiness and e-acceptance amongst employees? Training courses? Incentives?

37. Where any of the issues faced during the implementation of e-government were due to the bureaucratic nature and routine procedures of the traditional government? Please explain.

38. Awareness should be done before, during and after implementing this project, did e-government take this in consideration? If yes/how?

39. Would the delay of the e-services after heavily been promoted and advertised be an obstacle or a cause for the users to be frustrated or to lose interest or to distrust the e-government programme?

40. What are the risks associated with implementing an e-government project? i.e. server failure, viruses, data loss, hacking, fraud...etc and how will they be dealt with?
41. How does e-government guarantee users and information privacy and security?

42. Are there any e-laws and clear rules that support the online transactions of e-government processes?

43. Sometimes stakeholders may use intermediaries to deal with the e-government on their behalf; this might be risky regarding privacy and security concerns plus the possibility that information won’t be accurate. How this issue will be avoided?

44. Are there any initiatives or new projects took place as a result of the implementation of the e-government project? If yes, what are they?

45. What about people with disabilities? Are they included in the planning and strategies of the e-government initiative?

8) Interviewees’ perceptions about the current extent and the future of e-government initiative in Jordan:

46. Where is e-government now and what’s the next stage?

47. How do you evaluate the e-government project so far? Any specific reasons (criteria) you based your evaluation on?

48. How do you see e-government after 5 to 10 years?

49. How about e-voting and e-democracy?
Appendix 2 Consent Form

A Case Study of Drivers and Barriers to e-government initiative in Jordan

P.O Box: 950514

Amman, Jordan

Please tick if applicable:

- I confirm that I have read and understood the information sheet provided. ☐
- I agree to take part in the case study research. ☐
- I agree to the interview being tape recorded. ☐
- I agree that the interview materials can be supplied to external entities for academic purposes under the condition that my identity will remain anonymous. ☐
- I grant my permission to the researcher to literally use my own words in her thesis under the condition that my identity will remain anonymous. ☐
- I agree to the presence of a male researcher assistant to accompany the researcher during the interview. ☐

Name of Participant:

Date:                                               Signature:

Name of Researcher: Sahar Khasawneh

Date:                                               Signature:
Appendix 3 Participant Information Sheet

A Case Study of Drivers and Barriers to e-government initiative in Jordan

P.O Box: 950514

Amman, Jordan

Dear Sir/Madam,

I’m currently a full time PhD student in the Business School at the University of Manchester.

As part of my PhD research, I have to conduct a field work study that aims to investigate the key drivers and barriers of electronic government initiative in Jordan. You are invited to take part in this case study research through a one hour lasting interview because you are a knowledgeable individual with experience of working on the e-government initiative in Jordan. I want to assure you that if you decide to be interviewed; your identity as well as all information you provide will be treated with high level of confidentiality. In addition, participation is entirely voluntary and you can withdraw from the interview at any point without giving a reason. I would be grateful for your participation and signing the consent form.

I would be happy to provide a summary of the research findings if you wish to participate.

Yours Sincerely,

Sahar Khasawneh
Appendix 4 An example of the line by line coding for one of the interviews (P6)

- For how long you have been working on e-government programme?

I have been working in the programme for approximately 5 years, and 3 of them as a Chief Technology Officer and 2 years as a () (Good experience).

- So 2 years as a (). Can you talk to me briefly about your job nature?

I am responsible for implementing the programme at the national level with regard to various pivots including the operational ones of the infrastructure and technology services provided to the projects of e-government for our programme, the governmental institutions and private institutions; in addition to some matters related to the applied management of awareness and training of the Public Sector employees and various projects; moreover, matters related to e-services and classifying them with establishing their priorities in respect of implementation (Job description / Job duties).

- E-government initiative was taken on by the King in 1999 and it began being applied in 2003, what is the reason of the application delay?

The initiative began as you said in 1999 as an idea of His Majesty the King to improve and develop the Public Sector performance at all institutions (Reform public sector). Accordingly, the Ministry of Information & Communication Technology was assigned to be in charge of the e-government programme in 2001, and we became the referential entity of e-government implementation at the national level (Guidance availability). During the period 2001-2003, many studies and strategies were prepared for the institutions that provide the subscribers with a lot of services. During these years, a plan was designed to implement this programme, and the actual implementation began by the end of 2002 and the beginning of 2003 (Stages of implementation).

- I understood from other employees that the e-government programme will be implemented at two levels, the first was from 2003-2006 and the second is for 2006-2009, but through the interviews I conducted, I noticed that most e-services are not available. Even though some technical infrastructure, SGN, e-payment gateway, and
the portal are available, why e-services have not been offered to citizens up till now which is the mid of 2008?

If we get back to the main purpose of e-government, it is not to establish services on the internet only; rather it is about improving the quality of the provided services even at the level of traditional services (improve services quality); because if we focused only on the internet users, this category is very simple and less than 15-20% according to the most recent statistic (Low rate internet users). Our purpose in e-government is to improve the service regardless the used channel whether it was traditional or electronic (Improve services). The number of services converted into electronic is not bad, they are around 49 services provided electronically and this is a good number (Few electronic services). Our ambition is to increase these services, and it is the responsibility of the institutions themselves to determine the priorities and make the action plans necessary for these services. This was a part of our strategy when we launched the project, but institutions know more about their services details and determine their priorities, so they should do that and make the necessary plans to provide such services (Feel ownership). In fact there are a lot of barriers facing the increase of e-services number such as the readiness of institutions regarding administrative (Administrative readiness), technical (Technical readiness), legislative (Legislative readiness) and human resources (Human resources readiness) that are necessary to develop and provide such services (Different barriers). This limits the services converted into e-services. I mean if we looked at the matter and all its details, I think 49 services is not a bad number; I think it is currently good and e-payment gateway should be activated and available for people before the end of this year. The gateway is installed at the operation center of e-government and agreements were signed with the services providers but linking the gateway and services is to be done. I think the gateway existence will be a motivation; as e-government portal was a motivation for institutions to begin thinking in putting their services on it (Existence of portal as a driver). I think there will be a notable increase in the services conversion into e-services within two years because of the existence of the infrastructure (Strong infrastructure) and the high capacity communication networks (Availability of high capacity communication networks) which are essential to convert the traditional services into e-services.
• In your opinion, why the decision makers are interested in implementing an e-government project?

E-government is just a tool to develop the public sector institutions performance (Reform public sector). We are a synonym of the public sector institutions; we provide the governmental entities with financial, administrative and technical assistant systems and tools in order to upgrade and improve their services (Improve services). We aim at reaching citizens with the public sector services wherever they are and regardless citizens' kind, technician or not, rich or poor, our purpose is to provide the public sector services through the available channels whether they are electronic or traditional (Bridge the digital divide OR Social inclusion). This is the main purpose derived from His Majesty the King's vision (King support).

• Were there previous studies about other countries experiences which applied the e-government programme, and did you benefit from them and the barriers that faced them in order not to have to face the same barriers or problems?

Of course, when we developed the e-government strategy, we studied various models and advanced countries experiences such as Singapore, Belgium, Canada and some close countries such as Egypt, Dubai and Qatar (Study of regional and international e-government experiences); therefore, we tried to benefit from the phases that these different countries experienced and we also tried to avoid any bad experiences and focus on the good experiences (Benefit from others experiences). We looked at countries like Singapore; today they have a group of e-services, but if we look at their infrastructure, we will find it different from ours due to the geographic nature; Singapore is much smaller than Jordan and its resources is different from ours (Different context).

• What do you mean by geographic nature, and how does it affect the study?

Talking about the infrastructure and installing high capacity network in Jordan, we have got to install it from north to south, east to west and we try to reach all cities and crowded areas; rather, Singapore is a so small country and there is no way for comparison, so our necessary works are much bigger than those of a state such as
Singapore; in addition, the resources of Singapore are much more than the resources of Jordan (Lack of resources).

- In your opinion, what are the success indicators which exist currently or have to exist in the future that would lead to the success of e-government experience in Jordan whether by the service recipients or providers, I mean you as a supply side and other stakeholders as a demand side whether they are citizens, private sector, employees or governmental entities linked to the portal?

I should correct your expression; the experience is successful with all measures comparing to a different countries and according to independent reports made by the UN (Perception about e-government experience from top management level). Our experience is one of the best experiences in the planning process, making strategies and the implementation process too (Faith in the e-government experience). Today we have common services used by various governmental institutions, and that spares effort and time and unifies the way of providing services through the e-government gateway (Save time and effort as a driver). There are a lot of examples implemented and used by various institutions, but this does not mean that there are no challenges such as the ability of the governmental institutions to maintain their services (Lack of services continuity). As a programme, we help in providing the institutions with technical (Technical support), administrative (Administrative support) and financial support (Financial support), and the institutions hold a big responsibility for maintaining their services. We move from an institution to another, so we cannot stay at a certain one for a long time, so the institutions are responsible for developing their services (Ownership) and keep developing the work of projects necessary for users according to the indicators imported from the field. Some institutions passed a very long path in the plans and service development process as well as getting the resources necessary to develop such services. Other institutions did not pass that long path in their service development process (Infrastructure gap between internal institutions linked to the portal). Another challenge is that institutions think of the technological development and the utilization of communication and information technology as an expense; they must think of it as an investment. It is a challenge and a big transformation in the thinking process (Wrong perceptions/Organizational culture) while drawing plans and maintaining necessary
resources whether they are financial or human (Maintain resources). A major challenge as well is the change resistance, it is the human nature; people usually fear any technology that might be involved in such projects; what that means for people and institutions; some people look from different angles and this affects the productivity and ability to go along with the development process, so this is another challenge (Change resistance). There are big national challenges related to internet and computer spread because the cost is still high for Jordan and not all people can buy computer and install ADSL (Unable to afford high cost technologies), but the biggest challenge is the inability of people to use technology even if they are able to buy it, and this is a major national challenge (Inability of using technology). In fact there are significant initiatives related to e-learning, and this can solve the problem at the long-term (Other initiatives), but the problem of computer and communication line spread for a suitable cost is still a big problem and challenge for Jordanian people (High cost of technology).

- What about people with disabilities? Are they included in the planning and strategies of the e-government initiative?

Honestly speaking no. I mean not at the moment, but definitely we will include them in our future strategies (People with disabilities are excluded).

- Ok, can you mention other challenges that might be faced at the national or stakeholders level?

I may have mentioned the main challenges. For the leadership support, it is great (Strong leadership support), but there is still resistance at some executive levels (Lack of executive level support) and we may overcome that through workshops and awareness and training programmes given to the employees (Availability of training).

- Are there any e-laws and clear rules that support the online transactions of e-government processes?

Oh yes. We were one of the first countries in the Middle East that has e-laws to protect the rights of participants in any government transaction, but we still have a long way to go with respect to individuals’ privacy (Availability of e-laws).
• How can e-government staff at Ministry of Information & Communication Technology help the institutions overcoming the challenges you have mentioned?

By the concentrated work with the governmental institutions which are capable of developing their services (Commitment and hard work). We have teams specialized in e-services, change management, awareness and training, quality unification and operations fields. These teams visit the institutions and try to help them in making long-term and short-terms plans in addition to get the resources necessary to put these plans into action to implement the programmes and projects (Huge support from e-government team members as guidance to other institutions). Some institutions provide their services to a major category of people, so we support such institutions even financially (Availability of financial support). We develop and support institutions to convert their services into electronic ones or develop the environment that provide services through some matters of managing the client care (Develop organizational culture), and we try to finance the institutions who want to computerize some of their systems (Availability of financial support) and sometimes we help institutions in formulating their requirements; I mean the necessary works field through a team visiting a certain institution and working with the employees on developing a tender document and then train the institution on how to invite for that tender and assign it (Huge support from e-government team members as guidance to other institutions).

• Ok, you have said “we financially help the institution that provide services to a major category of people”; so you help them in obtaining the budget to develop technology, but how do you help them regarding human resources if there is a lack? And how do you overcome that lack?

This is a challenge for us as an e-government programme and management office more than anything else at any other institution. We need qualified human resources with particular qualifications (Lack of qualifications), and we can overcome that lack if we attract qualified people; because we cannot compete with the private sector; it pays good salaries, but we are restricted by Civil Service regulation (Low salaries in the public sector); therefore, we try to train and hold courses for persons working here and
sending them to workshops and conferences (Availability of training), regarding closing some certain gaps, we depend on tenders and companies to provide us with what we need (Outsourcing).

- So is there a lack of human resources?

No doubt there is a big challenge in attracting and keeping the qualified staffs (Lack of incentives). I think keeping them is much more difficult (Inability to maintain qualifications or human resources); I can hire fresh graduates and train them to work on huge projects, and as soon as they got experienced, they leave to join the private sector (Competition with private sector). In fact this is good for Jordan economy but for the programme, this is a challenge (Turnover).

- Can stakeholders communicate and share their comments and experiences with e-government? How is it planned to deal with stakeholders’ comments?

Yes. We have a communication centre called ‘ASK’. Citizens can send us their enquiries and comments and we try our best to answer them (Availability of communication with citizens). We still do not have a designated body for this centre. It is still under our responsibility.

- What do you think of challenges such as trust, computer literacy, information security and privacy?

We trained 10500 employees on the basic skills of computer and more than 1500 on advanced skills (Availability of training). I worked all my life in the private sector and I have recently come here to work at the government sector; I was really surprised when I saw motivated people and great qualified individuals; they have to be a part of the reform; however, we found resistance to change by some executive managements and leaderships because they are afraid to lose their positions (Change resistance on both levels: Leadership and executive), for example since they do not know what e-government means; some people think that computer will take their places and they will become useless, but this is wrong because e-government creates job opportunities, not affects people jobs (Officers Misconception about the meaning or the worth of e-government).
In relation to how I can make people trust transacting with me as an electronic institution, this requires a lot of work at both the institution and people levels regarding making people feel that their information is private and don’t go to third parties, they need to feel that the information security is reinforced by the system comparing to the traditional ways (Working on creating trust). Access to systems is restricted and limited to certain stakeholders to see information, but traditionally, we put the file at the closet or drawer, and anyone has access can see the information. Electronically, this matter is controlled well and better than the traditional way, and this requires awareness only. Trust matter has become one of our top priorities (Working on creating trust). The government network since 2003 have been never hacked. In fact we use the best technologies in the service field and information system. The system is designed to protect (Strong security measures).

- Sometimes stakeholders may use intermediaries to deal with the e-government on their behalf; this might be risky regarding privacy and security concerns plus the possibility that information won’t be accurate. How this issue will be avoided?

We make sure that our trainers are well aware of citizens’ privacy. We provide them with training courses about confidentiality (Availability of training).

- Is that enough?

We are still at the initial stages of the implementation, so this is not a priority for us now until citizens are able to conduct complete online transactions and pay for them (Lack of long term and well defined strategies).

- Regarding the financial matters, I understood that you have never had financial obstacles; for the social and cultural matters, you said that it requires some awareness for some employees and you are promoting and spreading awareness, can you explain how do you promote for the e-government programme for stakeholders?

We have several ways. We try to give the idea and awareness to the user or beneficiary from services through workshops and site visits we make to the institutions such as
universities, schools and governmental entities trying to reach as much as possible of people (Spreading awareness). We have recently promoted through TV, newspapers, brochures and publications printed and distributed to newspapers; there are several ways in which we try to reach people to make them recognize the governmental services and how to provide people with services in the new ways (Promoting services via various means). I think results can talk; today when you go to vehicle or driving licensing departments and obtain a license within 15-20 minutes in comparison with 2-3 hours, you will feel the difference; this is e-government. When I spare people's time, effort and suffer by everyone getting a steady turn, this is an improvement of the neutrality and interaction processes between people and institutions (Save time and effort); this leads to trust and governmental institutions development (Creating trust).

- Like license renewal as you said, can you tell me what the e-government role is and was?

In fact we worked on several pivots; first, we trained the staff of the section on using computer (Availability of training) and how technology eases work (Awareness of technology benefits), and we reorganized the procedures and inquiries; we tried to reduce the windows number to let transactions be done by any officer with no necessity to a certain officer, I mean everyone should take a number and wait for his turn (Redistribute power). Currently, we are working on reorganizing the regulations at the licensing department; previously, if anyone goes to Aqaba for example and get fined, he cannot pay that fine in Amman because he has to pay it there in which he got fined and unless he pays he will be called to the court, so the citizen suffers; however, today we are trying to change that regulation to allow people to pay their fines wherever; if I had a vacation in Aqaba, I can renew my car license there, I do not have to wait till I get back to Amman. People will feel these services and their results soon (Convenience).

- Would the delay of the e-services after heavily been promoted and advertised be an obstacle or a cause for the users to be frustrated or to lose interest or to distrust the e-government programme?

Yes and no. We do promote for the e-government programme because we want our stakeholders to be aware of the programme and to start using the e-services once they
are available (Develop awareness). Otherwise, our efforts would be wasted. However, I hear some comments from friends and colleagues about this issue. They complain that they have not experienced tangible results from the e-government programme yet and some of them criticize us for that (Delay in putting slogans into practice). Citizens need to understand that this programme cannot be implemented in a short period of time and it has to go through various stages. It is an ongoing process.

- Where any of the issues faced during the implementation of e-government were due to the bureaucratic nature and routine procedures of the traditional government?

Yes of course. As I mentioned earlier we help institutions in formulating their requirements and reengineering their work processes. Traditional government processes are lengthy and complicated. We are trying to simplify them and assist institutions to do so (Business process re-engineering). Also, we are unable to attract qualified individuals because we are restricted by Civil Service regulations (Bureaucratic nature of government regulations).

- What recommendations you suggest for e-government managers in Jordan in order to overcome the discussed challenges?

I believe that time is a very crucial factor and it plays a major role. Just like anything else; it takes time for people to accept and familiarize themselves with new technological trends such as e-government. Time will solve resistance to change issue (Time element). Also, I recommend increasing the salaries of qualified employees in the government (Increase salaries). We really have skilled individuals but unfortunately we lose them very quickly (Turnover). We need to develop a recruitment strategy that can attract qualifications and guarantee the retention of skillful employees (Recruitment strategy as a solution).

- Where is e-government now and what is the next step?

As I told you, today we confidently recognizing where we are going exactly (Clear future plan) and concentrating on providing people with our services; people who want technology will be reached and people who do not will be reached too and with less effort and time (Save time and effort). This can be made through developing and
modernizing systems and improving the way of doing transactions; this will save the
time of people and institutions (Save stakeholders time). Recently, we have focussed on
the matters of horizontal services that are developed once and used by all institutions
such as infrastructure, networks, connections, security, gateway protection and SMS
payment gateway. All these things provided once and used by all institutions are ready,
and we keep developing e-services of the institutions (Keep developing e-services/
Maintain e-services). Soon, there will be focus on e-services development and
availability through all channels (Develop e-services/ e-services availability); internet is
only one, but mobile is incredibly spread in the country with a percentage exceeding
88%. Providing services is a basic thing for us and it has the priority, so we will focus
on providing services via mobile in the future (Utilize mobile to provide e-services).

- What about e-voting, will it be done electronically after 5 or 10 years?

Look, we aspire to develop our services (Develop e-services), and as you know election
is related to us all as citizens and institutions; therefore, we are currently working on a
huge project, it is the smart card and it will include matters related to e-voting, civil
status, health, licensing…etc, so our target is to have the smart card which will play a
big role in election and voting (Working on smart cards project).

- Ok thank you. I would like to confirm that this information will be kept confidential.
  In addition, I will be happy to provide you with a summary of the study findings
  after my research is completed.
Appendix 5 The Final Template Which Was Generated From The Empirical Data on the NVivo Software
Weakness and Variation of Public Sector Infrastructure
- Awareness Discrepancy
- Diverse Levels of Technology/Human Resource
- Lack of Process Standardization
- Multiple Usernames and Passwords
- Obsolete Technologies
- Size of Government

Drivers
- Administrative
  - Change Management
    - Availability of Limited Awareness Campaigns
    - Availability of Training
    - E-Government Management Office Availability
    - Establishment of E-Government Units
  - National Goals
    - Attract Investments
    - Betterment Citizens Status
    - Enhance the Image of Jordan
    - Reduction of Service Cost
  - Environmental
    - National, Regional, and International Competitive
      - Benefiting from International Experiences
      - Competition with Regional Countries
      - Competition within Public Sector Entities
    - Strong Private Sector
      - Outsourcing
      - Public Private Partnership
      - Time Factor
  - Legislative and Regulatory
    - Availability of E-Transactions Law

Organizational
- King Abdullah II Award for Excellence

Political
- Expectations to Reduce the Red Tape
  - Enhance Performance and Productivity
  - Enhance Services Quality
  - Greater Convenience
  - Meet Stakeholders Requirements
  - Save Time and Effort
  - Simplified Services
- Monarch Support
  - Strong Leadership and Commitment from Higher
  - Top Management Support
- Services Decentralization
  - Availability of Kiosks
  - Geographical Reasons
  - Improve Services Development and Delivery
  - Increase Accessibility

Socio-Cultural
- Demographic Characteristics
  - High Level of Education
  - Compulsory Education
  - Free Education
  - The Holy Month of Ramadan
  - Diverse Personal Interaction with Short-Tempered
  - Reduce Work Load
  - Young Population
    - Young Generation
    - Young Leaders
Social Inclusion

Availability of initiatives that support Owing Co

- Computer for Each Citizen
- Computer for Each University Student
- Connecting Jordanians

- Develop Human Resources
- Improve IT Literacy
- Minimize Digital Divide

Strategies to Overcome

- Overcome Change Resistance
- Overcome different standards and variation of public sector i
- Overcome Different Usernames and Passwords
- Overcome Digital Divide
- Overcome Fear
- Overcome High Cost of Internet Connections
- Overcome Income Problem
- Overcome Information Shaming Problem
- Overcome Lack of Enforcement
- Overcome Lack of E-Trust
- Overcome lack of ownership
- Overcome Security Concerns
- Overcome Technology literacy
- Overcome Turnover
- Overcome Unclear Strategy