Making Sense of E-government Implementation in Jordan: A Qualitative Investigation

A Doctoral Thesis Submitted in Partial Fulfilment of the Award of Doctor of Philosophy of De Montfort University

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ABSTRACT

E-government has become a popular focus of government efforts in many developed countries and, more recently, in several developing countries. Jordan is one such developing country that has embarked on an e-government initiative (the programme was launched in the year 2000, and is expected to take several years to complete).

Existing empirical research on e-government has been undertaken principally within western developed countries. Of those studies that have focused on e-government implementation within developing countries, a few have identified one or more factors that play a part in the progress or otherwise of an e-government capability. Whilst useful as a combined list of possible factors to bear in mind, these studies have been based on “one-off” snapshot analyses of the situations found within the countries being studied. There is no indication as to whether the existence factors vary over time, and why this occurs.

The aim of this research was to investigate the dynamic nature of, and interrelationships between, the factors that influence e-government implementation in Jordan over time. By conducting 42 semi-structured interviews with major stakeholders in Jordan including employees of the public and private sectors as well as ordinary citizens, qualitative data was collected over three periods of empirical work. By analysing the data based upon Strauss and Corbin’s variant of the grounded theory method, the research aim has been achieved.
The findings of this research indicate that the factors that affect e-government implementation in Jordan differ in terms of their levels of dynamism: some persisted over three years of this longitudinal research while others emerged during the second and third cycle of the empirical work. Furthermore, while there are some factors that are similar to those that were already mentioned in the previous literature, four new factors have emerged from this research, these being: Wasta, war in Iraq, Parliament’s priorities, and government priorities.

The factors that were founded from this research, and their dynamic nature, cumulated into a model based on the Jordanian context. This model said an important message to both researchers and policy makers working in the field of e-government: the factors of influence should never be regarded as being static or complete.

The value of this research lies in the fact that it is one of only a handful of research that focus on issues affecting e-government implementation specifically in Jordan. Furthermore, it is unique in that it views the factors operating in this environment from a dynamic rather than a static perspective.
ACKNOWLEDGEMENTS

After sincerely thanking Allah for all blessings, I would like to thank many people who helped in making this thesis possible.

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times we spent together over the phone.
For My Parents

Kareem
Fadya

My Sisters

Hala
Heba

To the Soul of my Grandfather
Qwaider

To the Soul of my Grandmother

Zaynab
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LIST OF ACRONYMS

ADSL: Asymmetric Digital Subscriber Line
ASEZA: Aqaba Special Economic Zone Authority
B2B: Business to Business
B2C: Business to Consumer
B2E: Business to Employee
C2C: Consumer to Consumer
CSFs: Critical Success Factors
DOS: Department of Statistics
E-business: Electronic Business
E-commerce: Electronic Commerce
E-democracy: Electronic Democracy
E-government: Electronic Government
E-management: Electronic Management
E-services: Electronic Services
G2B: Government to Business
G2C: Government to Citizen
G2E: Government to Employee
G2G: Government to Government
GDP: Gross Domestic Product
IAF: Islamic Action Front
ICT: Information and Communication Technology
IEE: Intra-government internal Efficiency Effectiveness
IS: Information System
IT: Information Technology
JD: Jordanian Dinar
JIB: Jordan Investment Board
MOICT: Ministry of Information and Communications Technology
MOIT: Ministry of Industry and Trade
MOITAL: Ministry of Industry, Trade and Labour
MOP: Ministry of Planning
MP: Member of Parliament
NIS: National Information System
PM: Prime Ministry
SMS: Short Message Service
UK: United Kingdom
UN: United Nations
PUBLICATIONS

CHAPTER 1

INTRODUCTION, AND RESEARCH AIMS AND OUTCOMES

1.1 INTRODUCTION

The Information and Communication Technology (ICT) revolution, especially with respect to the Internet, has dramatically changed how citizens interact with their government, creating an important development in their expectations (Dodd, 2000). Following e-commerce’s evolution in the private sector, electronic government (shortened to e-government) seems to be the next generation in the public sector. According to Bose (2004), e-government is the application of ICT to the innovation in, and improvement of, government services. It has become a popular focus of government efforts in many developed countries such as the UK (Beynon-Davies, 2005) and Australia (Teicher & Dow, 2002) and, more recently, in several developing countries, e.g. Dubai (World Bank, 2002). Most existing empirical research on e-government has focused on western developed countries (Ho, 2002; Leitner, 2003; Choudrie et al., 2005). Of those that are focused on e-government implementation within developing countries, a few have highlighted several issues and challenges that need to be faced (Atallah, 2001; Wagner et al., 2003; Heeks, 2002; Reffat, 2003; Ndou, 2004). However, there is no indication as to whether the
existence of factors varies over time, and why any variations occur. (A factor, for the purpose of this research, is defined as any “circumstance, fact, or influence that contributes to a result” (Oxford dictionary). Benefits, barriers, drivers, and/or challenges could therefore all be classified as factors).

The dynamic nature of factors is considered by Molla and Licker (2005) as important to research with respect to the adoption of e-commerce, and has already been observed with respect to Executive Information Systems success and failure within a manufacturing organisation environment (McBride, 1997). Furthermore, Choudrie et al. (2005) mentioned the importance of examining factors over time with respect to the e-government at the local level in the United Kingdom. In addition, since technology is dynamic in nature, conducting longitudinal research was recommended by Choudrie and Dwivedi (2005) in order to investigate its adoption in-depth. Therefore, investigating the dynamic nature of factors with respect to e-government appears a worthy subject for further research to gain deep and richer understanding of the factors that influence e-government implementation in Jordan.

1.2 RESEARCH AIMS AND ASSOCIATED QUESTIONS

This research has the following principal aim:

*To investigate the dynamic nature of, and interrelationships between, the factors that influence e-government implementation in Jordan over time.*

To achieve this aim, the following research questions need to be answered:
(a) What does the existing body of knowledge provide with respect to understanding the factors that influence E-government implementations within developed and developing countries including Jordan?

(b) Does the empirical work within a Jordanian context confirm or contradict this body of knowledge?

(c) Are the factors within a Jordanian context time dependent, and, if so, how?

1.3 RESEARCH OUTCOMES

There are three principal outcomes that result from this research. The first is the development of a model that identifies the factors that influence e-government implementation in Jordan over time. This model forms the basis for providing greater insight into these factors than does any other existing research on the specific Jordanian context. It forms a basis whereby other Arabic developing countries, with similar characteristics, could assess possible factors of influence as they consider an e-government programme. The second outcome is to help decision makers in Jordan to consider the factors of e-government implementations to increase the possibility of future success within the existing e-government programme. The third outcome is to answer explicitly the research questions mentioned in Section 1.2.

1.4 THESIS STRUCTURE

The remainder of this thesis is structured as follows.
Chapter two presents a literature review on e-government, and reviews the many definitions and benefits that are described in the existing e-government literature. It also describes some issues faced by the implementation of e-governments, both in general and in developing countries in particular. Furthermore, a brief overview of e-commerce is provided and its relationships to e-government are described. As well as providing the contextual background of the research, this chapter serves to identify the gap within existing research that this research work fills.

Chapter three provide a discussion on how the research questions were drawn from the literature, and how these questions will help the researcher to fill the gaps in the existing knowledge.

Chapter four provides a literature review on research methodologies and its application. It presents the methods that were used in this research and justifies their selection.

Chapter five describes the detailed data analysis procedures that were followed, including a demonstration of how grounded theory procedures were used throughout the period of this research. It includes details of the empirical work that has taken place in Jordan.

Chapter six presents the detailed findings of the empirical research. It includes discussion on the overall findings.
Finally, chapter seven summarises and concludes this research, highlights its limitations, and presents the contributions it has made to the literature and the resulting recommendations that result from this research work.
CHAPTER 2

E-GOVERNMENT LITERATURE REVIEW

2.1 INTRODUCTION

As previously mentioned in chapter one, the aim of this research is to investigate the dynamic nature of, and interrelationships between, the factors that influence e-government implementation in Jordan over time. One of the key underlying research questions, also stated in chapter one, concerns the understanding of the existing literature. This is a principal concern of this chapter: it will provide essential background knowledge to the research subject, as well as highlighting the gap within existing research, which this research fills.

This chapter firstly reviews the many definitions and benefits of e-government, and describes the challenges facing its adoption and use. Secondly, it outlines the main types and implementation stages of e-government, and presents a comprehensive overview to e-government adoption in general and in developing countries (within a specific focus on Jordan) in particular. Finally, this chapter presents a brief overview of the relationships, similarities and differences between e-government and e-commerce.
2.2 DEFINITIONS OF E-GOVERNMENT

E-government goes by different names in different countries. In Australia, for example, it is called “government online”, in Hong Kong it is called “electronic service delivery”, and in India as well as in the UK it is called “electronic government”.

There are many different definitions from many different perspectives of e-government. Table 2-1 provides a sample of definitions from the existing body of literature.

<table>
<thead>
<tr>
<th>Author</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cook et al. (2002)</td>
<td>E-government has four dimensions in relation to major functions and activities of governments: e-services (delivery of government information electronically), e-management (use of ICTs to improve management and communication within and outside government structures), e-democracy (use of ICTs to enhance citizen participation in democratic activities), and e-commerce (online transaction of goods and services).</td>
</tr>
<tr>
<td>Bhatnagar (2002)</td>
<td>Sharing and delivering services to citizens and businesses for the purpose of reducing corruption, strengthening accountability, reducing time and cost, and increasing transparency.</td>
</tr>
<tr>
<td>West (2001, p.863)</td>
<td>“The delivery of government information and services online through the Internet or other digital means”.</td>
</tr>
<tr>
<td>Deloitte Research (2000)</td>
<td>Using the technology for delivering better services to the citizens, businesses, and employees.</td>
</tr>
</tbody>
</table>

Table 2-1: E-government definitions
Upon reviewing these definitions, it appears that whilst the authors have defined e-government from several different perspectives, there are many similarities between these definitions. For example, all except Bhatnagar (2002) explicitly mention some form of the ICT as tool for implementing services provided by e-government. In addition, better delivery of services to both citizens and businesses is a common element between most of these definitions. Apart from West (2001), the definitions mention transforming services, which implies that e-government is about changing issues for the better, and not just about automating the status quo.

There are also some differences between these definitions. For instance Cook et al. (2002) define four roles for e-government (i.e., e-services, e-management, e-democracy and e-commerce) in terms of the relationships between the government and different stakeholders. Interestingly from this, Cook et al. (2002) appears to suggest that e-commerce is a subset of e-government; an issue which will be covered later in this chapter, when the similarities and differences between e-government and e-commerce are discussed. The Deloitte Research (2000) definition focuses exclusively on the delivery of services and forgoes any aspirations of increasing citizen participation. Bhatnagar’s (2002) definition reflects his developing country background. He details several benefits of implementing e-government, including the reduction of corruption, the strengthening of accountability and the increase in transparency, that have been mentioned as benefits in the e-government literature (World Bank, 2002; UN, 2008) regarding other developing countries such as Brazil, Chile and India.
As e-government is still a relatively new field, and as there is, in the author’s opinion, no one definition that covers all the key aspects of what e-government is about, the author intends to adopt his own definition of e-government for this thesis, which embraces the key common elements of other definitions. The resulting definition is as follows:

*E-government is the carrying out of governmental activities using Information and Communication Technology tools in order to deliver better services to citizens, businesses and government entities (including government employees).*

It could be argued that e-government is just another form of ICT and there is no need for a new term to represent the concept. However, e-government is a necessary term since it represents a holistic family of applications which is about government relationships with citizens, businesses, and employees. These applications interrelate and interlock, and they need consideration not only as individual applications but also as a family. For example, in many countries the tax system is related to either the benefit system or to where people living or working, therefore we need something together to provide a holistic service through the e-government system.

From this researcher’s point of view, there may also be a political and financial reason behind the use of the term e-government. For example, developing countries may be in a better position to seek external funding because they say they are implementing e-government.
2.3 CATEGORIES OF E-GOVERNMENT

As e-government can be viewed as involving interactions and relationships among citizens, government entities, businesses and/or employees, its functionality (when one physical system may include functionality from more than one category) can be classified into the four main categories as listed in Table 2-2:

<table>
<thead>
<tr>
<th>Category</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government to Citizen</td>
<td>G2C</td>
</tr>
<tr>
<td>Government to Government</td>
<td>G2G</td>
</tr>
<tr>
<td>Government to Business</td>
<td>G2B</td>
</tr>
<tr>
<td>Government to Employee</td>
<td>G2E</td>
</tr>
</tbody>
</table>

Table 2-2: E-government categories

These categories are defined below.

2.3.1 Government to Citizen (G2C)
This is concerned with the relationship between government and citizens. The mission of e-government here is to provide appropriate support for citizens anywhere and at any time by allowing them to perform on-line activities, such as applying online for jobs and searching for contact details of public departments (World Bank, 2002; Ndou, 2004; Bose, 2004; Heeks, 2002). In addition, G2C may allow citizens to participate in decision-making processes on matters that affect them and/or are of interest to society as a whole (i.e. via e-democracy facilities as explicitly mentioned by Cook et al. (2002)). This interaction enhances the quality of citizens’ lives by providing them with a high quality of government services. A good example G2C can be found in Mexico’s web portal (www.gob.mx) that
includes more than 1500 informative and transactional services from over 100 government institutions (OECD, 2003).

2.3.2 Government to Government (G2G)
This concerns the interrelationships within a government itself, or between it and other international governments. The main objective here is to enhance the cooperation between government agencies at different levels and to facilitate communication between government offices in different locations (Bose, 2004; Ndou, 2004).

2.3.3 Government to Business (G2B)
This is concerned with all electronic transactions between government and business organisations. Businesses as well as citizens carry out transactions with government, examples being renewing registrations, paying taxes and downloading tenders’ information. In this way government creates an environment that facilitates administrative requirements for new and existing businesses (Carter & Belanger, 2004; McClure, 2001).

2.3.4 Government to Employee (G2E)
The objective here is to increase the productivity of both government and its employees by principally enabling the former to interact more effectively with the latter. G2E services include information on government rules, policies and civil rights (World Bank, 2002; Carbo & Williams, 2004), as well as e-mail and e-learning capabilities.

From the above categorisations there appear to be two principal types of interaction occurring between government and other parties, these being: between government and individuals on one hand, and between government and organisations on the other. G2C and
G2E represent the interaction between government and individuals, whilst G2B and G2G represent the interaction between government and organisations. To the first three categories (G2C, G2G, and G2B), Evans and Yen (2005) add a fourth category called Intragovernment internal Efficiency and Effectiveness (IEE). However, based on the definitions given above it appears to this author that IEE could fit into the G2G category, rather than being considered an independent category of e-government.

2.4 STAGE MODELS OF E-GOVERNMENT IMPLEMENTATION

The implementation of e-government can be seen as comprising several stages. This section reviews the stages of the implementation of e-government as defined from the existing literature. As can be seen in Table 2-3, different stage models have been proposed by different authors.

Despite their differences in terms of the number of proposed stages, there are many similarities between these stages. For example, presenting government information is commonly perceived as a first step to implementing e-government, despite the different names assigned to it (i.e. publish, cataloguing, presence, information and information publishing).

Two-way communication between government and other parties is also a common later stage, as observed within the World Bank (2002), ESCWA (2003), Deloitte Research (2000) and Hiller and Belanger (2001) classifications. Layne and Lee (2001) also refer,
albeit implicitly, to this stage when they state in their transaction stage that citizens can interact with the government electronically.

<table>
<thead>
<tr>
<th>Stages</th>
<th>Definition</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Interact</td>
<td>Two way communication between government and citizens and their involvement in government processes.</td>
<td></td>
</tr>
<tr>
<td>3. Transact</td>
<td>Conducting all transactions online.</td>
<td></td>
</tr>
<tr>
<td>1. Cataloguing</td>
<td>Presenting government information online via web sites.</td>
<td>Layne &amp; Lee (2001)</td>
</tr>
<tr>
<td>2. Transaction</td>
<td>Citizens interact with government electronically.</td>
<td></td>
</tr>
<tr>
<td>3. Vertical integration</td>
<td>Local systems linked to higher level systems.</td>
<td></td>
</tr>
<tr>
<td>4. Horizontal integration</td>
<td>Systems integrated across different functions.</td>
<td></td>
</tr>
<tr>
<td>1. Information publishing</td>
<td>Each government department creates a web site.</td>
<td>Deloitte Research (2000)</td>
</tr>
<tr>
<td>2. Official two-way transactions</td>
<td>Citizens make electronic transactions such as paying tax and buying TV licenses.</td>
<td></td>
</tr>
<tr>
<td>3. Multi-purpose portals</td>
<td>Creation of a single point (portal) to enable citizens to access and obtain government information and services.</td>
<td></td>
</tr>
<tr>
<td>4. Portal personalisation</td>
<td>Citizens have the ability to customise</td>
<td></td>
</tr>
</tbody>
</table>
5. Clustering of common services
Government departments will disappear when the portals become better.
6. Full integration and enterprise transformation
Fully better changing in government departments.

| 2. Interaction | Downloading electronic forms. |  |
| 3. Transaction | One-way communication. |  |
| 4. Transformation | Two-way communication, streamlining of procedures. |  |

| 1. Information | Government posts information on its web sites. | Hiller & Belanger (2001) |
| 2. Two-way communication | Citizens communicate online with Government and they can fill in forms and request information or services. |  |
| 3. Transaction | All transactions conducted online. |  |
| 4. Integration | Citizens can access all services via a single portal. |  |
| 5. Participation | Political participation such as voting online, and participating in decision making by posting comments and suggestions. |  |

**Table 2-3: E-government stages**

Another common stage is the one in which all transactions are conducted online. As shown in Table 2-3, this stage goes by different names such as transact, full integration and
enterprise transformation, and transaction. In the ESCWA (2003) classification, two activities comprise the transformation stage: one which refers to two-way synchronous communication and the other which refers to conducting all transactions online by streamlining procedures.

Despite these similarities, there are some differences between these classifications. For example, a participation stage is only mentioned by Hiller and Belanger (2001) which seeks to involve the citizens in the political processes and in decision making. Furthermore, Deloitte Research (2000) focuses on the growth of the e-government websites only through six stages of development. This reflects Deloitte Research’s focus on the Internet as essential to the development of e-government.

Layne and Lee (2001) divide integration into vertical and horizontal stages. In the vertical stage, “local systems are linked to higher level systems within similar functionality” (p. 124) so citizens are able to access the service at the higher level of governments (State and Federal) from the same entry as the municipal portal because the local systems are directly connected to upper level systems. At the horizontal stage, however “systems are integrated across different functions, real one-stop shopping for citizens” (p.124). For example, if any citizen made a transaction in one government department, this will lead to an automatic check against data held in other government departments.

Based on the above discussion, there is no universally agreed number of stages of e-government since it is different from one researcher to another. Due to a variety
of technological, cultural, organisational, economic, and political reasons, an e-government implementation can take time to evolve and achieve its full potential.

The above models imply that e-government should pass through all the preceding stages before moving on to the next one. However, Ho (2002) asserted that such stage models must not be explained to mean that the progress of e-government implementation always proceeds in a linear way. In addition, Ronaghan (2001) argues that since e-government development is characterised as a linear progression, some service provider’s move through some stages before achieving the stated program objectives. Therefore, government departments might decide to move over certain stages or to vary the level of maturity with the particular service provided. In addition, the three phases that are presented by World Bank (2002) are not dependent on each other, nor need one phase to be completed before another can begin, but conceptually they offer three ways to think about the goals of e-government. For example, Chile has produced an e-procurement system (transact stage) which is completely streamlined procurement and it also created new methods for controlling and accountability despite the fact that Chile is classified as a developing country and it is not completed all stages of e-government yet.

From the researcher’s view point the journey of maturity may not be completed either through desire or feasibility. This is not within the remit of this research but could be focus of future work.
To summarise, whilst there are differences, the models generally identify activities associated with the following four stages which do not have to go in sequence and which may not all be achieved at the same time:

**Stage one:** The establishment of websites to provide information about government functions and services

**Stage two:** Websites from which forms can be downloaded and submitted offline (i.e. by mail). At this stage electronic communication between government and citizens occurs by means of e-mail

**Stage three:** Government websites support some fully electronic transactions such as payments or submitting information (e.g. renewing driving license)

**Stage four:** The establishment of a comprehensive government portal which provides a wide range of information and services to users without the need for dealing directly with various departments

### 2.5 BENEFITS AND BARRIERS OF E-GOVERNMENT IMPLEMENTATION: DEVELOPED VS. DEVELOPING COUNTRIES

According to Ndou (2004), benefits of e-government implementation are the same for both developed and developing countries. However, the same is not true for barriers. For instance, in the developed countries, the adopters of new technology will typically already possess the particular kinds of transferable knowledge and skills to enable use these kinds of technology. However, in developing countries,
these skills will typically have to be accumulated before the full benefits from technology can be realised (Pavitt & Bell, 1993). Therefore, benefits of e-government implementation are discussed in one common section whereas the discussion of barriers is separated into two sections; one that considers developed countries (i.e. Section 2.7) and one that considers developing countries (i.e. Section 2.8).

2.6 BENEFITS OF E-GOVERNMENT IMPLEMENTATION IN DEVELOPED AND DEVELOPING COUNTRIES

The concept of e-government emerged as a result of the recognition that there are significant benefits to be gained through implementing ICTs, particularly the Internet, to improve government delivery of its services. These benefits of the use and application of e-government are the same for both developing and developed countries (Ndou, 2004). The following section discusses the benefits of implementing e-government services that have been already mentioned in the existing body of literature, and are summarised in Table 2-4.

The table separates the benefits into two groups; those that are government-oriented, and those that are citizen and business-oriented. It is, however, possible to group the benefits in other ways. For example, Forman & Sriram (1991) and the Cabinet Office (1998) both separate benefits into those that are either administrative or economic.
<table>
<thead>
<tr>
<th>Perspective</th>
<th>Benefits</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>Reducing errors</td>
<td>(Liao and Cheung, 2002; Leitner, 2003; Capgemini, 2004; Foley, 2008; UN, 2001; IDABC, 2005)</td>
</tr>
<tr>
<td></td>
<td>Saving time and money</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reducing bureaucracy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improving the quality of services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increasing economic competitiveness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increasing accountability</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Driver for other companies</td>
<td></td>
</tr>
<tr>
<td>Citizen and businesses</td>
<td>Services available 24/7</td>
<td>(Carbo &amp; Williams, 2004; Reynolds &amp; Regio 2001; Cook et al., 2002; IDABC, 2005; Seifert, 2003)</td>
</tr>
<tr>
<td></td>
<td>Increasing citizen participations in government decision making</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bridging the digital divide</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increasing transparency</td>
<td></td>
</tr>
</tbody>
</table>

**Table 2-4: Benefits of e-government implementation**

From a governmental perspective, one of the major benefits of e-government is improving administrative efficiency. Using ICT within government departments results in the simultaneous reduction of errors and the saving of time and money (Liao and Cheung, 2002; Leitner, 2003; Capgemini, 2004; Foley, 2008). E-government aims to reduce bureaucracy and offer access to government services 24/7, which improves the quality of these services (Ndou, 2004). E-government also enables public sector agencies to increase their service processing and delivery capabilities, while requiring less time and fewer staff. E-government also can lead to increasing economic competitiveness, as by “streamlining bureaucratic procedures and increasing public sector efficiency, e-government plays a significant role in raising productivity levels in the economy as a whole” (IDABC, 2005, p.13). In addition, by facilitating the exchange of information between government departments, e-government increases the effectiveness (i.e. the ability to produce results
matching the objectives) of the government policies in the main policy areas such as education, national security, health, and public safety (IDABC, 2005). Furthermore, implementing e-government services will increase the accountability of the government itself by enabling the more effective monitoring and controlling of these services.

Another advantage of implementing e-government, according to the UN (2001), is the “spilling over” use within other organisations. For instance, government that conducts most of its business online can influence other companies to do the same, “thus spreading the efficiency gains to the economy as a whole” (UN, 2001, p.31).

E-government can lead to an increase in participation by citizens through a growth in the usage of technology by citizens in their everyday lives. For instance, citizens can use interactive features, such as web comment forms and online consultation, to provide the government with their views on public policy, or they may be able to participate more fully in the decision making process of government.

From citizen perspectives, e-government enables the keeping up with citizens’ demands by providing them with services 24 hours a day, 7 days a week (Carbo & Williams, 2004; Reynolds & Regio, 2001; Cook et al., 2002). As more young people become more familiar with technology and the Internet, they will become participant citizens once they reach the political age (Seifert, 2003). Implementing e-government can be seen as a benefit for citizens by bridging the digital divide between those who have access to the Internet and those who do not, by putting computers in libraries and kiosks.
From the perspective of individual businesses and citizens as well, electronic delivery of services will increase transparency of government itself, by offering citizens better access to information held by government departments, and will provide opportunities to citizens to submit their suggestions and ideas online via forums and online communities. This enables them to understand where their taxes are spent and how decisions are made, thus empowering citizens (IDABC, 2005).

2.7 BARRIERS TO E-GOVERNMENT IMPLEMENTATION IN DEVELOPED COUNTRIES

Despite the potential benefits of implementing e-government, developed and developing countries face many barriers to the progress of e-government projects. In terms of their influences on the e-government implementation progress, barriers to e-government implementations are often categorised into social, technical, strategic, economic, political and organisational. Table 2-5 summarises the barriers found within developed countries, some of which are discussed further in this section.

Choudrie et al. (2005) discusses the factors influencing the implementation of e-government in both rural and urban areas in the UK. She found that a lack of technical infrastructure, due to the nature of the landscape, was considered one of the major barriers preventing the implementation of e-government in rural areas.
<table>
<thead>
<tr>
<th>Category</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical</td>
<td>Lack of technical infrastructure</td>
</tr>
<tr>
<td></td>
<td>Inflexibility of legacy systems</td>
</tr>
<tr>
<td></td>
<td>Lack of shared standards</td>
</tr>
<tr>
<td></td>
<td>Differences in the security models</td>
</tr>
<tr>
<td>Economic</td>
<td>Lack of money/funding</td>
</tr>
<tr>
<td></td>
<td>High cost of secure solutions</td>
</tr>
<tr>
<td>Organisational</td>
<td>Resistance to change</td>
</tr>
<tr>
<td></td>
<td>Absence of leadership</td>
</tr>
<tr>
<td></td>
<td>Lack of IT training programs</td>
</tr>
<tr>
<td>Strategic</td>
<td>Lack of clear guidance</td>
</tr>
<tr>
<td></td>
<td>Contradiction in the goals between the departments</td>
</tr>
<tr>
<td>Political</td>
<td>Departments do not share their own data with others</td>
</tr>
<tr>
<td>Social</td>
<td>Digital Divide</td>
</tr>
<tr>
<td></td>
<td>Privacy and confidentiality</td>
</tr>
</tbody>
</table>

Table 2-5: Barriers to e-government implementation in developed countries

Legacy systems in government departments may be inflexible and unable to deal with new e-government systems due to rapid advances in technology. This can be a difficult situation to overcome. Lack of shared standards and compatible infrastructure among departments and agencies can impede inter-agency collaboration and the uptake of e-government. Lam (2005) considered the differences in the security models and inflexibility of the legacy systems as technical barriers. Another important barrier is that some departments will not share their own data with others.

Economically, the most significant barrier to the implementation of e-government is a lack of money since e-government implementations are typically very expensive (UNPAN, 2004). Lack of money could take several forms, for instance a lack of funding to recruit
skilled IT staff in government entities acts as an important barrier impacting on the deployment of e-government (Choudrie et al., 2005). In addition, as e-government requires secure solutions and applications, and issues of trust are of great importance to gain customer loyalty, the high cost of such secure, trustworthy solutions are considered a financial barrier (Gefen et al., 2002; Warkentin et al., 2002; Lambrinoudakis et al., 2003).

From the organisational perspective, resistance to the new way of working has been considered by Choudrie et al. (2005) to be one of the significant barriers to the implementation of e-government services in urban areas. According to Lam (2005), leadership is an important factor in a successful e-government project, and its absence can therefore be seen as a barrier. Leaders who perceive a potential gain from the promotion of e-government are more likely to support such initiatives, even in the face of obstacles, while those who believe that they stand to lose from the implementation of e-government cannot be counted on for constant support (Lam, 2005).

Thus, e-government implementation needs the support from the highest level of government for successful implementation.

The lack of staff IT training programmes may slow e-government implementation: greater training seeks to increase awareness among employees of the possible benefits of providing e-government services (Kaylor et al., 2001; Bonham et al., 2001; Woolridge, 2002). In addition, Holden et al. (2003) adds that the four greatest barriers to the implementation of e-government are lack of technology or web staff.
Lack of clear guidance on how to set up a new system is considered a strategic barrier to the transformation of existing practices, including e-government services. In addition, contradiction between the goals of various government departments impacts on the integration of e-government. Since e-government projects are typically on a national scale, government should endeavour to meet all the needs and goals of various departments in order to improve integration and cooperation within the e-government environment (Lam, 2005). This may be problematic if they conflict.

Layne and Lee (2001) consider privacy and confidentiality as critical barriers toward the e-government implementation. Citizens are concerned with the privacy and confidentiality of the personal data they are providing as part of obtaining e-government services.

Recently, access problems have been characterised in terms of the digital divide, which is the gap between those who can use ICT tools such as the Internet and those who cannot (Teicher & Dow, 2002). Mullen and Horner (2004) argue that digital divide is one of the most barriers facing e-government implementation. Digital divide pertains to several factors, such as language barriers, education, disability and age (UN, 2005).

Reviewing the above factors in Table 2-5 it appears that several of these barriers (e.g. resistance to change and absence of leadership) have a human dimension. Human issues have been found to be very important in adopting technology by many researchers (Kampen et al. 2005; Thomas & Streib, 2003; Welch et al. 2005; Wei & Zhao, 2005).
For example, Kampen et al. (2005) emphasised the disparity between citizens and government perspective on e-government. This disparity has resulted in government adopting new e-services assuming that they are responding to citizens needs. However, citizens do not necessarily need such e-services. Kampen et al. (2005) asked Flemish (a region of Belgium) citizens to choose between either the possibility of government putting more e-services on the web or the simplifying of the administrative procedures for obtaining licenses. The majority of citizens (63%) preferred the simplification of procedures over the increasing of the e-services on the web, 31% prefer increasing the number of e-services on the internet. In answer to a different question 27.3% of the citizens wanted all services to be available on the web, but 47.5% prefer face to face contact rather than over the internet by suggesting that government opening in weekends and more work hours. These results show that although governments offer a variety of e-services to citizens, the citizens still may choose to adopt traditional transactions and interaction ways with the government rather than through the Internet. Furthermore, Thomas and Streib (2003) revealed that citizens in the USA accessed government websites to obtain information more often than to transact. According to Welch et al. (2005) this is the citizens’ perspectives in the USA on e-government are more concerned because with privacy and security than greater convenience of transactions.
2.8 BARRIERS TO E-GOVERNMENT IMPLEMENTATION IN DEVELOPING COUNTRIES

So far this literature review has examined the basic concepts of e-government from literature that was derived from both the developed and developing world. In this section, focus is changed towards the literature concerning e-government implementation in developing countries in general, and the barriers that are faced in partial.

Like many developed countries, developing countries, including Arab ones, which represent 5% of the world population, now have initiatives for implementing e-government. Dubai, Jordan, Egypt, Kuwait, Bahrain and Saudi Arabia, for example, have such initiatives and have developed e-government services. These initiatives may help Arab countries to promote transparency and accountability, and at the same time contribute to improving competitiveness.

While the majority of e-government projects in developing countries fail, a few of them have achieved partial success (Heeks, 2003). For example, India has a payment system of property taxes and issue of land registration which takes five minutes instead of 15 days (Schware & Deane, 2003). Kuwait has a civil service recruitment portal. Bahrain is the first country to have held a successful Internet election (Moores, 2003). Dubai has launched an “e-government initiative” with the aim of overhauling all government services offered to
businesses and individuals. One of Dubai’s initiatives is a $300 million Internet city aimed at attracting international IT global companies (UNDP, 2001).

One of the most common complaints made by businesses and citizens in Arab countries is the quantity and complexity of government formalities and paperwork (UNDP, 2001). Arab countries cannot therefore be successful without increasing their efforts to consider and implement administrative simplification plans as part of their e-government projects. However, there are some barriers that affect e-government in developing countries that are similar to those in developed countries, whereas others are to some extent different (Schware, 2000). Table 2-6 summarises these barriers, some of which are discussed further in this section.

<table>
<thead>
<tr>
<th>Category</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical</td>
<td>Lack of ICT skills</td>
</tr>
<tr>
<td></td>
<td>Penetration of Internet</td>
</tr>
<tr>
<td>National</td>
<td>Monopolies over telecommunication sector</td>
</tr>
<tr>
<td></td>
<td>Lack of electricity supplies</td>
</tr>
<tr>
<td></td>
<td>Inadequate road and rail network</td>
</tr>
<tr>
<td></td>
<td>Cost of Internet and telephones</td>
</tr>
<tr>
<td>Social</td>
<td>Lack of education</td>
</tr>
<tr>
<td></td>
<td>Women have less access to technology</td>
</tr>
<tr>
<td></td>
<td>language</td>
</tr>
<tr>
<td></td>
<td>Digital divide</td>
</tr>
<tr>
<td>Organisational</td>
<td>Absence of leadership</td>
</tr>
<tr>
<td></td>
<td>Resistance to change</td>
</tr>
<tr>
<td></td>
<td>Lack of e-readiness</td>
</tr>
<tr>
<td></td>
<td>Inadequate human resource training</td>
</tr>
</tbody>
</table>

Table 2-6: Barriers to e-government implementation in developing countries
The UN (2001) addressed several major areas that have been identified as barriers to the transformation into e-government in developing countries, these being: ICT strength, institutional capacity, cultural and human resources, local environment, and funding issues. Political commitment was also considered a significant barrier in the way of e-government implementation.

The lack of ICT skills in the public sector is a major challenge to an e-government initiative in developing countries, where the continual lack of qualified staff and inadequate human resources training has been a problem for years (Ndou, 2004). UN (2001) described the barriers such as institutional weaknesses, and lack of IT qualified staff in developing countries as major barriers preventing minor e-government activities, such as responding to e-mails, to occur.

Schware and Deane (2003) discuss the impact of infrastructure on the deployment and continuity of e-government programmes in developing countries. They argue that the degree of penetration of Internet access is related to the availability of government services online, and this penetration depends on the cost of these services. They also found that the volume of e-business transactions is much higher in countries with a high demand for telecommunications services and with an open telecommunications market. On the other hand, countries that have control over telecommunications providers (monopolies) have fewer e-business transactions. However, to achieve a successful deployment of e-government, national administrations need to implement a minimum standard of quality so
as to enable trustworthy and continuous access to telecommunications networks (Accenture, 2001).

The lack of electricity supplies outside major towns was considered a major barrier to ICT use in South Asia and Africa. This goes along with inadequate road and rail network that are needed to support and set up ICT infrastructures. Moreover, the cost of the Internet and telephones is high in relation to the per capita GDP of many South Asian countries, and therefore classified a barrier to using e-government.

Lack of education in India and Pakistan (UN, 2003) has been identified as a limitation to make e-government reach all citizens. Women in developing countries have less access to technologies than do men. This is due to the former’s lack of education, and to social attitudes towards use of technology by females in developing countries. For instance, in Senegal and Ethiopia women represent 17% and 14% of the Internet users, respectively. This was considered a gender access divide in developing countries (UN, 2004; UN 2005).

With regard to the digital divide, UN (2008) survey found that an increasing in digital divide in developing countries increases the costs and technical barriers in launching and sustaining e-government services.

Language was considered as a barrier to the use of ICT and as a result affects e-government use among citizens. For instance, in India, because most computers work only in English, hundreds of millions of Hindi, Bengali, and Urdu speakers are prevented obtaining computers (BBC News, 2001 cited in UN (2004)).
Bhatnagar (2002) presents a set of Critical Success Factors (CSFs) that he considers vital to building e-government applications in developing countries. Reengineering the processes of government departments is one of these CSFs, as this helps governments to simplify their processes. Strong leadership is considered a CSF, as there should be a clear vision for the project’s requirements, benefits and goals. Furthermore, the training programs for both the employees and citizens reduce resistance to change, which occurs due to the lack of such training programs. In fact e-government implementation can potentially fail in the face of such a barrier, since employees refuse to adopt the new way of working or may continue to work in the same way that they worked before. Furthermore, the speed of e-government implementation depends on the level of that resistance to change (Working Group on E-Government in the Developing World, 2002). Employees, therefore, have to be convinced through training and skills development of the importance and potential of e-government and the fact that it will not threaten their jobs. The cooperation and collaboration between government and the private sector is considered a CSF.

The absence of the above CSFs in an e-government project has already been identified by several researchers as barriers to the implementation of e-government.

In their study of e-readiness in e-government in Kuwait, Zaied et al (2007) find that 46.57% of participants agreed that their departments have sufficient and appropriate connectivity, infrastructure and IT human skills to implement the e-government in those departments. Reviewing the aforementioned studies, it appears that some barriers in developing countries are different from those in developed countries. For instance, whilst a number of studies
addressed that privacy and security are key barriers in developed countries (Layne and Lee, 2001; OECD, 2003), these issues are not considered the main barriers in developing countries. Furthermore, the availability of the ICT in developed countries is considered a driver to implementing e-government, while many developing countries do not have the ICT infrastructure necessary to deploy e-government services (World Bank, 2002). Lack of education, lack of road and rail network, women access to technology, language barrier, and lack of e-readiness was not considered an issue in developed countries, whilst it represents a major barrier in developing countries that prevent citizens from using e-government services.

As a result, the aforementioned studies show that some projects in developing countries still very far away from implementing effective e-government services in the public sector due to the barriers they have face in such countries.

Also, reviewing the studies on e-government, which have been described above, it appears that these studies concentrate on determining the factors that influence e-government implementation by taking a snapshot of a situation at one point in time. This “one time” view is highlighted as a weakness by Choudrie et al. (2005), who indicate a willingness to extend their research chronologically. She asserted that conducting such a longitudinal study will allow the researcher to gain a better and richer understanding of the phenomenon under investigation. Moreover, it has been found that there an influence of the time on subjects related to the Information Systems and technology. Molla and Licker (2005) found that the factors that influence e-commerce adoption in developing vary from time to time.
In addition, McBride (1997) asserted the importance of studying the influence of economic, social, and technical factors of an Information Systems from a dynamic view.

However, looking at the differences between the barriers that affect e-government implementation in the developed countries (cf. Table 2-5) and those within the developing countries (cf. Table 2-6), it appears that there may be a cultural dimension to these differences (e.g. the addition of language barrier and women’s access to technology in table 2-6) which is worthy of consideration. The next section therefore provides a discussion on technology and culture.

### 2.9 CULTURAL ISSUES AND TECHNOLOGY

According to Davison and Martinsons (2003) “culture is difficult to study partially because it is not an easy concept to define” (p.3). Indeed, Alfred Kroeber and Clyde Kluckhohn gathered a list of 164 definitions of the term culture in their book *Culture: A Critical Review of Concepts and Definitions* (Wikipedia, 2009).

Samovar et al. (1981) define culture as the culmination of “knowledge, experiences, beliefs, values, attitudes, meanings, hierarchies, religion, timing, roles, spatial relations, concepts of the universe, and material objects and possessions acquired by a large group of people in the course of generations through individual and group striving” (p. 25). Depending on Samovar et al. (1981) definition, this author argues that culture could mean anything since it is a culmination of every aspect of our life. Interestingly, Hofstede (1980) identifies four dimensions, which categorise cultural patterns into: power distance, individualism-collectivism, uncertainty avoidance and masculinity-femininity. For example, Hofstede
(2009) found that the lowest dimension for some Arab World (Egypt, Iraq, Kuwait, Lebanon, Libya, Saudi Arabia, and the United Arab Emirates) is the Individualism (IDV) dimension ranking at 38 on the 100 point scale. Chang (2002) implies that culture can be determined by several factors: social structure, religion, language, education, economic philosophy and political philosophy. However, some researchers define culture in terms of its level, international, national, and individual. For example, Robbins (2000) defines national culture as “attitudes and perspectives shared by individuals from a specific country that shape their behaviour and the way they see the world” which this author argues that this represents the international level of culture whereas the national level of culture mentioned by Davison and Martinsons (2003a) when they stated that “people from the same culture and linguistic group may find it difficult to communicate effectively. However, additional problems arise with interactions across cultures” (p.115). On the other hand, Weisinger et al (2003) argue that culture should be viewed as people’s behaviour rather than people’s thinking. Several researchers around the world have researched cultural issues between different nations, especially in the field of internet-based applications and e-government. Bagchi & Cerveny (2000) claimed that culture is an important factor in the adoption of a new technology as essential IT management practices in one culture can be viewed offensive or unnecessary in another (Weisinger et al, 2003).
According to Feng (2003) the main barriers to the implementation of e-government are not technical, but cultural implications of new technologies. Straub et al. (1997) asserts that issues related to culture can have a significant impact on decisions to accept and implement a technology. Indeed, The Commonwealth Telecommunications Organisation (2002) argues that e-government systems should match the local environment’s culture, values and needs. Swartz (2003) found that cultural issues have negatively affected the uptake of e-government services in some developed countries such as the UK and Japan. For instance, British people were found hesitant to use e-government and that only 15% using e-government services while 70% of the government services are offered online, whereas Japanese were seen afraid to use e-payment systems and they like to pay with cash rather than use credit cards (Aoki, 2000).

In addition, Feng (2003) assert that one of the “main barriers toward increasing the potential offered by e-government was the need for change in individual attitudes and organizational culture” (p.59), while also saying that the “stakeholders clearly recognized that e-government was not a technical issue, but rather an organizational issue” (p. 59). In addition, he found that stakeholders see e-government as a change management rather than IT issue. Thus, the development of e-government requires fundamental changes in organizational behaviour and culture. Feng (2003) mentioned that all stakeholders suggested that
the main challenges to be faced are related to human resources, organizational culture and managing their expectations.

Hackney & Jones (2002) identified improving working relationships between internal departments and external agencies and adopting a corporate approach as major barriers to successful e-government. To achieve this, it was felt that major cultural changes are necessary. In order to accommodate the internal cultural changes necessary, organizational development must be included in the application process so that internal cultural changes are accommodated. Technical enhancements are not only structural changes, but also cultural changes. These cultural changes, though not as easily tangible, must receive at least as much planning so that technical change is implemented successfully.

2.10 THE RESEARCH CONTEXT: JORDAN AND ITS E-GOVERNMENT PROGRAMME

The following sections provide a brief background of Jordan, including some geographical, economical, and political facts. The e-government initiative that exists in Jordan is also introduced.

2.10.1 The Jordanian Context: Overview

Jordan is a relatively small country of 6,198,677 million people that is fairly evenly split at 52% male and 48% female. The country is young, with 32.2% of the population under the
age of 15, 63.7% between 15-64 years and only 4.1% over the age of 64 (DOS, 2008; CIA, 2008).

Jordan is located in the Middle East with an area of total 92,300 Sq Km, which is mostly desert, and nearly 92% of its land is semi-arid. Jordan is landlocked between Iraq, Israel, Saudi Arabia, Syria and the West Bank (CIA, 2008). Amman is the capital city of Jordan with a population of 2 million, and other main cities include Irbid, Zarqa, Salt and Aqaba. Figure 2-1 shows Jordan’s geographical location and the main cities (Lonely Planet, 2008).

![Jordan geographical location](image)

**Figure 2-1: Jordan geographical location**

The majority (98%) of Jordanians are Arab, with some Armenian and Circassian minorities. Islam is the official religion; about 92% of the population is Muslim, with 6% being Christian. 83% of population live in urban areas of the country.
Arabic is the official language, but English is widely understood among citizens. The legal system in Jordan combines Islamic and French codes of law.

Jordan became independent in 1946, after it was mandated by the British Monarchy for more than 25 years. The formal name, adopted in 1950, of Jordan is “the Hashemite Kingdom of Jordan”. Since independence, King Hussein (1953-1999) ruled Jordan for most of its history. The king appoints the prime minister, who appoints the cabinet in consultation with the king, who may dismiss other cabinet members at the prime minister's request. The Jordanian cabinet consists of the prime minister and a number of ministers determined by the needs and requirements of the public interest. Thus, the numbers of ministries (e.g. Ministry of Information and Communications Technology, Ministry of Industry and Trade, and Ministry of Interior) in Jordan vary in each cabinet depending on the public services provided by the government and their importance (PM, 2008). The National Assembly of Jordan (Majlis al-Umma), has two chambers. The Upper House is the 55-member Senate, appointed for a four-year period by the king from selected categories of public figures. The Parliament (also known as House of Representatives), which has 110 members elected directly by citizens again, for a four-year period, based on proportional representation (House of Representatives, 2008).

In February 1999, King Abdallah II succeeded to the throne of Jordan, following his father’s death. He has undertaken a substantial social and economic reform programme. He stresses, and demands, successive governments to undertake and focus on, socioeconomic
reform, by developing a healthcare and housing network for civilians and military personnel, and by improving the educational system and citizen security.

Jordan is poor in terms of natural resources (except for potash and phosphate), it has no oil, and its economy is built on a very narrow industrial base (CIA, 2008). Consequently, Jordan imports most of its consumables. Over the past few years, Jordan has had to contend with a difficult external economic environment caused by problems in neighbouring regions such as the West bank, Israel and Iraq.

Being poor in natural resources, Jordan has focused on developing its human resources through improving the educational and training systems, and by focusing on computer literacy. Therefore, 90% of the population aged over 15 can read and write, and the new generation of young children are equipped with at least basic computer literacy (CIA, 2008).

The standard of health services in Jordan is among the best in the Middle East since the number of physicians per 10,000 people is 23.5, with 102 public hospitals serving about 6 million people (there are also 59 private hospitals). Jordan was the first country in the region to perform heart transplant surgery (Oxford Business Group, 2008).

Since poverty and unemployment are high in Jordan, King Abdullah gives high priority to economic reform as an important condition for delivering jobs and better living standards for a rapidly growing population. However, Jordan recognises that the future growth of the economy depends primarily on the private sector playing a more proactive role, thus
reducing the role of government in the economy. The privatisation programme therefore aims to create a competitive market where demand and supply can freely interact, attract foreign direct investments, allow the private sector to invest in infrastructure, and limit the role of the government to that of regulating rather than producing goods and services (MOP, 2004).

In recent times, Jordan has entered into various bilateral trade agreements through joining the Greater Arab Free Trade Area (GAFTA) and signing an association agreement with the European Union in 2000. Following its membership of the World Trade Organisation in 2000, Jordan signed the Qualified Industrial Zones (QIZs) agreement, which provides duty free treatment for products manufactured in the designated cities (zones) of Irbid, Zarqa, and Sahab. This presents greater opportunity for Jordan to increase exports to the USA (MOITAL, 2008). These zones have created more than 40,000 new jobs in Jordan, many of them being jobs for women.

In 2004 and 2006 respectively, Jordan signed the Singapore Free Trade Agreement and the Agadir Agreement. As a result of these two agreements, Jordan concluded over 35 agreements on protection and promotion of investments with Arab and non-Arab countries to develop and strengthen trade relations between Jordan and its trading partners and to attract the foreign investments (MOIT, 2007).

Whilst progress is impressive, several challenges still remain for Jordan, including the reducing of dependence on foreign grants, the reducing of the budget deficit, the attracting
of further investments, and the creating of new jobs (since the current unemployment rate is still high at 13.5% and inflation stands at 5.4%) (CIA, 2008).

2.10.2 E-government in Jordan

Part of King Abdullah II’s strategy for economic growth in Jordan focuses on developing Jordan’s IT industry and integrating IT into people’s daily lives.

E-government will drive a mechanism to change in Jordan by delivering better services and better government. To support this vision, the Jordanian government started a major long-term initiative to implement e-government. To achieve this, e-government in Jordan has set key, measurable goals and objectives (MOICT, 2006):

- **Improve service delivery** and the quality and speed of government’s interaction with citizens and businesses as well as among government departments.

- **Improve responsiveness to customer needs** by using new modes of contact to provide public sector information and services.

- **Increase transparency** of government by increasing the availability of information and accessibility to services.

- **Save time and money** by improving efficiency in government processing, in part through use of common technology standards and policies, as well as contributing to financial reform within the public sector.
• **Create positive, spin-off effects** on Jordanian society through the promotion of ICT skills development within government, businesses and households that will strengthen Jordan’s economic competitiveness.

To succeed, e-government requires a shift in public sector perspectives. Public entities must see citizens, businesses and other government departments as their customers and focus on needs of these customers. In other words, they must become more customer-centric.

E-government can also help change how citizens, businesses and employees see government. However, government must change first. To be truly customer-centric, the cultural and operational practices of government require fundamental transformation. A true service orientation must define everything it does, and it must be constantly results-driven in its execution.

The e-government initiative in Jordan is part of a larger national IT strategy to grow Internet use, grow IT-related revenue, and increase the number of IT professionals. Ciborra (2005) stated that “Jordan is a textbook case for its vision to become the Singapore or Bangalore of the Middle East in the adoption of new information and communication technologies” (p.262).

The e-government project in Jordan is still very much in stage one of its implementation (according to the stage summary as presented in Section 2.4). The initial steps have been focused on educating the public and providing basic access to the Internet. This is being attempted on a large scale by providing such institutions as schools, universities, ministries.
and government offices with computers and access to the Internet. Table 2-7 shows the current ICT users in Jordan according to the UN (2008).

<table>
<thead>
<tr>
<th>ICT</th>
<th>Number Per 100 Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>13.65</td>
</tr>
<tr>
<td>PC</td>
<td>6.22</td>
</tr>
<tr>
<td>Mobile subscriber</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: ICT users in Jordan

Jordanian ranking on the global e-government readiness is only 50th out of 70 countries (UN, 2008). However, it should be noted that Jordan improved significantly over the past 3 years, moving up 18 positions from 68th to 50th (UN, 2008) since a previous e-readiness survey was undertaken in 2005.

According to Kulchitsky (2004) there is a lack of IT expertise in Jordan in many areas such as network experts, system developers, and website developers, and this has led the Jordanian Government in most cases to consult the private sector companies for the implementation of e-government projects. Consulting the private companies makes implementation more expensive in addition to private companies providing governments with solutions that they are able to provide, not the best solutions possible, which consequently has led to the increase of the complexity of existing systems in government departments (Ciborra & Navarra, 2005).

According to McConnell International (2002), Jordan has a respectable number of IT-related graduates from the Jordanian universities each year, adding that the report considers
this as a strength that will cover the need for IT expertise in Jordan. Even when expertise is developed, those experts quickly leave the public sector to either work in the private sector or out of the country to seek better job prospects. That is because the average salary of a government employee is much lower than any other job in the private sector (Ciborra & Navara, 2005).

The Jordanian government have started to post online government information such as laws, rules, regulations, official documents, forms, statistics and economic data on Internet websites in order to enable public access to government information without having to travel to physical government offices which are mostly located in the capital of Amman. The Jordanian government has also directed its effort at international businesses in order to attract foreign investments. The responsibility for coordinating and managing the e-government programme falls to the Ministry of Information and Communications Technology (MOICT).

When first developing a plan for e-government implementation, the Jordanian government identified eight Fast Track Projects to be undertaken. These projects are listed below (MOICT 2002), together with the e-government category in which they fall as stated in the report. These single categories do seem questionable, for example project six is not only G2C but is also G2B.

- Fast-Track Project 1: Business Regulation (G2B)
The aim was to enable companies to interact with government through a single portal. The interaction includes completing and submitting company registration forms on-line, and checking their status.

- **Fast-Track Project 2: Taxation and Social Security (G2B)**
  The proposed project would enable businesses and individuals to register for taxation and social security purposes, and to make payments to the different revenue departments.

- **Fast-Track Project 3: Selling to Government (G2B)**
  The selling to government service would provide businesses with information regarding the requirements for becoming a government supplier or approved contractor, including information on how to submit tenders, and checking their status.

- **Fast-Track Project 4: Telecommunications Licensing and Regulation (G2B)**
  This project aimed to enable businesses to complete and submit applications for Internet Service Provider (ISP) or telecommunications operator licenses on-line. On-line payments for licenses would be possible, as would the checking of the status of pending applications.

- **Fast-Track Project 5: Motoring Services (G2C)**
  The electronic motoring service would provide both citizens and businesses with different facilities regarding driving and vehicle services through a one-stop electronic window.
• Fast-Track Project 6: Real Estate Services (G2C)
  The service would provide both citizens and businesses with several facilities to assist in the buying and selling of real estate through a single portal. The buyers and sellers of property would be able to complete contract on-line.

• Fast Track Project 7: Government Personnel Directory (G2G)
  This electronic service would provide a “Yellow Pages,” of government employees, including their responsibilities and e-mail addresses. Searching by the name of any government department would be possible using this service.

• Fast-Track Project 8: E-government Policy and Practice (G2G)
  The project involves the establishment of a G2G web site on e-government policy and practice. A discussion forum for government employees, on-line training materials, and best practices information drawn from the experiences in Jordan and other countries, would also be provided.

Indeed, a presentation entitled “E-government: Status Update”, published by the MOICT (2003) and reviewing the e-government situation thus far in Jordan, identified the amendment of the original eight Fast Track Projects into five to be implemented during the following 3- 6 years. The projects are:

1. Income Tax
2. Sales Tax
3. Drivers and Vehicle Licensing
4. Lands and Survey

5. Borders and Residency

From this, it appears that the Jordanian government has realised the true extent of the work required to accomplish the intended Fast Track Projects, and has scaled it down significantly. Not surprisingly, two of the dismissed projects were the Government Personnel Directory (G2G) and the E-government Policy and Practice (G2G) projects, which required strong coordination and integration between different government agencies and departments to function effectively, something which is not possible with current structure.

Since the year 2003, no official documents have been published to assess the progress of the five projects and in addition, nor at the time of writing, have any online services for intended projects, except for informative websites for some ministries and departments. Even the official site of the Jordanian e-government that was originally intended to be launched during 2003 (McConnell International, 2002) was rescheduled to be launched in the year 2006. However, a new e-government strategy was subsequently published in the year 2006 indicating that the official site was to be launched in the mid 2006. The site again failed to be launched by that date. Eventually the site managed to go online by November 2007.

Chen et al. (2006) state “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” (p.1). It seems to the author that Jordan is an example of developing country that seeks to implement strategy adopted from other developed countries. Government assumed that these eight fast track projects would be easily adopted because developed countries have been very successful in implementing them (i.e. in the Netherlands fast track projects (known as super pilot projects) worked within a six month period).

From the beginning of 2007, Jordan has had some e-services implemented in some sectors. For example, electronic registration for students at some universities can be performed over the Internet. However, Ciborra and Navarra (2005) mentioned that there was no clear policy in place to reduce the costs of Internet subscription in Jordan, and the diffusion of personal computers and Internet usage among the citizens is not high. Ciborra and Navarra (2005) viewpoint have touched the real situation in Jordan in this regard, since the number of Internet subscription and PC diffusion during 2008 is still very low as shown in Table 2-7.

Currently 52% of government departments have a World Wide Web presence. These websites vary in their content, with the majority providing only text-based information. Ciborra and Navarra (2005) found that the most important ministries in Jordan, the Ministry of Planning and Ministry of Finance, face great difficulties converting to e-government because of the legacy systems in these ministries would take long time before a real reorganisation can take effect. It will therefore take some time to provide e-services in
this and other ministries. Moreover, they observe that tenders for public projects are still offered without clear requirements, which raises questions regarding how e-government is meant to reduce corruption and increase transparency. They concluded that any “theories, models, and methodologies underlying e-government implementation seem not be followed in Jordan’s context” (p.153). However, on July 19, 2007 the Ministry of Planning did manage to launch an interactive website of draft laws and regulations, allowing the public and civil society organizations to submit comments. The Ministry of Finance does currently have an online database where businesses and citizens can check their income tax records. Furthermore, the Department of Land and Surveys’ site enables citizens to request land drawings to be used in planning. However, some of these government ministries websites have been offering information only in English, such as Ministry of Water and Irrigation (www.mwi.gov.jo), and this can be seen as enforcing, rather than reducing, the digital divide among citizens.

The Aqaba Special Economic Zone Authority (ASEZA), located along Jordan's southern port on the Red Sea, is designated an area for substantial businesses investment in the region. The Authority responsible for supervising and regulating the zone is therefore taking e-government very seriously and is determined to make ASEZA the model for e-government services in Jordan (REACH 3.0 2002). However, none of the e-government services offered in the ASEZA official website are working at the time of writing.

As a result of the above review, it seems that Jordan is still very far from delivering comprehensive online services to both citizens and businesses.
2.11 E-GOVERNMENT AND ITS RELATIONSHIP TO E-COMMERCE

Turban et al (2002) and Cook et al (2002) consider e-commerce as part of e-government (see Section 2.2), a stance that places e-commerce as a vital component of e-government and emphasises the close relationship between the two.

<table>
<thead>
<tr>
<th>Author</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premkumar and Ramamurthy (1995)</td>
<td>E-commerce is the transfer of data between different companies (large and/or small) using the networks such as the Internet.</td>
</tr>
<tr>
<td>Chaffey (2004, p.10)</td>
<td>E-commerce is a subset of e-business, and is “all electronically mediated information exchanges between an organisation and its external stakeholders”.</td>
</tr>
<tr>
<td>Ngai and Wat (2005)</td>
<td>E-commerce is a business methodology used by businesses organisations, merchants and consumers to reduce the costs, improve the quality, and increase the delivery of goods and services.</td>
</tr>
<tr>
<td>Chan (2001, p.6)</td>
<td>E-commerce is the “smartest way of doing business. You ask your customers to do the work for you such as filling in the order forms, checking the order status and downloading the product themselves so that you can save huge costs and manpower. Furthermore, they do not make any complaints and even think that you have done excellent work for them. Can you think of anything smarter than this?”</td>
</tr>
<tr>
<td>Zwass (2003,p.2)</td>
<td>It is “the sharing of business information, maintaining business relationships, and conducting business transactions by means of telecommunications networks”.</td>
</tr>
</tbody>
</table>

Table 2-8: E-commerce definitions from the existing literature

According to Ho (2002), the partnerships between the public and private sectors can push governments to utilise aspects from the private sector (e-commerce) within their e-
government strategies and services. Thus the private sector may constitute one of the major forces influencing the adoption and implementation of e-government strategies.

Like e-government, e-commerce has many different definitions from many different perspectives. Table 2-8 provides a sample of these definitions from the existing body of literature.

Reviewing these definitions, it appears that whilst Premkumar and Ramamurthy (1995), Chaffey (2004), and Zwass (2003) focus on the exchange of data and information between companies and other stakeholders, Ngai and Wat (2005), and Chan (2001) implicitly mentioned the benefits provided when adopting e-commerce.

Based on these definitions, the author concludes that e-commerce is concerned with the use of ICT tools for any kind of businesses transaction that allows trading partners and suppliers to exchange information, automate processes and integrate information.

### 2.11.1 Categories of E-commerce

Like e-government, different categories of e-commerce exist. Two main groups engage in e-commerce: businesses (i.e. organisations) and customers (i.e. individuals). Table 2-9 provides a summary of several e-commerce categories cited in the existing literature, with associated explanations.

Comparing categories to those of e-government services, G2C and G2B are similar to B2C because citizens and businesses are the public consumers of the e-government services. G2G and G2E are similar to B2B and B2E respectively because the interaction between
government and government/employees operates much like the interaction between business and business/employees.

<table>
<thead>
<tr>
<th>Category</th>
<th>Abbreviation</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business to Consumer</td>
<td>B2C</td>
<td>E-commerce transactions conducted between a company and its individual consumers, transactions often considered to take the form of corporations’ web sites selling goods and services directly to consumers (Belanger et al, 2002). An example of B2C is found at Amazon.com.</td>
</tr>
<tr>
<td>Business to Business</td>
<td>B2B</td>
<td>E-commerce transactions conducted between organisations. Large companies are more likely to use B2B e-commerce technologies (Kshetri &amp; Dholakia, 2002).</td>
</tr>
<tr>
<td>Consumer to Consumer</td>
<td>C2C</td>
<td>Commonly used by people to sell or bid on items through a third party. An excellent example of this is found at eBay.com, where eBay acts as an intermediary between the consumers (Laudon &amp; Laudon, 2005).</td>
</tr>
<tr>
<td>Business to Employee</td>
<td>B2E</td>
<td>Typically involves intranet and e-mail technology to provide an employee with organisational information and other e-commerce capabilities such as internal form filling (Queensland Government Gateway, 2005).</td>
</tr>
</tbody>
</table>

Table 2-9: Categories of e-commerce

2.11.2 Similarities and Differences between E-commerce and E-Government

According to Carter and Belanger (2004), both e-government and e-commerce depend on Internet technology designed to ease the exchange of goods, services and information between two or more parties. This technology shares the same characteristics: it is
paperless, timeless and borderless and it provides the same benefits for both citizens and customers, such as a reduction in cost and time, and an increase in efficiency, service quality, and convenience (Riggins et al, 1994; Schubert & Hausler, 2001; Lefebvre et al, 2005; Barzilai-Nahon & Scholl, 2007). In addition, in successful e-commerce transactions, individuals must feel that they get better value when they use the Internet rather than traditional shopping. Likewise, in successful e-government, citizens must feel that they get better value with online government transactions than with traditional face-to-face government services (Keeney, 1999; Torkzadeh & Dhillon, 2002).

Torkzadeh and Dhillon (2002) further assert that e-commerce factors that affect online purchases such as Internet product choice and vendor trust are to be viewed in e-government as services availability and trust of government respectively. Furthermore, they find that the factors that customers perceive to be important for e-commerce, including Internet shopping convenience, and product value, can be viewed as e-government transaction and services in e-government. Thus, given these similarities, the e-commerce experience is to e-government experiences; leading to the latter’s success.

On the other hand, however, several authors have emphasised differences between e-government and e-commerce. According to Stahl (2005), e-commerce customers are not the equivalent of citizens in e-government: most companies are able to choose their customers, who in turn can choose between suppliers, while the corresponding choice for citizens – i.e. between countries – is not open to them. In addition, the power of companies is completely different to the power of
governments. The government act as a representative of its citizens, while companies are in a competitive, marketplace relationship with one another. This constitutes a major difference between governments and companies: competition is one of the major stimuli to the implementation of e-commerce. However, a government does not implement e-government in order to compete with others.

The National Electronic Commerce Coordinating Council (NECCC, 2000) adds to the above differences the following:

- Private sector organisations face high risk when being the first to adopt any new technology, but the public sector avoids risk by its relatively belated implementation programmes.

- The structure of the public sector is completely different to that of the private sector. The private sector’s structures are strong and complex in order to ensure speed of response, while public sector structures and systems are designed to ensure that government activities run smoothly but relatively slowly.

- Governments have less flexibility to change their missions or procedures. They cannot make such alterations without modifying legislation. A company, however, can modify its mission in time to react to rapidly changing market pressures.

Table 2-10 below summarises some of the similarities and differences between e-government and e-commerce as found in the previous studies.
<table>
<thead>
<tr>
<th>Similarities</th>
<th>Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both depend on ICT</td>
<td>E-government</td>
</tr>
<tr>
<td>Citizens cannot choose</td>
<td>Citizens cannot choose between countries</td>
</tr>
<tr>
<td>between countries</td>
<td>Citizens can choose between suppliers</td>
</tr>
<tr>
<td>Citizens get better value</td>
<td>Government is representative of their citizens</td>
</tr>
<tr>
<td></td>
<td>Companies are in competitive</td>
</tr>
<tr>
<td>Reducing cost and time</td>
<td>Government delayed to adopt e-government, therefore less risk</td>
</tr>
<tr>
<td></td>
<td>First to adopt by companies, therefore more risk</td>
</tr>
<tr>
<td>Increasing efficiency</td>
<td>Governments have less flexibility to change their mission and procedures</td>
</tr>
<tr>
<td></td>
<td>Companies can modify its mission more rapidly</td>
</tr>
<tr>
<td>Service quality and</td>
<td>Government activities are relatively slow</td>
</tr>
<tr>
<td>convenience</td>
<td>Speed of response in private sector</td>
</tr>
</tbody>
</table>

Table 2-10: Similarities and differences between e-government and e-commerce

The present researcher agrees with the claims made by the previously quoted authors that e-commerce is different in many ways from e-government. For instance, planning for e-government as a national project is completely different to that within a company for e-commerce. The former needs a long-term strategy to implement e-government services; a strategy which is dependent on factors such as country size, project budget, availability of infrastructure, laws and IT skills. The requirements for companies to implement e-commerce in their transactions, on the other hand, are less than for any e-government project; these include qualified staff, funds required and IT skills available. However, the presence of the identified similarities, at least to some degree, still makes it useful to examine the factors that influence e-commerce implementation as they may also be applicable to the implementation of e-government.
2.12 CONCLUSION AND SUMMARY

This chapter examined the existing body of literature relevant to this research work and upon which subsequent chapters will draw. It presented an overview of e-government definitions, categories, stages, benefits, and barriers, with regard to implementation in both developed and developing countries, it highlighted a gap in existing literature which this research intends to fill. The body of literature (McBride, 1997; Choudrie et al. 2005; Choudrie & Dwivedi, 2005; Molla & Licker, 2005) shows that it is important to look at the factors that affect e-government implementation in a time dependent way as there is a weaknesses in doing that using a snap-shot view. In addition, an overview of Jordan was provided, covering geographical, economic, and ICT issues of relevance to the e-government project. The relationship between e-government and e-commerce is discussed, with similarities and differences between them being presented. The next chapter will review the key research questions coupled with a discussion on how these questions were derived from the existing literature.
KEY RESEARCH QUESTIONS

3.1 INTRODUCTION

The goal of this research is to investigate the dynamic nature of, and interrelationships between, the factors that influence e-government implementation in Jordan over time. The following research questions have been identified to achieve this goal:

(a) What does the existing body of knowledge provide with respect to understanding the factors that influence E-government implementations within developed and developing countries including Jordan?

(b) Does the empirical work within a Jordanian context confirm or contradict this body of knowledge?

(c) Are the factors within a Jordanian context time dependent, and, if so, how?

The following sections describes in detail how the above goal and questions were formulated from the literature review that been described in chapter two, and also to what extent the literature itself review provides an answer to the stated sub-questions.

3.2 MOTIVATIONS FOR THE CURRENT RESEARCH

The following are the motivations for doing this research:
1. Historically, academic research has focused on the developed countries that have implemented e-government services. Little research has been conducted in the context of developing countries (Hackney et al. 2005; Siau & Long, 2005; Ebrahim & Irani, 2005). However, from the research that has taken place, it is clear that there are differences between the factors that affect e-government implementation in developed countries and those that affect e-government implementation in developing countries.

2. Based on the studies that been described in chapter two, the researcher concluded that all research conducted on the field of e-government focused on determining the factors that influence e-government implementation by taking a snapshot or “one time view”. The research to date is therefore limited regarding the understanding of whether identified factors in e-government implementation change over time. Furthermore, as evidenced in chapter two, time has attracted several researchers on the field of Information systems, and it has been found that there is an impact of the time on the dynamic nature of the factors that affect the adoption of new technologies. For instance, as stated in previous section (cf. Section 2.8) Choudrie et al. (2005) implies that conducting over time (i.e. longitudinal) study will allow the researcher to gain a better and richer understanding of the phenomenon under investigation. Molla and Licker (2005) stated that most of the existing research on the factors that are facing e-commerce implementation in developing countries focused on the technological, financial, and infrastructure barriers. They asserted
that despite some developing countries still facing such barriers, others have made noticeable progress in the telecommunication sector which makes this factor not prevalent as before. They concluded that “understanding e-commerce in developing countries therefore requires approaches and models that are flexible enough to capture change” (p.887). As the literature identified similarities, to some degree, between e-government and e-commerce, this researcher argues that while the factors that affect e-commerce implementation in developing countries have been changed over time, the factors that affect e-government implementation in the same context (i.e. developing country) may also be changing as well. Hence, it is important to investigate the factors from a dynamic view rather than static one.

In addition, in studying the success or failure of an information system within the manufacturing organisation over three years, McBride (1997) mentions that it is crucial to study the influence of social, economic, and technical factors of an IS from a dynamic view rather than a static one, as he considered “the cultural and political environment of an organization is not static; it is in a state of constant flux and dynamic change” (p.1). In addition, he stated that the success or failure of an IS should not be considered as merely technical nor explained by the presence or absence of static factors. Therefore the factors that have been identified in the previous studies, even within developing countries, might not be prevalent in the Jordanian context. Hence the importance of this research as it investigates the
dynamic nature of the factors that affect e-government implementation in within the Jordanian context.

3. With regard to the context of this research (i.e. Jordan), Ciborra (2005), stated that “Jordan is a textbook case for its vision to become the Singapore or Bangalore of the Middle East in the adoption of new information and communication technologies” (p.262), which make Jordan an excellent case and motivates the researcher for conducting a research in this context. In addition, Jordan is a great example that has similarities to other neighbouring countries such as language, religion, history, and political philosophy. Moreover, Jordan have a unique aspect that is its volatile position and the pressure that result from two hot areas; Iraq, Israel, and West Bank (CIA, 2008).

As stated in Section 3.1, chapter two provides the answer to the first research question, that is: What does the existing body of knowledge provide with respect to understanding the factors that influence E-government implementations within developed and developing countries including Jordan? The remaining two research questions need empirical work to take place before an answer can be found.

The next chapter discusses the various research methodologies available to this research, and justifies the ones applied to answer the two research questions, so that the eventual goal of this research work can be achieved.
CHAPTER 4

RESEARCH METHODOLOGY

4.1 INTRODUCTION

As stated in chapter one, the aim of this research is to investigate the dynamic nature of, and interrelationships between, the factors that influence e-government implementation in Jordan over time. This chapter consists of two parts; the first part (comprise Sections 4.2 and 4.3) describes the possible approaches that could be taken within research in general, while the second part (comprise Sections 4.4 and 4.5) is where the alternative approaches are evaluated against the current research requirements and questions. Specifically, section 4.2 discusses three principal philosophical foundations and their principal aims. Section 4.3 explains the differences between two categories of research; quantitative and qualitative. Section 4.4 presents justifications for why the present study is qualitative research with an interpretive stance and why the researcher considers grounded theory to be the most appropriate method to use for analysing the data gathered for this research. This is followed by a justification of a principal data collection technique used in this research is that interview. Grounded theory is then covered in more detail, including the coding data procedures, Glaser vs. Strauss variants, and the criticisms of grounded theory that are found in the literature. The final section of this chapter provides a summary and some concluding remarks.
4.2 PHILOSOPHICAL PARADIGMS

A paradigm is a set of shared assumptions or way of thinking about some aspects of the world (Oates, 2006). Any research in a social or natural science discipline is dependent upon one of the philosophical paradigms known as positivist, interpretivist and critical (Myers, 1997; Oates, 2006).

According to Lincoln and Guba (1985), researchers who adopt the positivist paradigm rely on five facts:

1. The phenomenon under study is tangible and there is a unique description for each of its aspects.

2. The researcher and the participant are distinct and independent entities for the purpose of explaining the phenomenon under study.

3. The aspects of the phenomenon being studied are considered to be precise and have a fixed meaning, which therefore allows for generalisation like, for example, law.

4. The “Truth” is obtained by using methods based on theory and deductive analysis with the goal of testing and confirming the hypothesis.

5. Inquiry is value-free (i.e. the inquiry is not influenced by the inquirer).

With respect to fact number five this author thinks that this is very difficult to achieve as in some area personal believes and values come to play. It seems to the author that this fact is ideal, but in practice it is very difficult to achieve.
In contrast, according to Lee (1991), the interpretive paradigm emerges from the inadequacy of the methods used in the natural sciences when applied to the social sciences. He defines interpretive research as making “the fundamental assumption that people create and attach their own meanings to the world around them and to the behaviour they manifest in that world. The same physical artefact, the same institution, or the same human action, can have different meanings - meanings that have been intersubjectively created for different human subjects” (p.347).

From this definition it is clear that an interpretive researcher collects data that describes the possible meanings and understandings of a phenomenon that occur due to the participation of several members and social groups in their real life situation (Myers, 1997; Orlikowski & Baroudi, 1991). With respect to IS research work, the aim of interpretive research is “to produce an understanding of the context of the information system, and the process whereby the information system influences, and is influenced by, the context” (Walsham, 1993, p.4-5). Interpretive research has been used in the IS field over the last twenty years (Oates, 2006). However, Orlikowski and Baroudi (1991) note that interpretive research concerns the bias of the researcher, and the lack of ability to generalise its results to the degree that is possible in positivist research.

The third philosophical paradigm is critical research. The critical researcher assumes that the “social reality is historically constituted” (Orlikowski & Baroudi, 1991, p.19) and that is produced and reproduced by people (Myers, 1997). Critical researchers act to change
their social and economic circumstances. Critical researchers recognise that their ability to make change is constrained by several factors including social, political and cultural ones. Critical researchers believe that the interpretation of the social world (as in the focus of interpretivism) is not enough; they do not just accept the self-understanding of the participants but also intend to critically analyse this interpretation (Orlikowski & Baroudi, 1991). It seems that critical research is very similar to interpretive research. A key differences appears to be that critical research is transformative, since the focus is to change the status quo, whereas interpretive research can be seen as neutral and explanatory (Khazanchi & Munkvold, 2003). In addition, critical researchers seek to empower people by investigating the inequalities or any contradictions that may exist in the organisations. However, empowering people is not an issue within interpretive research.

4.3 RESEARCH CATEGORIES

According to the debates on the field of research there are two principal research categories; quantitative and qualitative (Easterby-Smith et al., 2002). It should be noted that some researchers associated quantitative research with the positivist stance, and qualitative research with the interpretive stance (Crossan, 2003; Denzin & Lincoln, 2003). However, qualitative and quantitative research is not synonymous for interpretive and positivist respectively. It is considered by Myers (1997) that qualitative and quantitative research can be interpretive, positivist, or critical. For instance, it is possible for case study research to fall under any of these three categories. The choice of either qualitative or quantitative
research depends on the researcher’s assumptions. The following sections highlight some issues regarding quantitative and qualitative research and their respective associated research methods.

4.3.1 Quantitative Research

According to Cornford and Smithson (1996) quantitative research is research that “relies on developing metrics (numbers) that can be used to describe the phenomena (objects and relationships) under study” (p.40). It is a deductive process (i.e. logic based on rules, models, and laws (Trochim, 2002)) which consists of measuring and analysing the relationships between variables. This measurement tells us how often or how many people act in a certain way, but it does not answer the question “why” (Denzin & Lincoln, 2000).

Quantitative research uses different kinds of methods such as field and laboratory experiments to investigate a research problem or question (Straub et al., 2004). Researchers attempt to fragment phenomena into quantifiable or common categories that can then be applied to similar situations (Winter, 2000). Quantitative research relies on gathering quantitative data using various techniques (Easterby-Smith et al., 2002), such as:

- **Surveys**, which are used to collect the same data from large groups of people. The data may include demographic information, opinions or satisfaction levels. The survey can be managed in person, by mail, over the phone or via email or the Internet. In the survey the researcher asks same questions to all participants.
- **Structured Interviews**, where questions take the form of “when” or “how many”. These interviews can be used, for example, in opinion polls or market research to gather quantitative data.

- **Tests and Measures** can be applied to find out what or how people think. They take a form of written questions with Yes/No answers. (This author wonders why test and measures considered a separate technique, given that their description suggests that it is a particular form of survey. Therefore, this technique should be covered within the above survey description).

- **Observation**, which is most commonly used in quantitative research. Observers must consider the period of time that they should spend in observation; the day of observation should also be a representative day. Observation can be used to prove or enhance information gathered through other techniques.

Analysis of the data collected in quantitative research is typically performed using statistical techniques to produce results which can then be used to prove or disprove the hypothesis underpinning the research (Easterby-Smith et al., 2002). These results make the research objective. Because of them, the research does not reflect the researcher’s own assumptions (i.e. results are independent of who conducts the research). As the researcher is considered external to the actual research, identified results are expected if the same measurement or experiment is conducted repeatedly; and this replicability gives strength to
the research. Furthermore, the standard measurements used in quantitative research make it possible to describe the phenomenon in a systematic and comparable way (Punch, 1998). This author agrees with Myers (1997) that there is some possibility for qualitative research to be used in positivist, interpretivist, and critical research. However, quantitative research could not be associated with an interpretivist and critical research since quantitative research aims to prove or disprove hypothesis. Proving hypothesis means that there is possibility to generalise the results, while generalisation in the interpretive is not an aim.

4.3.2 Qualitative Research

In the twentieth century, researchers in the field of social sciences realised the limitations of quantitative research for understanding situations which involved the complex interaction of human behaviour, interpersonal relationships, cultural traditions, economics and politics. Consequently, in recent decades, qualitative research has become increasingly favoured, especially in the social sciences (Denzin & Lincoln, 2002).

Qualitative research is “any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification” (Strauss & Corbin, 1990, p.17).

According to Hull (1997), the purpose of qualitative research is “to understand human experience to reveal both the processes by which people construct meaning about their worlds and to report what those meanings are” (p.2). It involves an investigation process by which the researcher gradually makes sense of a social phenomenon by constructing, comparing, replicating, categorising and classifying the objects of study (Miles & Huberman, 1994).
The following is a summary of the characteristics of qualitative research which have been derived from several points of view.

- Qualitative research takes place within a natural setting where the researcher goes into the setting of the participant (Lee et al., 1999; Merriam, 1998; Myers, 1997).
- The researcher is the primary instrument for data collection and analysis, rather than any independent, “third party”, instruments such as computers (Merriam, 1998).
- Qualitative research is descriptive. The researcher is interested in process, meaning, and understanding gained through the words, interviews, transactions, and field notes of observation. Denzin and Lincoln (2003) assert that the emphasis of qualitative research is on “the qualities of entries and on processes and meanings that are not experimentally examined or measured in terms of quantity, amount, intensity or frequency” (p.13).
- The design in qualitative research is flexible, evolutionary and emergent (Lee et al., 1999). The interpretations are discussed with human data sources because it is the subjective realities that the researcher attempts to reconstruct (Merriam, 1998).
- Qualitative research is interested in words rather than numbers (i.e. in data that is not quantifiable) (Myers, 1997; Denzin & Lincoln, 2003). It is also interested in the participant’s perception, how people make sense of their lives, experiences and beliefs, and what assumptions they make about them (Lee et al., 1999).
- The findings in qualitative research are holistic and provide a rich and dense description of a social phenomenon and may contain quotations from the data to illustrate and support the findings (Denzin & Lincoln, 2003).
• Qualitative research can be associated with an interpretivist research stance (Choudrie & Dwivedi, 2005). According to Denzin and Lincoln (2003), qualitative research is “endlessly creative and interpretive” (p.37). It is interesting that Choudrie and Dwivedi (2005) considered qualitative research can be associated with interpretivist research, whereas Denzin and Lincoln (2003) contradict this implying that in order to do qualitative research you must take an interpretivist stance. This author favour the less restrictive view of Choudrie and Dwivedi (2005) allowing for qualitative research to be used with more than one paradigm.

• The process of qualitative research is inductive (i.e. the conclusions are derived from a set of observations), in which the researcher builds abstractions and concepts, and generates theories from details (Merriam, 1998; Trochim, 2002; Creswell & Brown, 1992; Creswell, 2005).

• The sample in qualitative research is usually non-random in nature and small, whereas in quantitative research a sample tends to be taken randomly and is larger in nature (Merriam, 1998).

• Qualitative research is the better choice when studying and analysing a complex phenomenon (Yin, 1994).

• Creswell (1998) believes that questions beginning with a “how” or a “what” lend themselves to qualitative research. So if a study requires the answers to these types of questions, then qualitative research is more appropriate (Merriam, 1998). Table 4-1
provides a summary of the key typical differences between qualitative and quantitative research.

<table>
<thead>
<tr>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is X</td>
<td>How many X</td>
</tr>
<tr>
<td>Inductive Process</td>
<td>Deductive Process</td>
</tr>
<tr>
<td>Sample is selective (non-random)</td>
<td>Sampling is random</td>
</tr>
<tr>
<td>Researcher looks for patterns, themes and concepts</td>
<td>Concepts and hypotheses are chosen before the research begins</td>
</tr>
<tr>
<td>Researcher develops a theory or compares patterns with other theories</td>
<td>Researcher uses an instrument to measure the variables in the study.</td>
</tr>
</tbody>
</table>

**Table 4-1: Comparison between qualitative and quantitative research**

The most popular research methods currently available and applied within qualitative research are listed and described below. It should be noted that research can be undertaken solely within one of these particular methods or a combination.

- **Case Study:** According to Merriam (1989), “a qualitative case study is an intensive, holistic description and analysis of a single instance, phenomenon, or social unit” (p.21). The unit of analysis in case studies could be an individual, an event, a child, a particular organisation or a community (Myers, 1997). One weakness of case studies is the lack of guidelines in terms of building the final report or outcomes. As the findings in qualitative research should be richly descriptive (Charmaz, 1999), it is vital that guidelines on how to construct the final report are provided so that a comprehensive description of the social phenomenon emerges. The above description leads this researcher to question
that is: if the research conducted through several stages can we describe each stage as case study irrespective of the unit of analysis? In other words can we consider the time as a unit of analysis.

- **Action Research:** In action research the researcher’s aim is to contribute to the real situation of the people to gain feedback from their understanding in an immediate problematic situation (Westbrook, 1995; Avison et al., 1999). Most of the action research definitions focus on the collaboration between researchers and participants involved in the study of the situation under investigation. Action research has so far been largely ignored in Information Systems (Myers, 1997). However, conducting action research within some complex situation, such as e-government, is problematic. This is because large amount of researcher time over extended periods are needed to gather information. This author argues that one doctoral researcher would find it difficult to investigate such complex situation since it will require excessive time over a period which is exceeds the registration of the research degree.

- **Ethnography:** The origin of this type of qualitative research comes from the “discipline of social and cultural anthropology (Myers, 1997)”. Ethnographers spend a substantial amount of time immersed in the research context, and they produce a cultural analysis of the unit under study (Merriam, 1998). The aim of ethnography is to produce a cultural understanding related to the phenomenon under study. However, taking into consideration that the term culture (cf.
Section 2.9) is very difficult to define, there is no guarantee to produce cultural understanding since culture have different meaning to different people. According to Charmaz and Mitchell (2001) a “potential problem with ethnographic studies is seeing data everywhere and nowhere, gathering everything and nothing” (p.161). They add that ethnographers who leave data in its raw form (i.e. do not categorise it in some way) rarely produce insight into phenomenon and may not complete their research.

- **Grounded Theory:** Grounded theory was developed by two sociologists, Barney Glaser and Anselm Strauss, and was based on a need to conduct qualitative research regarding the care of dying patients in American health institutions. Grounded theory aims to generate a theory based on data collected from interviews or from observations to uncover the experiences and perspectives of participants: “generating a theory from data means that most hypotheses and concepts not only come from the data, but are systematically worked out in relation to the data during the course of research” (Glaser and Strauss, 1967, p.6). Glaser and Strauss mean here that researchers can obtain insight into the phenomenon under study from their own personal experience prior to their research, and that this experience can be used as field work data. Strauss and Corbin (1990) 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” (p.24). Since it can be used as a
technique for analysing qualitative data (Hunter, 2004), grounded theory allows the researcher to analyse the data without being constrained by predetermined categories or hypotheses to guide the inquiry (Patton, 2002) or being limited within the confines of existing theory. Rather, the researcher begins the research process by identifying the area of interest and collecting information for the purpose of looking for themes and patterns that explain the phenomenon under study (Strauss & Corbin, 1990, 1998). Hence, a theory that is grounded in the data collected on the phenomenon results (Strauss & Corbin, 1998). LaRossa (2005) advises researchers who use grounded theory to take into consideration time when conducting research. He stressed that a longitudinal study coupled with grounded theory is the best way to capture events as they unfold.

4.4 SELECTION AND JUSTIFICATION OF RESEARCH METHODOLOGY FOR THIS RESEARCH

The aim of this research is to investigate the dynamic nature of, and interrelationships between, the factors that influence e-government implementation in Jordan over time. To achieve this aim, the researcher needs to gain the possibly differing views and perceptions of the key stakeholders who are engaged in the e-government programme in Jordan at different points in time. This research will utilise qualitative research taking an interpretive stance, using a grounded theory method to analyse the data. The following sections provide justification of this combined selection.
4.4.1 The Rationale of Adopting Interpretive Stance

Achieving the aim of this research can be done through interviewing the participants to reveal their individual understanding and the meanings behind the factors that they individually considered influence e-government implementation over time. Thus, an interpretive approach is the most appropriate one for this research. As e-government implementation can influence, and is influenced by, the context such as the citizen body, it is very important to gain an in-depth understanding of the meaning that is assigned by them regarding the implementation process. An interpretive stance provides the researcher a greater opportunity to uncover the richness of the factors that influence and impact e-government implementation.

In addition, this research is neither testing a hypothesis nor employing existing theory. In addition, e-government has different meanings (cf. Section 2.2) to different people and has many aspects (such as cultural, economic, and organisational aspects) therefore it cannot be dealt with as unique aspect. A positivist stance is not therefore an appropriate method for this research.

With regard to critical research, the researcher is neither going to assess the current situation nor try to change the status quo, which is what critical researchers aim to do. The researcher instead, is trying to uncover the richness of the factors that influence e-government implementation over time, without changing the situation or finding solutions
and implementing the most appropriate one for the e-government in Jordan. Hence, critical research is not appropriate for this research.

### 4.4.2 The Rationale of Adopting Qualitative Research

As there is a gap in the literature in identifying “what” the factors that influence e-government implementation in Jordan over time and whether or not they dynamic in nature, the present research attempts to identify factors by engaging in an in-depth analysis of “what” these factors are and “how” they change over time, from the viewpoints of different stakeholders. It is only by using qualitative research that the researcher can gain the necessary rich information and insight into the dynamic nature of these factors in Jordan as explained below.

E-government area, both in general and within Jordan in particular, is still a relatively new phenomenon (Siau & Long, 2005; Choudrie & Weerrakody, 2007). Implementation is still very much in the first stage (cf. Section 2.10.1), and there is no information published yet about the factors that influence this implementation over time. As a result, qualitative research is the appropriate choice for this study since qualitative research is appropriate where little is known about the phenomenon under study (Creswell, 2005).

Merriam (1998) agrees that “qualitative researchers are interested in understanding the meaning people have constructed, that is, how they make sense of their world and the experiences they have in the world” (p.6). In this research it is necessary to understand stakeholders’ experiences of the phenomenon of e-government in Jordan in order to gain
specific insight into that phenomenon and to determine the factors that affect e-government implementation in Jordan over time.

The e-government project in Jordan considered as a complex phenomenon in terms of the size of the project, the budget assigned to it, the great variety of stakeholders and the effect of the success or failure of project on the citizens and the country as a whole. Qualitative research is therefore required when studying and analysing phenomenon of such complexity (Yin, 1994).

The findings in qualitative research tend to describe the participants’ understanding of a phenomenon in order to gain insight into that phenomenon. In this research the aim is to explore and describe the stakeholder’s viewpoints regarding the factors that influence e-government implementation over time. Analysis in qualitative research is frequently inductive (i.e. concerned with the discovery of patterns) and interpretive, and findings are richly descriptive, often being used to create or expand on theory (Charmaz, 1999; Merriam, 1998). Data analysis consists of analysing texts, developing themes, and finally stating the meaning of the findings (Strauss & Corbin, 1990; Creswell, 2005), a result that this research intends to achieve with regard to analysing the interviews and developing concepts and categories.

For the above reasons, qualitative research with an interpretive underlying position was chosen as most suitable for achieving the aim of this research.
4.4.3 The Rationale of Adopting Grounded Theory Method

Assessing the list of typically qualitative research methods provided in section 4.3.2, it is clear that ethnography is not suitable for this research as the researcher is not a member of the e-government project, and is thus not able to immerse himself in the lives of the people under study. In addition, the factors that this research sought to investigate have not been confined to cultural ones: instead, it could include organisational, economic, and/or technical factors. For the same reason, the researcher cannot be involved at the level of action research, so it is not possible to utilise this method for this research.

With regard to the case study method, the purpose of this research is to identify the factors that influence e-government implementation in Jordan for the whole program involving both external and internal stakeholders, rather than for a specific unit such as a ministry, a department or a group of employees. This therefore renders the case study unsuitable for this research.

Grounded theory was chosen for this study because this research required the development of a theory to explain the nature of factors that affect e-government implementation over time, for the following reasons:

- Ghamrlez (2002) argues that the strength of grounded theory exists in the self-correcting nature of the data collection process. This is a very important activity as several participants will be interviewed to make sure that each can correct his or her predecessor, so that an overview evolves over time.
• Charmaz (2002) recommends the use of grounded theory when the researcher conducts multiple interviews; she asserts that “unfortunately, grounded theory studies have come to be identified with a “one-shot” interviewing approach” (p.682).

• Unlike other forms of qualitative research methods, grounded theory has a set of associated procedures and techniques to guide data collection and analysis and to generate concepts, themes, and categories (Charmaz, 2000; Babbie, 2001).

• A major strength of the grounded theory is its “open-endedness”, interactive, and flexibility, allowing the researcher to pursue ideas as they develop without needing to wait until the data collection process is complete (Charmaz, 1990, p.1168; Charmaz, 2000).

Moreover, Merriam (1998) notes that “the right way to analyse data in qualitative research is to do it simultaneously with data collection” (p.162), and this can be achieved using grounded theory.

4.5 JUSTIFICATION FOR CHOSEN DATA COLLECTION TECHNIQUES

In order to investigate the dynamic nature of the factors that influence e-government implementation in Jordan, the researcher plans to gather enough data to satisfy the objectives of this research and to give the reader a full picture of the phenomenon under
study. It should be recognised that this data collection is going to be done under grounded theory method. The interview is considered to be the best way of capturing the required data. An interview is one of the most important sources of information for qualitative research, and should provide the researcher with rich and deep data by focusing directly on the subject under study. It allows the researcher to explore complex issues and experiences in great depth (Rubin & Rubin, 2005). Moreover, the interview format allows for – and indeed encourages – the seeking of additional information and the tailoring of questions to the respondent's answers (Strauss & Corbin, 1998). Interviewing also allows the researcher to uncover a greater understanding of the topic if required, as the researcher can seek clarification and ask questions in a number of different areas to fill in the gaps in knowledge (Strauss & Corbin, 1998). In addition, conducting multiple interviews gives the researcher chance to correct any errors that occur in one interview Charmaz (2002) as well as encourages trust between the researcher and the participants, which consequently allows the researcher to get closer to the phenomenon under study.

Interviews can be individual or group, where the latter is called a focus group interview, which is “a research technique that collects data through group interaction on a topic determined by the researcher” (Morgan 1996, p.130). This group interaction can take place in informal setting such as homes and restaurants so as to establish a comfortable and friendly atmosphere for respondents. For the purposes of this research, the researcher was unable to conduct such focus group interviews outside government offices in Jordan because of the nature of the stakeholders’ jobs. In addition, some members will not speak,
but will allow senior members to dominate, within such situations. That could be the case in this study due to the selection of employees from various levels of authority (refer to chapter four for details on the selection of participants). Some topics will also be unacceptable for discussion among some categories of research participants (Morgan, 1996). For instance, discussion with respect to e-government may raise sensitive issues, resulting in a lack of participation in the discussion by some participants.

There are three types of interviews: fully structured, semi-structured, and unstructured interview (Robson, 2002). For the purpose of this research the predominant or preferred type is a semi-structured interview. In order to gain a rich data from the stakeholders in Jordan, the researcher therefore chose to collect data through conducting semi-structured individual interviews. This enabled familiarisation with the various participants’ different viewpoints on the factors that influence e-government implementation in Jordan and provide the ability to expand on individual aspects where the answers from a respondent necessitated this action. However, the researcher realised that in some cases the semi-structured interview may not be a practical to adopt for example where time is restricted and therefore only a set of standard questions could be covered. A structured interview would have to be used in these situations.

As well as the interviews, the researcher used different documents provided by the Jordanian government related to the e-government project as a second source of data. Saunders et al., (2003) encourages the use of government documents in the research by
stating that “many of the secondary data sets available from governments and data archives
are of higher quality than you could ever collect yourself” (p.137). In addition to
government documents, government announcements through newspapers and
governmental websites have been researched.

4.6 RESEARCH METHODOLOGY AND ITS RELATION TO THE
RESEARCH QUESTIONS

The goal of this research is to investigate the dynamic nature of, and
interrelationships between, the factors that influence e-government
implementation in Jordan over time. To achieve this goal, three research questions
need to be answered. The next section provides discussion on the research
methods that this research will follow along with their relation to the three
research questions.

The qualitative research method began with a literature review of the areas that
were involved in the study. The qualitative research method provides the ability to
explore a deeper evaluation of the factors that influence e-government
implementation in both developed and developing countries where there is little
known about the e-government implementation in developing countries. This will
guide the researcher to answer the first research question: What does the existing
body of knowledge provide with respect to understanding the factors that
influence E-government implementations within developed and developing countries including Jordan?

In addition, an interpretive approach is required to understand the reality of the situation of the case of e-government in Jordan, since knowledge of such reality can be gained only through interaction with the stakeholders involved in the e-government initiative. This will help the researcher to answer the third research question: are the factors within Jordanian context time dependent and if so how. Without gaining information from the people involved directly with the e-government programme the above question cannot be answered effectively.

A particular phase of this research consist of grounding the data in the findings and developing an interpretive report as it emerged from the research with the research question: Does the empirical work within a Jordanian context confirm or contradict the body of knowledge.

The grounded theory procedures aligned with this research because previous research is limited on one snapshot of the factors that affect e-government implementation. However, there is no information to inform whether the factors that affect e-government implementation change over time. Larossa (2005) asserts when conducting longitudinal study to be coupled with grounded theory as it is the best approach to capture events as they unfold. The use of the grounded theory will allow the data to be collected in the field and then analysed and then to return to the field to gather empirical data which eventually will
help this author to answer the research question: are the factors within Jordanian context
time dependent and if so how.

4.7 GROUNDED THEORY IN DETAIL

The following discussion provides further details on grounded theory including the coding
procedures which lie at the heart of this method. Some drawbacks of grounded theory that
been found in the literature are also presented. Finally, the differences between Glaser and
Strauss on aspects of grounded theory are identified and discussed:

4.7.1 Coding Data
Data analysis using grounded theory involves three types of coding; open, axial and
selective. Glaser and Strauss (1967) call their approach of coding the constant comparative
method, where:

1. **Open coding** is the first step of the analytical process, and consists of breaking
down, examining, comparing, conceptualising and categorising data (Strauss &
Corbin, 1990). It involves reading small segments of the participant’s interviews
(in this case) which include a sentence, a short paragraph or even a single word and
capturing the meaning of similar responses under the same code with a name
reflecting that meaning. The aim is to generate codes, concepts or categories that
account for the data under analysis. Close reading of the data “opens up the text”,
revealing the thoughts, ideas, and meanings contained in the data itself (Strauss &
Corbin, 1998).
2. **Axial coding** starts shortly after beginning the open coding procedure. The goal here is to put the data back together for the purposes of making connections between categories. This process involved reassembling the data that was broken down into concepts in open coding, by utilising a coding paradigm, in order to begin developing the theory (Strauss & Corbin, 1990). This model consists of the following set of relationships:

- **Causal conditions**: which represent events or incidents that lead to the occurrence of the phenomenon.
- **Phenomena**: represent the central ideas or events about which a set of actions/interactions are directed at managing or handling.
- **Context**: refers to specific properties that related to a phenomenon. It represents a set of conditions within which action/interaction strategies are taken.
- **Intervening conditions**: refers to the structural conditions bearing on action/interactional strategies that related to a phenomenon.
- **Action/interaction**: strategies are devised to manage, handle, carry out, and respond to a phenomenon under a specific set of perceived conditions.
- **Consequences**: outcomes and results of actions and interactions.

However, Strauss and Corbin (1990) mentioned that the coding procedures that are explained in their book are not fixed procedures or like
mathematical equation as they asserted “while we set these procedures and techniques, we do not at all wish to imply rigid adherence to them” (p.59). They asserted that flexibility is needed and necessary in some situations.

3. **Selective coding** is the stage where the researcher presents the main story of the study under investigation in diagrammatic and/or written form. Strauss and Corbin (1990) defined selective coding as the process of integrating and refining the theory through determining the core variable. The core variable is a variable that brings all categories together and is of fundamental relevance to the theory under development. They state that “here you might look at your list of categories to see if one of them is abstract enough to encompass all that has been described in the story. Sometimes you already have such a category. It now becomes the core category” (Strauss & Corbin, 1990, p.120).

LaRossa (2005) explains the process of selective coding through the use of a Tinkertoys set, where the spools are the categories defined in open coding and the sticks were the relationship between them, or the axial codes. In continuing this comparison, the core category, which results from selective coding, is the set of one or two core spools that serves to stick all the other spools together, as illustrated in Figure 4-1. (adopted from LaRossa (2005))
4.7.2 Glaser vs. Strauss

Soon after Glaser and Strauss (1967) wrote their book *The Discovery of Grounded Theory: Strategies for Qualitative Research* in which they explained the grounded theory concept, the two authors' viewpoints of grounded theory began to differ (Mills et al., 2006). Glaser’s remained consistent with the classic philosophy of grounded theory, emphasising the inductive emergence of a theory and the researcher’s role in that process (Heath & Cowley, 2004). He felt that induction is central to grounded theory and that any concepts and ideas
generated during the analysis process are subject to further comparisons and verification. Despite the fact he sees that all data are important, he recommends to allow the data to speak for themselves, and the researcher should avoid forcing preconceived ideas onto the theory.

While still following the same essential grounded theory principle, over the years Strauss came to place more emphasis on a systematic approach, and on validity and verification (Heath & Cowley, 2004). As such, Strauss, with his fellow researcher Corbin, emphasised the development of an analytic technique, with associated extensive and detailed guidance regarding the grounded theory process in their book *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, written in 1990. Strauss and Corbin (1990) also indicated that induction should not be over-emphasised, and that in order to ensure emergence, concepts and categories deduced from the data must be validated by further data comparison. This was subsequently criticised by Glaser, who claimed that validation before the theory emerges requires the researcher to ask several questions and make assumptions about what might be rather than what exists in the data alone (i.e. forcing rather than emerging).

Glaser and Strauss also differed on the role of the literature review. Glaser felt that specific reading in the problem area before or during data collection could strongly influence the emerging theory (Heath & Cowley, 2004), while Strauss felt that such reading may be used as another form of constant comparison and could stimulate theoretical sensitivity (Strauss and Corbin, 1990). According to Strauss and Corbin (1990), theoretical sensitivity is “an
awareness of the subtleties of meaning of data” (p.41). This sensitivity is varied from one researcher to another and it depends on the researcher’s background of the area under study. By having a strongly developed background, a better understanding as to the phenomenon under study may be gained. Furthermore, reading literature can be used to give validation to the research findings by enabling the comparison of differences and/or similarities between the findings and what is already published (Strauss and Corbin, 1990). In addition, they recommended that the research questions should reflect the phenomenon under investigation and what is known about the subject, and this cannot be done without first reviewing the literature.

On the other hand Glaser (1992) recommends to reading the literature in a more focussed way only after developing the emergent theory and using this literature as additional data. He felt that reading the literature when the theory begins to emerge has too strong influence on the emergent theory.

This research follows Strauss and Corbin' views and suggestions for developing grounded theory. After reviewing both authors’ approaches, the researcher decided that, as a novice researcher, the structure discussed in Strauss' works was needed. Heath and Cowley (2004) indicate that Strauss “focused on developing the analytic techniques and providing guidance to novice researchers” (p.142). While Strauss provides extensive guidance and a comprehensive framework for researchers, Glaser’s format is much less structured and his recommendations vaguer, because he believes that too rigid a structure limits the development of theory. For instance, Glaser maintains that researchers do not necessarily
need to transcribe data, but merely take notes regarding themes and relationships during interviews. The researcher felt that Glaser’s approach allows one to specifically create a theory without thoroughly reviewing transcripts and looking for and labelling themes and relationships, as discussed by Strauss and Corbin (1990).

Furthermore, the researcher felt that Glaser’s view is idealistic and not practical, since there is no way the researcher can go to investigate anything under study with no idea of that subject in mind.

In this research, therefore, the researcher used the Strauss and Corbin’s (1990) version of detailed coding methods, as it would support the creation of a theory with more systematic rigor than that which would be possible via Glaser's approach.

### 4.7.3 Criticism of Grounded Theory

Despite the cited advantages of grounded theory, there are some criticisms of this method. Smith and Pohland (1969) think that grounded theory may be too complicated for “first time” researchers to use. This criticism may be owing to the Glaser approach being undertaken rather than that advocated by Strauss, as the latter, as aforementioned, provides detailed descriptions as to how to analyse data and create theory. In addition, Hammersley (1989) points out that grounded theory may slow any hopes of moving toward the cumulative development of science since the researcher must ignore any previous theories at the beginning of the research and start each study from scratch. This criticism like the
previous one appears relevant to Glaser only as Strauss and Corbin suggest having a good background on the phenomenon under investigation.

Allan (2003) highlights some difficulties in analysing data using grounded theory. These difficulties come from coding the data word by word and line by line. As the researcher must code a huge amount of data for finding the information relevant to the research problem, this may consume a substantial amount of time and effort.

Another difficulty in analysing the data is concerned with breaking it down, which may cause the researcher to become confused when analysing the specific details of data. Conrad (1990) and Riessman (1990) argue that “fracturing the data” in grounded theory may limit understanding because grounded theorists seek for analysis rather than holistic description of subjects’ experiences. Allan (2003) expresses concern about the lack of guidance as to when the researcher should stop the process of analysis and about how many concepts are required to form or shape the categories when performing constant comparisons.

Conversely, Glaser and Strauss (1967) suggest that this strategy of fracturing data helps the researchers to interpret and organise it, thus preventing them from being overwhelmed by a huge amount of data.

Katz (1983) and Emerson (1983) argue that grounded theorists tend to overstate the distinction between discovery and verification, and suggest that this approach is not as rigorous as quantitatively-based investigations. With regard to Katz’s (1983) and Emerson's
(1983) critique of grounded theory, Charmaz (1990) points out that both Katz’s and Emerson’s critiques come from a deductive logic (i.e. positivist stance) and that their opinion ignores the fact that qualitative research in general and grounded theory in particular derives from rules that are quite fundamentally different from traditional quantitative models. Grounded theory emphasises inductive, intuitive approaches to data collection and analysis, and is a particularly rigorous form of qualitative research (Charmaz, 2000). Brown (1973) sees problems with Glaser and Strauss’ use of the term “theory”, and suggests that grounded theory might be more effective in generating concepts rather than testable hypotheses. In this regard, the aim of the grounded theory is not to discover the theory, but a theory that helps understanding the phenomenon under investigation (Heath and Cowley, 2004).

Interestingly, even some of the strongest critics of grounded theory rarely argue that this methodology is completely worthless. For instance, Brown's (1973) strong critique of grounded theory also contains this paragraph in a footnote, which praises the method:

“There is a danger in a short discussion, of doing injustice to other people's ideas. I accept much of Glaser and Strauss general position: that close contact with data is desirable in every kind of research. I do not wish to suggest that their assurance about what they call grounded theory is necessarily unwarranted. It is difficult to believe, for example, that their ideas developed during their work with dying patients will be entirely superseded” (p.15).

The researcher’s point of view is that many of claimed weaknesses (e.g. Hammersley (1989), Smith and Pohland (1969)) of grounded theory appear relevant to the Glaser
approach, rather than to the Strauss and Corbin approach which this research is going to adopt. For instance, Hammersley criticism is against Glaser only as Strauss and Corbin suggest having a good background on the phenomenon under investigation. Furthermore, Smith and Pohland (1969) criticism is not against Staruss and Corbin since they provide intensive details for the novice researchers on how to apply coding procedures on the collected data which made, to some degree, grounded theory accessible especially for the novice researchers. In addition, the issue of analysing data is an issue in all qualitative research as a researcher is intends to collect huge amount of qualitative data in most of the qualitative methods like, for example, case study. Indeed, the detailed approaches of Strauss and Corbin provide more guidance than usual in this case.

4.8 CONCLUSION AND SUMMARY

This chapter presented the research methodology to be used in this research. Qualitative research with an interpretive stance is identified as being necessary to effectively explore the dynamic nature of the factors that influence e-government implementation in Jordan. Strauss and Corbin’s (1990) version of grounded theory has been found to be an appropriate and effective research method, in comparison to other qualitative research methods, for this research.

The next chapter presents the detailed data analysis procedures that have been followed in order to achieve the research aim. This process covers the major aspects of grounded theory
used to analyse the data, along with a demonstration of how these aspects were applied to this research.
CHAPTER 5

RESEARCH PROCESS AND DATA ANALYSIS

PROCEDURES

5.1 INTRODUCTION

This chapter presents the detailed fieldwork processes that have been used to guide the entire empirical study within Jordan, including the grounded theory procedures that were applied during data collection and analysis. These are described, as well as the selection of the participants in Jordan and their profiles, the interview procedures that have been taken with the participants, and the translation and transcription of these interviews, in the following eight sections of this chapter. Finally, a summary and conclusion to this chapter are provided in Section 5.10.

5.2 THE TYPES OF LITERATURE SOURCES

Strauss and Corbin (1990) distinguish between different types of literature and their use in grounded theory analyses, these being technical and nontechnical literature. Technical literature, they argue, includes reports from research studies and theoretical and philosophical papers which characterise the writing of a professional discipline, and are used as background materials for comparison against the findings of grounded theory
studies. Nontechnical literature includes biographies, diaries, manuscripts, reports, records and other materials which can be used either as “primary data or to supplement interviews and field observations in grounded theory studies” (Strauss & Corbin, 1990, p.48).

Strauss and Corbin (1990) outline five uses of technical literature in grounded theory. Firstly, technical literature can be used to stimulate theoretical sensitivity by providing concepts and relationships which can be compared against the data. Earlier theory can be extended, amended, added to and modified depending on the situation. Secondly, the technical literature can be used as a secondary source of data by utilising the descriptive materials it contains. Thirdly, this literature can be used to stimulate questions for interviews or to guide initial observations. Fourthly, the technical literature can help direct theoretical sampling (see Section 5.5 for more details on this concept) by providing ideas by which the researcher might look for phenomena important to the development of theory. Lastly, this literature can be used as supplementary validation to help strengthen findings of the study within the framework of the discipline. Strauss and Corbin (1990) state that by “choosing the right literature in tandem with doing analysis one can learn much about the broader and narrower conditions that influence a phenomenon. Of course, any categories, hypotheses, and so forth generated by the literature have to be checked out against real (primary) data. The interplay of reading the literature and doing analysis of it, then moving into the field to verify it against reality can yield an integrated picture and enhance the conceptual richness of the theory” (Strauss & Corbin, 1990, p.55).
Both technical and nontechnical literature are of equal usefulness, and can be used at the same points in grounded theory analysis procedures (Strauss & Corbin, 1990).

5.3 SUBSTANTIVE AND FORMAL THEORY

Two types of grounded theory discussed in Glaser and Strauss’ initial book are substantive and formal theory (Glaser & Strauss, 1967). The former is described as theory based on one study that may only apply to that specific area or phenomenon. The latter, on the other hand, applies to a larger conceptual area of inquiry. Given the fact that this research focuses on a single case (Jordan), it would be expected to generate a substantive theory rather than formal one. Glaser and Strauss (1967) state that a substantive theory may provide a base for the development of a larger formal theory. Consequently, the theory generated in this study is limited to explaining factors that affect the implementation of e-government in Jordan over time.

5.4 CONSTANT COMPARISON

The purpose of grounded theory is to discover theory from data through the method of constant comparison (Glaser & Strauss, 1967). The strength of this approach is that “theory derived from data is more likely to resemble the reality than is theory derived by putting together a series of concepts based on experience or solely through speculation (how one thinks things ought to work)” (Strauss & Corbin, 1998, p. 12).
Constant comparison, generally referred to as pattern matching, which means (a) comparing different people (such as their views, situations, actions, accounts, and experiences); (b) comparing data from the same individuals at different points in time; (c) comparing incidents with each other; (d) comparing data with categories; and (e) comparing categories with each other (Charmaz, 2000, p. 515). Constant comparison reminds the researcher to return constantly to the data so as to verify the emerging categories, and to examine and compare concepts for similarities and differences (Strauss & Corbin, 1990) whereby incoming data is checked against previous data to find out whether the same concepts appear and are relevant for the new cases because the concepts usually represent the pillars of the emerging theory. Glaser and Strauss (1967) utilise the method of constant comparison to verify a concept or category to ascertain that it does indeed “fit” the data, as well as to add greater clarification to it. In practice, the process of grounded theory analysis is not so strictly linear, but rather is also iterative therefore constant comparison can be used jointly with theoretical sampling (see Section 5.5) for collecting new data or on previously collected or compiled data. In order to group similar data together accurately in this research, the researcher looked for similarities and differences between passages and sentences, in the manner recommended by Strauss and Corbin (1990).
5.5 THEORETICAL SAMPLING

Theoretical sampling is the grounded theory procedure which guides the collection and analysis of data throughout the research project in order to develop the emerging theory.

According to Glaser (1978), “theoretical sampling is the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyses his data and decides what data to collect next and where to find them, in order to develop a theory as it emerges. This process of data collection is controlled by the emerging theory, whether substantive or formal” (p.36).

The general procedure of theoretical sampling is to apply constant comparative analysis as the data are collected in order to obtain codes from the raw data. These codes are then used to direct further data collection which serves to add to, modify or change the original codes, and thus redirect further data collection. Theoretical sampling on a code should be stopped when a condition known as saturation is achieved; the condition in which gathering new data and analysis does not contribute to the revelation of new categories (Strauss & Corbin, 1990).

Strauss and Corbin (1990) compare theoretical sampling to sampling methods in quantitative research. They stress that sampling in quantitative research is based on selecting part of population before the study begins which is supposed to be representative of a larger population to which one can generalise. Thus, the primary concern here is the representativeness of that sample in terms of its specific characteristics. In grounded theory,
however, the concern is the representativeness of the concepts relevant to the emerging theory. Moreover, analysts do not know the number and types of groups from which they will collect data until the research is completed (i.e. saturation is achieved).

5.6 APPLICATION OF EACH PROCEDURE AND DATA ANALYSIS STEPS TO THIS RESEARCH

The following list enumerates the different procedures of the data analysis as applied to this research.

- **Using the literature:** In this study the researcher used both technical and nontechnical literature. In the first stage, technical literature was reviewed, since the researcher adopted Strauss and Corbin’s approach in terms of using the literature to shape the empirical research. At the data collection and analysis stage, a lot of nontechnical literature, such as Jordanian newspapers, and UN and government reports, was gathered when necessary for the purpose of supporting several emerging issues resulting from the empirical research.

- **Constant comparison:** This was a critical component of data analysis and was used extensively throughout the analysis in this research. The first type of constant comparison the researcher employed in this study involved comparing a passage of the text with the emergent category. The aim was to ensure that the text was placed in the correct category which meant that the category name had to reflect the text. In particular, Strauss and Corbin's (1990) suggestion of constantly referring between
the category’s definition and the passage was taken up. This process ensured that
the text was placed in the correct category.

Even then the text was sometimes still too vague, but the researcher did not force it
into a category. Instead, when the researcher felt that the topic was important, he
asked the participant a follow up question to determine what the participant meant
by his or her vague expression. For instance, some participants remarked that “it is
impossible to implement e-government in Jordan because there are many other
initiatives that have failed”. The researcher was unsure whether they were making a
subjective judgment or whether it was based upon objective facts. As the researcher
did not want to force the concept into a category without being sure where it should
fit, a follow up question was asked about the remark in subsequent interviews. Then
a new category named “previous experience” was created to represent accurately
what participants meant by their views.

- **Theoretical sampling**: The researcher applied this process to the present research
by choosing employees to participate based on their sharing of common features,
one of them being that they are all from the public sector. In addition, the profiles of
the citizens interviewed in this research vary (see Section 5.8) in terms of their
educational level, gender, area, religion, and political activity. This process of
interviewing a participant, analysing data, and identifying concepts as they emerge,
was used throughout the period of this research (Strauss & Corbin, 1990). Furthermore, the researcher employed the process of theoretical sampling as
evidenced by new people being interviewed during the second and third cycle of this research. For instance, the terms “laws” and “attract investments” repeatedly came up in the first and second cycle’s interviews. The researcher therefore felt that further examination of these two terms was required in the third cycle, and he consequently decided to add new participants who play a significant role regarding laws and investments because of the nature of sampling within grounded theory (see Section 5.7 on participants).

- **The three coding procedures** as identified by Strauss and Corbin (1990) were implemented in this research, as illustrated below.

1) **Open coding** was applied (see Section 4.7.1) and a total of 28 open codes were created based on 42 interviews over three cycles of fieldwork including both employees and citizens. Appendix 3 lists all the open codes that were labelled during this process, with samples of the key words or phrases attached to each label.

   It is important to note that sometimes entire paragraphs presented only one concept and were labelled as such, while at other times a number of concepts were discussed within the same paragraph. For instance the following paragraph represents one concept; public sector weaknesses:

   “When we collect data and reports about a certain governmental department, we are sometimes surprised that this department has been disbanded or attached to another ministry, which definitely wastes time, effort and money. The public sector in Jordan is unstable in its organisation; every now and then we hear that a new
department has been established or disbanded. This makes the implementation of
the e-government services for some ministries impossible”.

Whereas, the next paragraph represents three concepts: lack of IT qualified,
salaries issues, and regulations and legislation:

“Believe me, I know many people who are very expert in the field of IT, but
unfortunately we are not allowed to appoint them because they can’t apply directly
to the MOICT. Instead they have to apply to the Civil Service Bureau first, and
then wait for their role in recruitment”

2) Axial coding: In this coding procedure, the open codes listed (see
Appendix 3) were clustered together by looking for relationships between or
among codes/concepts. In particular, Strauss and Corbin (1990) suggest
looking for answers to questions that pertain to the developing theory. In this
case, the questions applied were: what factors influence the implementation
process? What factors are most influential? In addition, LaRossa’s (2005)
suggestion to continually ask the following questions was employed; how do
the categories created during open coding relate to one another? How are
they linked? How can categories be grouped?

The researcher did not particularly code text with axial concepts (i.e. like
what happened in the open coding procedures), but rather began to
determine possible relationships between categories by grouping factors
together under common larger categories. For instance, at the beginning of
this grouping process, the researcher grouped the factors together under
categories such as barriers and drivers. Constant comparison was then used to compare the open codes listed under that axial code with each other, continually asking questions such as: How do these axial codes show relationships and explain factors that influence the implementation of e-government? Through the process of axial coding the following categories were created: financial, human, cultural, institutional, political, external, citizens concerns, national, and citizens. Each of these categories has been classified into either barriers or drivers.

3) Selective coding: During this stage of this research the researcher did not specifically label text as “selective code 1” or “selective code 2”. Rather, he developed possible models with different groupings of categories, using a variety of possible central categories and arrows to explain relationships between categories and the underlying concepts.

The identification of the core category in this research informs a substantive theory that identifies and comprehends the factors that influence the implementation of e-government in Jordan over time.

5.7 SELECTION OF PARTICIPANTS

According to MOICT (2006), the primary stakeholders in Jordan’s e-government are as follows:
1. **E-government Users**
   In any project around the world, e-government starts with users who are the people who will use e-government services. Users represent citizens, employees, and businesses.

2. **Legislation Authority**
   Legislation authority is major stakeholder in e-government. Indeed, as representatives of citizens, Jordan’s MPs and government officials (i.e. Ministers) are in many ways the ultimate owners of e-government, together with users. Political commitment, engagement and active ownership of e-government at the highest levels of government are vital to its success. Specifically, e-government asks political leaders to reform the public sector as it is essential for e-government service delivery, and support the policymaking needed for e-government implementation.

3. **Government**
   Government itself plays a leading role in e-government, not only as a user of services, but also as a policymaker, manager, coordinator and regulator. Government entities and their employees are essential actors in e-government implementation programme as they are the main providers of e-services in Jordan.

4. **E-government Department**
   The e-government department is the facilitator and co-executer of e-government. It is responsible for enabling and supporting e-government services in all government departments. The department responsibilities include: Setting strategic directions for e-government in Jordan as defined and approved by the
national e-government committee, developing, issuing and maintaining standards, support and consultancy services, operating the e-government services that are hosted by e-government department, budgeting for e-government needs, implementing shared services for government departments to promote implementation of standards and specifications, and finally acting as a coordinator for the implementation.

5. Partners and Providers
E-government involves the participation of private sector. Private sector partners are becoming involved in the direct delivery of e-services to users, not only as the service provider but also as the source of financing and infrastructure maintenance.

As a result, the researcher chooses to collect data from at least one person of each stakeholder’s category as identified by the MOICT to ensure that the e-government stakeholders in Jordan have been represented in this research. In addition, interviewing employees from several ministries will help to gain rich information from several viewpoints since the e-government services can be measured in terms of the number of departments that implement such service in their activities.

The following employees have been chosen since they represent the key e-government stakeholders (MOICT, 2006) within the e-government implementation process.

- The Director of E-government in the Ministry of Information and Communication Technologies (MOICT), in which he had a 9 years’ project
experience of e-government. The purpose in selecting him was to obtain as much information as possible about the e-government project from a person who is directly and strategically involved in this project on a day to day basis. His department of the MOICT is responsible for enabling and supporting e-government services in all government departments.

- The Director of Change Management in the same Ministry was also selected as she is in a prime position to communicate with other government departments in terms of the planning, analysis, and transformation processes. One main area when implementing e-government is change management. Change enablement is essential to the success of any e-government project. To achieve its objectives, implementation of an e-government project must include actions and decisions that drive changes in process, awareness, and capabilities of the project users. In addition, the program will be offering a comprehensive Change Management Kit to government departments that will include a reference manual and standards for e-government projects. Therefore, the researcher felt that it is very important to gain an overview about the factors that affect e-government implementation from this person.

- One senior manager from the Ministry of Labour, and one lower-level member of the Loans and Grants section of the Ministry of Planning, as the researcher needs input from employees who will be affected by the e-
government system from different management levels in selected ministries, in order to understand their views on the e-government implementation. Development of a legal framework for e-government will involve multiple entities at various stages from drafting to enactment and enforcement. Enforcement of laws and regulations by appropriate entities which includes the Ministry of Planning and Ministry of Labour (MOICT, 2006). Moreover, the reason for choosing the Ministry of Planning in general, and the Loan and Grant department in particular, was because the main aim of this department is to manage and finance operations for different developmental projects and programs which includes the e-government project. In addition, one of the main responsibilities of this department is to find suitable financing sources for the developmental projects such as e-government.

- One senior manager from the Central Bank (Ministry of Finance). The Ministry of Finance has issued regulations on e-payments, and the Central Bank particularly has issued regulations that partially address e-transfers and e-banking. Enforcement of laws and regulations includes also the Ministry of Finance and Central Bank (MOICT, 2006). Therefore, this person was considered an appropriate and significant subject as he is involved directly in the e-government project.
- One staff member from the Audit Bureau. Enhancing e-readiness in the government departments is key issue to the successful delivery of e-government in Jordan. Helping government departments to assess and enhance their own e-readiness was considered a major issue in e-government project (MOICT, 2006). This includes the development of an adequate legal framework and controlling the decisions and administrative procedures in government department (MOICT, 2006). E-government department will provide support in identifying and drafting the legal arrangements that required to enable e-government, in coordination with Parliament and other departments such as Audit Bureau. Therefore, the researcher found that Audit Bureau is an important department since the mission of this department is to monitor the procedures taken by all government departments in Jordan.

- From the private sector the researcher collected data from a project manager for the Specialised Technical Services (STS) Company. STS considered the main private sector supplier for delivering e-services to users. In addition, STS is the only company that has one, as of its missions, the maintenance of infrastructure for the e-government project.

During the second and third cycles, a total of two participants were added to the body of public employees being interviewed:
• One high-level staff member from the Jordan Investment Board (JIB) was interviewed during both the second and third cycles, to address the issue of attracting investments (since this issue was found to be one of the main drivers of Jordan’s e-government implementation in the first cycle).

• One Jordanian MP to obtain his viewpoint toward the laws and regulations that needs to be changed in order to be compatible with e-government services. The MP participated only in the third cycle of empirical work. Legislation authority is one of the major stakeholders in the e-government programme in Jordan since this category was mentioned explicitly in the documents of the MOICT.

The two participants were added because the terms “laws” and “attract investments” repeatedly came up in the first and second cycle’s interviews; therefore the researcher employed the process of theoretical sampling which allows the researcher to add new participants to further examine new terms or concepts. Table 5-1 represents demographics background of the employees interviewed in this research.

With regard citizens, the researcher felt that it was necessary in the first cycle to obtain a broad idea of what citizens thought of the implementation of e-government in Jordan. Interviewees’ time was so limited, however, that it would not have been possible in most cases to set aside enough time to meet the criteria for semi-structured interviews. In order to reconcile these conflicting demands, a structured interview was the only viable option
available to the researcher and therefore a total of 130 structured interviews were conducted with citizens in the first cycle. This approach to the citizens input was modified, in that 9 different Jordanian citizens for second and third cycles of varying profiles were interviewed. Information about the profile of each citizen selected to take part in the second and third cycles of this research is given in Table 5-2.

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Age</th>
<th>Gender</th>
<th>Education</th>
<th>Number of interviews</th>
<th>Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director of E-government</td>
<td>44</td>
<td>Male</td>
<td>MSc/IT</td>
<td>3</td>
<td>All 3 cycles</td>
</tr>
<tr>
<td>Director of Change Management in the MOICT</td>
<td>29</td>
<td>Female</td>
<td>BSc/IT</td>
<td>3</td>
<td>All 3 cycles</td>
</tr>
<tr>
<td>Senior manager from the Ministry of Labour</td>
<td>41</td>
<td>Male</td>
<td>BSc/Business</td>
<td>3</td>
<td>All 3 cycles</td>
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<tr>
<td>lower-level member from the Ministry of Planning</td>
<td>31</td>
<td>Male</td>
<td>BSc/Economic</td>
<td>3</td>
<td>All 3 cycles</td>
</tr>
<tr>
<td>Senior manager from the Ministry of Finance</td>
<td>54</td>
<td>Male</td>
<td>PhD/Finance</td>
<td>3</td>
<td>All 3 cycles</td>
</tr>
<tr>
<td>Staff member from the Audit Bureau</td>
<td>34</td>
<td>Male</td>
<td>BSc/Accounting</td>
<td>3</td>
<td>All 3 cycles</td>
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<tr>
<td>Project manager from the private sector</td>
<td>39</td>
<td>Male</td>
<td>BSc/Computer Engineering</td>
<td>3</td>
<td>All 3 cycles</td>
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<tr>
<td>Jordanian MP</td>
<td>52</td>
<td>Male</td>
<td>BSc/Law</td>
<td>1</td>
<td>3rd cycle</td>
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<tr>
<td>High-level member from the Jordan Investment Board</td>
<td>35</td>
<td>Male</td>
<td>MSc/Management</td>
<td>2</td>
<td>2nd and 3rd cycle</td>
</tr>
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Table 5-1: Profiles for each employee interviewed in this research
<table>
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<tr>
<th>Citizen Profile</th>
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<th>9</th>
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<td>x</td>
<td>x</td>
<td>x</td>
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<td>Christian</td>
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<td>Bachelor's</td>
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<td>x</td>
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<td>x</td>
<td>x</td>
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<td>Master degree</td>
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**Table 5-2: Profiles for each citizen interviewed in the second and third cycles**

Choosing citizens from different regions was because Jordan is divided into three regions (DOS, 2006): Central region, North region, and South region, each of which comprises four governorates. The Central region contains the large cities of Amman, Balqa, Zarqa, and
Madaba, the Northern region consists of the main governorates of Irbid, Mafraq, Jarash, and Ajlun, and the Southern region includes the cities of Karak, Tafiela, Ma’an, and Aqaba. The south region represents the largest area in the Kingdom (51%), while most of the population is concentrated in the Northern and Central regions.

An active member of the IAF was chosen to be one of the interviewees in this research because in Jordan there are 22 political parties, which are authorised in the Jordanian political life to take part in the elections. The principal opposition group is the political arm of the Muslim Brotherhood, the Islamic Action Front (IAF), and is the only opposition party represented in parliament (they won 17 seats in the 2003 election and 6 seats in the 2007 election).

In short, the 18 citizens as shown in Table 5-2 selected to take part in the second and third cycles mirrored the mix of citizens found in Jordan as a whole as the above profiles were based upon statistics published in the government document (DOS, 2006; DOS, 2008; MOICT, 2006). However, the researcher decided not to have an independent pilot study but instead considered change in activities to be part of the evolving qualitative research method as confirmed by Merriam (1998).

To summarise, since Yin (2003) confirms that interviews of this nature of research tend to reach a point of data saturation after interviews with about eight individuals. Therefore, over the three cycles of this research which took place on August 2006 for the first cycle, July 2007 for the second cycle, and March 2008 for the third cycle, the researcher collected data via interviews from 27
participants representing the major stakeholders of e-government in Jordan (MOICT, 2006), as shown in Figure 5-1 as the larger numbers would help to reduce the data bias, which can be a problem with qualitative research of this nature (Lam, 2005), and therefore increase the reliability of the research findings.

![Figure 5-1: Research participants in this research](image)

### 5.8 INTERVIEWS

As stated before, the primary method of data gathering for this research was via individual interviews, the majority of which were semi-structured. In total, 130 structured interviews were conducted with citizens in the first cycle to gain the citizen’s viewpoints regarding the e-government implementation in Jordan. This provided little in the way of useful information, and therefore the researcher changed the method of data collection to semi-structured interview with less citizens in the expectation of gaining an in-depth individual
point of view in the second and third cycle. These proved to be much more informative than the first cycle. The researcher tape recorded each semi-structured interview session. This allowed interaction and careful concentration on what was being said, rather than focusing on trying to write down every detail mentioned.

With respect to the semi-structured interviews, the researcher phoned or e-mailed each participant to confirm the meeting date, time and location. Prior to each scheduled interview the researcher made a follow-up phone call or sent an e-mail to remind participants of the meeting’s date, time, and location.

The researcher met with the participants ten minutes prior to each semi-structured interview to explain the nature of the research. Following this, each volunteer participant was given a consent form (see Appendix 4) at the initial contact. If employee agreed to participate, he returned the signed consent form.

Interviews were conducted by the researcher in Jordan, and were conducted on the premises of the ministries or government departments. Individual interviews in the second (C2) and third cycles (C3) were semi-structured (in the manner described further in Appendix 5 and 6) to maintain the focus of the study while also allowing the freedom to explore the responses of participants in greater depth.

As Glesne (1999) explains, “rapport is tantamount to trust and trust is the foundation for facilitating full and detailed answers to your questions” (p.83). The researcher tried to make each interview similar to a conversation, as recommended by Strauss and Corbin (1998),
because it is important for participants to feel comfortable sharing information and talking about their understandings. Creating an atmosphere of informality was a critical component of the interview process. In a more formal interview situation, participants might have felt inhibited from talking freely about their experiences. The researcher built a rapport with each participant through natural conversation and exchanges of information.

The order of interview questions in the first, second and third cycles was varied, as interviews were tailored to each participant. The questions centred around identification of factors, these comprised the question on benefits, challenges, and barriers in a way to try get as many different factors from different points of view. In addition, the same questions were not asked of all participants (as shown in Appendix 5); this was planned at the outset. For example, questions regarding issues such as resistance to change and promotion of services were not asked to the supplier because he is from the private sector, and is therefore not involved in the promoting of e-government services in Jordan, and so therefore would not usually experience resistance to change directly.

5.9 TRANSCRIPTION AND TRANSLATION

Interviews were conducted in Arabic and were recorded on an MP3 recorder where possible before being transcribed into that language. The researcher read the transcripts three times to ensure accuracy of correlation between tape and written transcript. However, some participants did not want the interview to be tape-recorded. In such cases the researcher had to try to as much as possible of the most significant information expressed
by the interviewees and then each participant was given the opportunity to review and confirm the final draft of their answers.

The Arabic transcripts were then translated into English. The translation was done in the UK. However, the researcher felt that one person translation may raise the issue of bias. One of the main roles of the researcher in the qualitative research is to minimise the bias in his work (Yin, 1994). In this research, bias was reduced by increasing the validity and reliability of the translation by sending each interview in Arabic and English to two Jordanian PhD students at De Montfort University asking them to read each interview and to inform the researcher if something needed clarification, so that corrective acting could be taken.

5.10 CONCLUSION AND SUMMARY

This chapter presented the grounded theory procedures that were used in analysing the data collected for the purpose of identifying the factors that influence e-government implementation in Jordan over time. Since this research was dependent on Strauss and Corbin’s version of grounded theory, it reveals that different resources of literature were used as recommended by Strauss and Corbin (1990). This chapter also confirmed that the grounded theory resulting from the empirical research will be substantive, since it is limited to a single case (Jordan) and that the theory cannot be generalised to other situations. The constant comparison which represents one major aspect of the data analyses procedures was presented, with examples of how it was applied to this research. The process of collecting
the data was outlined in the context of theoretical sampling, which is used to direct this process. Interview procedures and how the participants were chosen were also discussed in this chapter. Finally, open, axial, and selective coding procedures also presented.

The next chapter will present the results of this research that has been investigated to achieve the research aims.
CHAPTER 6

FINDINGS FROM THE FIELDWORK: THE BARRIERS AND DRIVERS OF E-GOVERNMENT IMPLEMENTATION IN JORDAN

6.1 INTRODUCTION

As derived in Chapter three, the purpose of this research has been to investigate the dynamic nature of, and interrelationships between, the factors that influence e-government implementation in Jordan over time. The practical element of this aim was achieved over a three year period using grounded theory as a data analysis tool. The factors were derived principally through asking participants questions about their viewpoints toward the e-government implementing in Jordan. This section presents the findings of the data analysis. It focuses on the categories that have emerged from the open, axial, and selective coding (as described in section 5.6).
Figure 6-1: Factors identified that influence e-government implementation in Jordan: findings from the fieldwork
The central concepts, that form the main categories and which were derived from the empirical data, are encompassed within the model of the factors that affect the implementation of e-government in Jordan that is depicted in Figures 6-1, 6-2 and 6-3, and this is, in grounded theory terms, the produced theory. The discussion will focus on what emerged from the data, which naturally separates into barriers and drivers. Where appropriate, interesting issues regarding emergent categories/concepts will be commented on by the author.

It is worthwhile to mention that some of the identified concepts are derived from both citizens and employee data, while others were derived either from citizen data or employee data. For example, citizen’s expectation prior to e-government implementation, cost of living, and previous experience with government projects are derived from citizen perspectives only, whereas regulation and legislation, and data security are derived solely from employee perspectives, reflecting the differences in prevalent issues within each participant group.

**6.2 BARRIERS OF E-GOVERNMENT**

This section covers the barriers of e-government implementation in Jordan derived from the analysis of the empirical data. During the analysis process the identified barriers were classified into seven principal categories: cultural, political, institutional, external, human, financial, and citizen’s concerns (although it is recognised that some of the concepts could easily fit in more than one category). Some of these barriers were found throughout the
first, second, and third cycles of investigation, while others emerged only in the second and third cycle, as shown in Figure 6-2. Discussion of these categories and their associated factors is provided in the following subsections.

### 6.2.1 Cultural Factors

This category addresses the cultural concepts that impede the implementation process of e-government in Jordan, such as the behaviours of employees in the government departments that can be seen as reactions to the implementation. Corruption and Wasta (definitions of which will be covered later in this chapter), which were mentioned by the majority of interviewees as barriers facing the implementation process, can take many forms.

The following paragraphs provide discussion on these and other issues of relevance.

**“Wasta”**

Wasta means “either mediation or intercession. It denotes the person who mediates/intercedes as well as the act of mediation/intercession”. (Cunningham & Sarayrah, 1994, p.1)

There is a widespread consensus of opinion that Wasta is a preferred and accepted practice in Jordan and is acknowledged by officials. Schlumberger (2002) mentions that in the social and administrative context of Jordan, Wasta is a crucial factor in decision making and political change. However, Cunningham and Sarayrah (1994) mention that Wasta is a matter of course in Middle Eastern societies despite that it is not only practiced within the family and tribal system,
but also among friends. However, this does not mean that Wasta is a precise feature of Arab or Middle Eastern culture. A link between social norms and favouritism (i.e. Wasta) can be found in every country and every culture, which stresses on values such as solidarity and loyalty.

**Figure 6-2: Persistent and emergent factors**

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1 Key: Concepts in red colour represent emergent factors whereas those in blue represent persistent factors that are identified within the Jordanian context. Concepts in black colour represent persistent factors that are found in the existing literature on e-government.
In Jordan Wasta plays an important role since it is a tribal country and “senior members of the extended family intercede on behalf of younger or less privileged members in making arrangements for employment, overseas travel, business partnerships, university admissions, bank loans, marriages, and most other out-of-the-ordinary forms of negotiation” (Cunningham & Sarayrah, 1993, p.1). The Minister of Justice in Jordan said in a press interview (Alghad newspaper, 21 Jan 2008):

“Wasta is a social, widely acknowledged custom in which a person attempts to help someone else to get a certain right or service”

In addition, most of the interviewees mentioned that Wasta is a fundamental factor in corruption in the public sector and that it is a hindrance to the country’s progress, which includes e-government. Others, however, do not see Wasta as corruption. One citizen interviewed said:

“You can only say that Wasta is corruption when it is connected to money”

In e-government, Wasta may play a role in hindering the project or causing it to fail altogether, because it can lead to the appointment of unqualified people in different places at the expense of qualified ones. As one interviewed citizen, who holds a Master’s degree in computer science and works in the public sector, said with regard to Wasta:

“I have been working in this department as an IT developer since 1996. I was surprised by the appointment of one employee who graduated in 2005 and who is a relative of the Minister of our ministry. By the time he became head of our department, he was responsible for supervising of 10 employees. He is absolutely unqualified for his position”

Furthermore, Wasta affects not only the recruitment in the public sector, but also the employee’s promotion. One citizen who working at the Municipality of Irbid commented:
“There is always Wasta in promotion in the public sector in Jordan. You get a surprise when some employees get promoted while they are not qualified, while I know some employees who have worked here for 15 years and who do a good job, but who are not promoted. They consider who has the Wasta but not who is qualified”

In addition, the Director of Change Management in the MOICT asserted that:

“Wasta may cause the programme to be delayed as the employee will not be loyal to his department because he knows that everything in the public sector is not based on loyalty and efficiency, but on the one who have strong Wasta”

Citizens unanimously agreed on their desire to have e-government services. They believe that e-government would be a helpful tool for limiting the use of Wasta. As one citizen asserted:

“As a Jordanian citizen wanting to make a government transaction, you must use Wasta so as to achieve things rapidly without delay. The law does not work, and only Wasta applies in government departments. I am, however, afraid whether e-government will solve this issue or not. If not, I can say that e-government is an ineffective project and a losing proposition”

Wasta has a negative influence on the government’s performance. For instance, an unqualified person may be appointed director of the e-government programme because of Wasta, as one employee working in the public sector mentioned:

“Who will guarantee that the manager of the e-government programme was not appointed by means of Wasta? I am sure 100% that it plays a significant role in appointment, especially in high level jobs. You know when a high level government job is available even in the ministries, there are too many people looking for advantage and the chances are few. Only candidates with the strongest Wasta are successful”

In addition, people in Jordan who have Wasta are more likely to win government contracts. This applies especially to those contracts related to providing ministries and government departments with computers, even if these are not up to standard. This will negatively affect
the implementation of e-government since the computers are below standard. As one employee said:

“To be honest, most of our contracts go to one company. This is because the owner of this company has good connections with officials, and sometimes he uses his power to appoint people in the ministry”

Some participants in this research asserted that Jordanian government must aim to minimise Wasta in the public sector. They demand the government to issue legislation to deal with Wasta just as any other illegal activity, otherwise Wasta will continue to inhibit the working on any initiatives in Jordan that seek to improve people’s lives.

Although this research has identified Wasta as a barrier to the implementation of e-government in Jordan specifically, its role as such could be more widespread given its common practice within Arab countries such as the Lebanon (Makhoul & Harrison, 2004), Saudi Arabia (Faisal & Abdella, 1993), Egypt (Mohammed & Hamdy, 2008) and even beyond. For example, Wasta has been found as a practice in China, which is called Guanxi in the Chinese language (Hutching & Weir, 2006). The scope of its reach and impact on e-government implementation in other countries would, however, require further research to establish.

**Corruption**

Administrative corruption is recognised as one of the fundamental problems in Jordan. Marouf Al Bakhit, Prime Minister of Jordan, said that it should be acknowledged that
corruption in Jordan is real and that it exists in government departments (Alghad Newspaper, 16 May 2007). The former Minister of Justice and Chief of the Anti-Corruption Corporation, Abed al-Shakhanbah confirmed that corruption needed tackling in Jordan, when he said in the same newspaper on 20 January 2008:

“Corruption in Jordan is administrative and is considered one of the foremost challenges facing Jordan. The cause of this is sometimes the absence of legal provisions that lead to processes that can’t be described as anything but corrupt”

Corruption in Jordan is a result of failing legislation and administrative complications, and it manifests itself in Wasta, flouting regulations and laws, indifference, negligence, time wasting and an unfair and unequal provision of services.

For e-government, corruption is a major barrier to implementation, especially in the field of tenders, some of which are granted on the basis of who has the greatest national power and influence in the country or whose bribe level is higher. For instance, technological hardware bought for the government departments and projects have frequently been below acceptable standards because of corruption during the tendering process. One interviewee said that:

“Decisions on tenders are often made before publication of the tenders in the media or newspapers. This [publication] is the formal steps that should be taken before making any decisions. This is because some employees who are in charge of this process are taking bribes to pass the tender for someone who has the greatest power in Jordan”

In addition, the issue of assignment is crucial here, since unqualified people have been assigned to work in important positions up to ministerial level as a result of corruption. As the e-government project is a national one, administrative corruption is a great barrier that must be overcome. An interviewee said that:
“No one is hired according to his qualifications; everyone is hired through Wasta. As a result, officers become non-productive and a burden on the ministries and departments. For example, an IT department employee with a mediocre university qualification was hired two years ago when a person with an excellent grade was among the candidates. Such a person will never cooperate with e-government team because he is basically unqualified. This is undoubtedly corrupt. We in the Ministry asked for help from the European Union (EU) to hold workshops about how to resist corruption so as to benefit from their (i.e. the EU’s) experience”

All citizens interviewed mentioned that one of the advantages they expect from the e-government programme is an attack on corruption in public sector departments. Most of them stated that government employees dealt with their transactions as their mood took them rather than as dictated by their public duty; from their perspective, this was corruption. Citizens want their transactions to be made electronically so that no employee could interfere. In addition, they emphasised that hiring anyone through Wasta should be considered corruption. As one citizen said:

“When I apply for some job, I don’t want anyone to interfere; I want everything to be done transparently”

Another participant supported this by stating:

“I think that Wasta is the basis of corruption in Jordan; it exists in all government departments, where no transaction can be done or any job applied for without Wasta. It is definitely corruption”

In order to end corruption in Jordan, a new government department was formed in 2008, by order of the King. This department is called the Anti-Corruption Committee, and its mission is to fight crime relating to the duties entailed in public positions, crimes that include bribery, embezzlement, obtaining private benefit from jobs and misusing authority and power.
In this regard, The World Bank’s official view is that “institutions are central in the fight against corruption” (World Bank, 1997, p.65). Therefore the fighting against corruption within government departments should start from inside these departments in the Jordanian public sector.

Among the factors were identified as appearing to cause corruption in Jordan, low salaries and high taxes compared to living costs, the salary differentials between public and private sectors, poverty and unemployment.

In brief, corruption in Jordan impedes the implementation of e-government. Furthermore, one of the key advantages which citizens are looking for, and indeed expect from e-government, is that it makes processes more transparent and procedures substantially less open to corruption.

**Fear of and Resistance to Change**

E-government is the transformation from traditional methods of work into electronic ones, which could mean a new environment completely different to that which currently exists in government departments. The implementation of e-government may therefore lead to significant resistance to this change. This resistance has indeed already been identified in many studies of e-government implementation conducted in both developed and developing countries (Lam, 2005; Deloitte Research, 2000; Evans & Yen, 2005; Ndou, 2004; Heeks, 2002; Carbo & Williams, 2004; Choudrie et al., 2005) as highlighted in Sections 2.7 and 2.8.
Furthermore, it has been categorised by some authors as a cultural barrier and is considered as the biggest barrier to implement e-government (Sharma & Palvia, 2003; Margetts & Dunleavy, 2002).

As mentioned later (cf. Section 6.2.5), a lack of e-government understanding among government employees can lead to resistance to change; implementation will also lead to changes in jobs in the public sector, and these changes may not be accepted by employees, who consequently will resist them. Employees must be given the opportunity to learn about the project so as to minimise resistance. Some of these employees are afraid of losing their jobs or financial privileges when the programme is implemented. Furthermore, some of them consider e-government as a radical change in the public sector structure, and are consequently afraid of finding themselves obliged to learn new skills, especially those concerning IT.

Some of the fears shown by public sector employees are real, whereas (as mentioned by an interviewee working on the programme) some have no real grounds, such as those regarding the changes in an employee’s position. As the Director of Change Management in the MOICT said:

“If you take a look to the public sector in Jordan you will definitely realise that some offices have six employees while the job can be done with just two”

Therefore the resistance of those employees whose jobs are unjustifiable would to some degree be understandable. A number of employees also believe that they must know English so as to be able to deal with the new system. An interviewee stated:
“We are not in a situation that allows to us to learn English, even though I know that we have to learn it so as to be able to deal with the new system”.

Ironically they do not need to do this, since the programme is presented in both Arabic and English.

One type of resistance, practiced by some employees, is non-cooperation with the e-government team, as the Director of E-government mentioned:

“We face big problems when dealing with employees in government departments, even managers. They do not cooperate with us at all because they think that we will replace them with computers and, consequently, they resist change even now. So, imagine what will happen when the programme is applied?”

Cecchini and Raina (2004) say in this regard that “in the case of e-governance projects, the local administrative and political machinery needs to be involved in the implementation of the project, or otherwise the chance of failure is almost certain” (p.81). In addition, Evans and Yen (2005) assert that government employees must understand the benefits of the new procedures to implement e-government.

Even when new training programmes are implemented, that are intended to increase employees’ awareness and reduce the possibility of resistance, most of them see these programmes as an exam they must pass without having the chance to put the training into practice, as one employee asserted:

“I attend an intensive training programme called ICDL. To be honest I lost what I’ve learned because there is no way to implement the new skills we learned in the working environment and also I haven’t a personal computer in my home to keep practicing the skills I’ve gained”
To summarise, resistance to change emerges from fear of losing privileges or jobs. It represents an important barrier to the implementation of e-government in Jordan. Some of the measures that may be put in place in order to reduce the effect:

- The involvement of the Jordanian government officials at all stages of e-government project, and join them to the project work group, and involving the employees from the top management to the team who managing the project. In addition, government should explain the goal of e-government project, with an emphasis on the staff that they are not the target of change, the more the development on the project the more the government officials will change their understanding and their expectations.

- The improvement of the skills of government employees during the life cycle of the project in order to be able to acquire new skills and adapt to changes. Early training for government officials who are selected for the working group or project management team provides the first batch of users with the required knowledge.

6.2.2 Political Factors

E-government requires strong political participation and support from MPs to enable and speed up the changing of laws, the elimination of any concerns about data security, and the prioritising of the project on the government agenda. These factors are described in more details as follows.

**Regulations and Legislation**
The e-government and any subsequent e-transactions between public sector departments and other sectors require a different regulatory framework from the current one. Examples include e-payments and e-crimes, the legal use of e-signatures, and the legal enforcement of data protection between governmental departments and citizens. Current legislation in Jordan is based on laws that have been in existence for many years, before ICT/Internet technology was mature. As such, legislations do not adequately cater for today’s ICT-based society.

An interviewee mentioned that the Audit Bureau, who controls the consistency of revenues and expenditures in government departments, as well as providing expert advice on accounting issues, is expected to check all written transactions according to existing regulations, but there are no instructions in the Audit Bureau’s regulations on how to check and control e-transactions.

It is surprising in this regard that the current Parliamentary session in Jordan has nothing on its agenda regarding e-government regulations and laws. One MP said:

“We are now busy discussing the general budget and the issue of the increases in prices that will negatively affect citizens, in addition to discussing how to improve the living standard of citizens. As for e-government, I do not think that it will be discussed at present because there are things that are more important to citizens than that. Also, if there are problems of legislation, the Minister of the MOICT would be the one to raise the issue, but till now I have not heard that anything is to be formally discussed in Parliament regarding e-government”

An employee engaged in the e-government project likewise referred to the regulations issue as a barrier to the presentation of any e-government services. For example online updating of information concerning land ownership, which is offered by the Department of Land and Survey (DLS), was not regulated by new laws.
Parliament must play an important role in monitoring and controlling the progress of e-government before and after implementation. In the UK, for instance, MPs monitor the progress of any e-government services offered by the government. They keep track of how many people use e-government services and they compare the programme against other e-government programmes in developed countries. For example, an MP, Mr. Robathan (House of Commons Hansard Debates, 17 Jun 2003 (pt 5)), asked the following question regarding his concerns about the users of e-government services in the UK:

“The Secretary of State for Trade and Industry has pointed out that only one in 10 UK citizens have used online Government services, compared with half the Canadian population. How does the Minister see this issue as going forward?”

As exhibited by this quote, there appears to be awareness among UK MPs of the need for e-government services. They monitor the programme, which makes the Department responsible for the implementation of e-government work harder in order to minimise the concerns of MPs.

**Parliament’s Priorities**

The Jordanian Parliament is the legislative authority, and it is therefore a vital political factor in ensuring appropriate laws are passed. Parliament does not regard its role as a mere formality: many laws proposed by the Jordanian government (the executive authority) have been rejected by Parliament. One example is a proposed new law regarding traffic penalties, whereby the government would seek to raise the fines on traffic violators. Parliament did not pass this law. It can therefore be seen that Parliament plays an important role in passing legislation relating to the e-government project, a state of affairs that
necessitates prior awareness by MPs of the project’s advantages for Jordan in general and its citizens in particular.

As an interviewed MP revealed, parliament’s priorities are currently the handling of price increases, and on draft legislation proposed by the government that directly affects citizens’ lives (It must be remember that the current Parliament is very new, its members having been elected in December 2007). The e-government project is, however, not on this Parliament’s agenda, and there are no plans to discuss it for the time being. This seems to the current author to be an act of negligence on the part of the MPs, as the e-government project does not appear to receive the requisite amount of attention from them, even though it is a project of national importance that will change the structure of whole public sector.

The interviewed MP said,

“We in Parliament do not object to the proposal of any project. It is actually the government that proposes projects to be issued. Parliament’s role is to discuss all aspects of such projects and to issue decisions accepting them, with or without amendments, or rejecting them in total. Regarding the e-government project, we have not yet heard anything in this regard from the Minister of ICT. We as a Parliament are observing the government’s performance and are raising questions about some issues, but actually we did not hear anything about the programme except that they are working to achieve it. We did not see anything concrete until now. Even in Parliament there are sub-committees dealing with such matters as finance, law, agriculture and foreign affairs. However, there is no committeespecialising in IT”

MPs in Jordan are facing great pressure from their constituents to find jobs for them. As an MP said:

“Every day, too many people from my village come to my office asking me to find jobs for their sons and relatives. You can’t say no to them, you have to try”
In addition, government departments are always under pressure by MPs to hire people for social considerations which make their focus serving those people instead of doing their public duty. One employee in the Municipality of Irbid said:

“The mayor is always under pressure. MPs frequently send lists of job applicants to the mayor containing names of family members for whom they wish to find employment”

Some interviewees confirmed that MPs in Jordan are restricted to the interests of their tribes and families. In their job they give little concerns in developing the whole public sector as one employee mentioned:

“MPs in Jordan win elections because they belong to the big tribes. MPs always give commitments to their local citizens, such as finding jobs and improve the infrastructure of their areas, I cannot see them to be the right people to make the required change in the public sector”

**Data Security**

One of the internal political factors impeding the implementation of e-government is the heterogeneity nature of the data available within the departments, and the protection of that data.

Security procedures and the involvement of military-based departments in many government services makes the re-engineering process, which involves the integration of civic and military departments, harder due to legal, security, and cultural considerations. Military-based departments and key ministries (such as the Ministry of Interior) will resist fiercely and not compromise by being integrated with other civil public sector departments. These departments refuse to put their data onto one server due to their unwillingness to disclose their personal information to all members. This severely hampers the implementation of some integrated e-government services, of which the security
departments are part. For example, the Vehicles and Drivers License Department is run by the General Security Department; such an important service is needed by everyone who wishes to obtain a driving license or to license his/her vehicle. This service intersects with others such as the payment of fines. Anyone who wishes to pay a fine must firstly get the information from the Vehicles and Drivers License Department, and then go to the municipality to pay it. On the e-government website, the Vehicles and Drivers License Department publishes initial information only about documents required for conducting a transaction, but they do not offer electronically any service that is traditionally offered offline.

Kulchitsky (2004), when reviewing the development of a National Information System (NIS) in Jordan, states that Jordanian officials described the problems associated with the unwillingness to share power, and information between different departments, as well as the high level of competition between them, as the “horrific atmosphere, when institutions refused to share and display information during the design and development of the NIS framework” (p.34).

The protection of data against breaches is a challenge to the programme especially with regards to its citizens. Consequently, the issue of military-based departments and key ministries will lead to the partial failure of the project, if they insist on opposing the transferral of their data onto a single server managed by the e-government department.

Ciborra’s (2005) review of e-government in Jordan indicates that the:
“Transition is not from a public bureaucracy to a market organization (the concern of all the new public management literature) but from a military culture to a business/market culture” (p.266).

This concern about protection extends even to government data, which is exposed to breaches due to the absence of completely robust security. This was confirmed by a member of the Audit Bureau, whose job is supervising the spending of public money in all governmental departments.

“We check all governmental transactions, whether administrative, financial or organisational and, consequently, we examine all governmental documents. We have full authority to see every piece of data in every government department. Such data, even if it was placed under one server, it will not be easy to protect it from attack. Therefore, we as the Audit Bureau consider our data to be highly secret, to the extent that no one has permission to access it. If the e-government project is achieved, who will guarantee that there will be no breaches of information?”

**Government’s Priorities**

Since e-government is a national project, the responsibility of implementing it in every detail falls on the government itself. Nevertheless, the e-government project in Jordan is not a high priority on the government’s agenda. For example, the Director of E-government mentioned that a recent statement made by the Prime Minister in front of the Parliament (PM, 2008) did not mention anything regarding e-government. This omission was also mentioned by officers in government departments, such as the Ministry of Planning.

During 2007, the government was busy with the issue of municipal and parliamentary elections, and other issues consequently remained in abeyance until the elections were over. The Director of E-government said that:
“We sometimes see that the government is more concerned with other things such as elections and give these a huge budget, whereas we at other times face routine problems with officers from government departments in the issue of tenders. This indicates that the e-government project does not constitute an important priority for government departments, while there is a lot of talk and little work. Sometimes I really become disappointed. I can say that this year our progress is almost zero because the whole country is busy with the elections.”

However, Jordan as a developing country needs continuously to improve its image in the West. It therefore concentrates on improving political concerns such as democracy at the expense of others such as e-government.

For instance, despite the fact that Jordan is launching many ICT initiatives in parallel including e-government, e-learning, and e-health (McConnell International, 2002), the Jordanian government always appears more concerned with other events, such as municipality elections, parliament elections, and elections in the universities. The concentration and focus of government on a specific project has therefore been lost. These issues and events occur frequently in Jordan. Government must therefore find an avenue whereby the e-government project can continue to move forward during the period of the elections or any other unexpected events, otherwise the implementation process will be delayed or even curtailed and abandoned.

The omission of the e-government project within the written national agenda (National Agenda, 2008), while the majority of its chapters focused on improving the infrastructure of distance areas and building new schools and reducing the unemployment rate, also confirms the low priority of e-government on the government agenda.
Changing Ministers

Among the issues mentioned as barriers is the continual replacement of ministers and officials in Jordan. Since the country’s establishment in 1921, Jordan has had 37 prime ministers and 87 governments (PM, 2008). From these statistics it becomes clear that ministerial positions are unstable. E-government in particular needs directors and ministers implementing long-term plans. An interviewee in the Ministry of Planning said:

“To date, I have worked with 11 ministers. Some of them give priority to developing the IT department; while others held it back. You notice that every minister has different priorities”

In addition, ministers change frequently because the regime has to balance between the various influential tribes in Jordan. As a result, ministers usually stay in office for only a few months. They do not have much time to make any improvements in the project, as one interviewee said:

“You know Jordan is a tribal country. The king has to keep all tribes satisfied in order to insure their loyalty to the regime. Some ministers belong to big influential families. Therefore they are appointed because the support of their families for the King is important for the stability of the Jordanian political regime”

This factor has been identified in the previous literature but not because of the tribal system. For instance, Seifert and Bonham (2004) found this factor because of the reengineering processes. They also affirmed that the continual changing in official positions over 18 months further impacted to the inefficiency of the e-government implementation.

A project of this nature needs a long time to reach completion, and consequently the constant change of ministers and directors in Jordan hinders progress on the
project. When a sizable minister’s period of service does not exceed one year, they cannot oversee completion of any aspect of the project. When that minister leaves, another comes, but instead of continuing his/her predecessor’s policies, s/he begins the whole process anew. Each new minister also makes personnel changes in his/her ministry which affects the progress of work and planning.

6.2.3 Institutional Factors

The institutional category is related to the problems within the government departments in Jordan. It includes barriers such as the communication and coordination process among government departments and how this process acts as an obstacle, the complication in procedures within government structures that lead to delays in the implementation process, weaknesses in the public sector and the legacy systems that have been used in this sector. All these factors are classified as institutional barriers and are described in the following paragraphs.

Complication in Communication Processes

This factor is would be a major obstacle to improving the performance of government agencies, even without the existence of e-government.

Owing to the magnitude and complexity of the e-government project, it will impose organisational changes on the style of government work, which in turn requires the development of a framework for managing the process of change. This change process needs strong leadership on the part of government managers and employees, it also needs
an effective communication and coordination process between government departments, something which Jordan does not at present possess. For instance, the communication process between governmental departments, on the one hand, and the e-government team, on the other, is time-consuming and hinders progress. An employee in the Ministry of Labour commented that:

“When the e-government team comes from the MOICT to meet with us, we feel that they think that we are experts in IT and, consequently, expect us to be interactive and cooperative. Regretfully, that does not happen. They sometimes use English terms that we do not understand”

Coordination of department activities with respect to ICT with the MOICT also represents a big problem in itself. Some ministries and departments in Jordan renew their computer systems without consulting the MOICT, which in itself causes difficulties when embarking on the provision of e-services.

In conjunction with the communication process, the centralisation of decision making in the Jordanian public sector structure hampers the development process. According to one interviewee, problems in some departments and ministries need rapid solutions and decisions, but the person entitled to make these decisions is the director, the head of the department or the Minister himself – no one else is entitled to sign on his behalf. In addition, administrative procedures used in the public sector procedures lead to complexity, because every ministry has different administrative standards; there is no uniform set of processes for governmental ministries and departments. There is also a significant overlap between procedures and authorities in Jordanian ministries, which results in confusion and
complications in the implementation process. This is confirmed by an expert interviewee who said:

“When we ask for documents from ministries or departments involved in the e-government programme, we discover that there is a horrible overlap among tasks between ministries, which leads to complicating the problem and making its solution very difficult. Some transactions are connected to four ministries”

Some officials in Jordan think that computerising procedures in governmental departments will facilitate the existing sub-standard procedures, rather than create new and more effective ones. This is already happening in some government processes. For example, when someone wants to issue a car license in Amman for a car that was originally registered in another city, at present they have to bring the whole file to Amman from that city in which the car was originally registered (despite the fact that the Driving and Vehicle Licensing Authority in Jordan is completely computerised). What is actually required is the reengineering of governmental procedures before computerising ministerial processes.

From the author’s viewpoint the centralised nature of Jordanian government structure increase the issue of complexity in procedures. It is not surprising that there is a complexity in communication and coordination processes in Jordan since this factor is more related to the government structure of developing countries which are more centralised than developed countries (Olowu, 2002). In addition, lack of coordination between government departments considered as a barrier facing e-government implementation in India and Brazil (Sharma & Palvia, 2003; Joia, 2004).
Public Sector Weaknesses

The majority of the interviewees, even the public sector employees, confirmed the importance of overall restructuring of the public sector in Jordan.

According to Burn and Robins (2003) and Moon (2002), to take up the advantages provided by technology, significant change is required in the structure of the public sector, and in the management of its activities.

The government sector in Jordan has a large number of government departments. There are 27 ministries and 83 departments (PM, 2008); most public services are controlled and managed by the government. In Jordan, implementing e-government requires a fundamental shift from the traditional, centralised and bureaucratic culture of public sector control to a total reform of the sector. For instance, the administration in Jordan tends to be centralised with most governmental departments are based in the capital, Amman, so it is very difficult for directors of other service departments in remote areas to take decisions without consulting the centre (the Ministries in Amman). Even the e-government project is run through a specific department, which is part of the MOICT, which means that employees in this department must refer to the Minister of MOICT in many cases, which in turn causes delays in the decision making process. Interestingly, Moon and Norris (2005) claim that large city governments are more likely to adopt and implement e-government compared to smaller ones, as the former are always under pressure to find alternative ways to provide public services. Although on a different level (city as opposed to national) Moon
and Norris statement appears at odds with this research, given the significant difficulties face Jordan’s e-government implementation.

In addition, many new departments have been created in Jordan following the World Bank recommendations for raising the level of transparency in the country. For example, the Jordanian Institution for Investment was created in 2002 as recommended by the World Bank; this department was closed by the end of 2007, its officers being redeployed to the Ministry of Industry and Trade, as an interviewee explained:

“Sometimes you are surprised that some departments we visited have been disbanded or attached to another ministry, which definitely wastes time, effort and money. The public sector in Jordan is unstable in its organisation; every now and then we hear that a new department has been established or disbanded. This makes the implementation of e-government services for some Ministries impossible”

In addition, the lack of administrative experts who are able to improve the public sector constitutes a barrier to the implementation of e-government. Most public sector directors and secretary-generals are older, and in many cases do not have any recent administrative or managerial qualifications. Their lack of the knowledge and skills that are prerequisite to transforming the public sector into an e-government format hinder the implementing of the programme. In addition, this category of directors cannot make decisions that are important or risky to any degree, either because they do not have the responsibility or because they do not want to exercise that responsibility.

Also, the physical infrastructure of some ministries is very old and unstable. Sometimes old rented buildings cannot be connected to a one secure network due to weaknesses in their network infrastructure. As one interviewee said:
“We also must not to forget that the infrastructures in the ministries are very weak; some buildings are too old and are not fit to be a department”

Any governmental department may move from one location to another, which may, as mentioned earlier, lead to a waste of time, effort and money, as confirmed by one interviewee:

“Such departments may move at any time. This is a real problem because you make the required equipments and are then surprised that the department or Ministry is moving to another place, which means that your effort is lost”

In addition, public sector officers need to be re-educated because of the existing habits and traditions of employees’, such as Wasta, that arise from the tribal history of Jordan’s population.

**Legacy Systems**

Lack of coordination between governmental departments has led to each department using custom-made programming and computer systems, which can complicate inter-departmental functioning. In addition, many international donors that are poorly coordinated, or not coordinated at all, are involved in implementing e-government in Jordan. Donors usually have the right to choose the necessary hardware and software requirements when making a donation to a project. This leads to more complications in existing systems, which makes the future required integration between systems very difficult.

Furthermore, some governmental departments have very old computers and systems that are incompatible with the framework of the e-government project due to their minimal specification and inadequate security features. These departments do not have the financial
resources to upgrade their computers and this consequently impedes the implementation of the programme. One interviewee said:

“I think my department does not need to modernise its systems and computers because they do the job and if the MOICT want us to update our systems they must do this from their budget”

In addition, some governmental departments give priority to purchasing new hardware (e.g. computers, printers, and scanners) as opposed to new software, because they believe that buying new hardware alone will solve the current problems; this actually leads to more complications as the new hardware is introduced, and increases expenditure without solving the existing problems.

6.2.4 External Factors

Due to its location between two hot areas (Israel/the West Bank, and Iraq), Jordan is seriously affected by the external political issues resulting from the outputs of the Gulf war, the Iraqi crisis, and the situation in the West Bank and the Gaza. By June 2007, Jordan hosted approximately one million Iraqi refugees, joining about two million Palestinians, who together represent the highest ratio of refugees per capita of any other nation in the world (CIA, 2008; Oxford Business Group, 2008). These external events caused a crisis for the whole situation in Jordan. In particular, it impacted to some extent on the implementation of e-government as discussed below.

**War on Iraq and Rise of Petroleum Costs**

The geographical position of Jordan between two countries with continuing problems and conflicts impacts negatively on every aspect of the country. Israel and Iraq are politically
sensitive areas because of the conflict taking place between Palestine and Israel, and of the war on Iraq in 2003.

One impact has been the million or so Iraqis who have entered Jordan following the invasion of Iraq, in addition to the 1,835,704 Palestinian refugees already in Jordan since the 1967 Arab-Israeli War (CIA, 2008). These people have needed services and care and, consequently, have caused a crisis for Jordan in terms of the necessary extra expenditure.

The refugee situation has attracted the government’s attention away from progressing its existing initiatives, such as the e-government project; a state of affairs confirmed by many interviewees. As the E-government Director said:

“Following the war on Iraq, a huge number of Iraqi people entered Jordan and they consequently, needed emergency expenditure. We as a team working on implementing e-government felt during our follow-up of the project that the government gives priority to the war on Iraq and Iraqis in Jordan more than to any other issues. For example, when we were going to the Ministry of the Interior in order to meet with officials there, we found them always busy with affairs relating to Iraqis, which hindered us at various stages from dealing with issues relating to the e-services that the Ministry of the Interior intended to offer”

In addition, the Jordanian economy has long been heavily dependent on Iraqi supplies of oil and petroleum (Bouillon, 2002); supplies which were disrupted after the invasion. Consequently, Jordan’s budget has become channelled into subsidising petroleum and its derivative products. This was followed by the international increase of petroleum prices, at which point Jordan decided to remove restrictions and subsidies on the prices of petroleum derivatives, and shift attention to providing financial relief to the poorer sections of the population. In the past, the government subsidised petroleum products and all citizens
received the benefit of this support, but now the government has moved to supporting the poor instead of supporting the use of the product itself.

This support is manifested in an increase in the salaries of a certain social category and initiatives for establishing housing compounds for citizens on low income, because real estate prices in Jordan have rocketed since the influx of Iraqis. These price increases have made it very difficult for other Jordanians to buy houses or land. Furthermore, most goods become more expensive as a result of the increase in petroleum prices. The government’s focus has been directed towards initiatives aimed at improving the life of the population, such as the “a good house for a good life” initiative. This has quite definitely impacted negatively on e-government in all respects. In addition to price increases, Jordanians do not have the capital to spend on such purchases as Internet subscriptions and buying computers.

One staff member’s viewpoint is that the e-government project should not be occurring because of the stricken circumstances of much of the population.

“I think that instead of wasting time and money on the e-government, I advise the government to save money and direct it towards increasing officers’ salaries and improving their lives, because in my opinion, this project is fruitless in such a country like Jordan. Look what happened after the war on Iraq. Most people are complaining about prices increases and, consequently, I regard these expenditures as extra and not needed at this time”

If the war on Iraq had not taken place and the government had not removed the restrictions on petroleum prices, it would have been able to support technological projects such as e-government more effectively. This, however, did not happen.
6.2.5 Human Factors

Based on the interviewees’ perspectives, human capabilities, in terms of their understanding of the concept of e-government and of the skills that they need for such a project, have been recognised as barriers to implementing e-government within government departments, as described below.

Lack of E-government Understanding

The majority of the interviewees mentioned that some government employees are unaware of the meaning of e-government. One interviewee asserted:

“In my department the majority of the employees think that e-government is mere technology and the placing of computers in offices. I myself state that it is administration more than technology”

In addition, there are some who think that e-government equates to an IT department. This view was held by one of the interviewees when he stated that:

“There are some employees in the Ministry who think that e-government is a development of the IT department”

If these quotes are any indication, there is a lack of understanding of e-government requirements on the part of public sector employees. This has a negative effect on government departments and ministries when progressing the implementation of this programme. A UN report (2004) mentioned that government officials in developing countries are frequently technology-centred, rather than information-centred when thinking of e-government initiatives. In Jordan this might be because there is no consensus among employees regarding the term “e-government”; they might deal with the project as a
process to improve the computer systems of departments rather than tackling the real nature of e-government.

In this regard, Avgerou (2000) and Sassen (2002) highlight the fact that the adaptation of technology is not a purely technical matter, but is influenced by the culture, values, power systems and institutional structure of the surrounding context.

One interviewee also declared that some employees from low administrative levels think that during the application of the programme, all staff in government departments and ministries will lose their jobs. One of the e-government team stated during an interview that:

“Some officers ask us: where will we be when e-government is applied in our ministries? They believe that they will lose their jobs after implementing e-government. If the situation remains as it is, they will definitely resist the implementation process”

This quote reveals an underlying lack of understanding among public sector employees regarding the term e-government.

**Lack of IT Qualified Employees**

As the interviews carried out in Jordan show, this is a recognised impediment to e-government services within government departments in Jordan. Most interviewees, especially those within government departments, maintained that there is a wide difference in the quality of technological personnel employed in the public sector to that of employees within the private sector, to the disadvantage of the former. One interviewee involved directly with the e-government programme said that the lack of experts in governmental
departments is seen as a major barrier to the implementation of the programme. If this barrier is not overcome, it may lead to a delay in the programme until technologically qualified personnel are assigned, as one interviewee from the MOICT affirmed:

“There is a significant lack of IT experts in the government departments. We, as a team working in the e-government programme, can’t do our job without the assistance of the IT officers from within the departments themselves”

There is a widespread availability of qualified people in the Jordanian IT sector, but they prefer working in the private sector, where they are trained and sent on advanced courses; options which are not available in the public sector. This is due to a lack of financial resources within government departments and ministries to develop themselves, in addition to the inflexibility of internal ministry regulations that do not allow ministers and directors to send officers abroad for courses in order to become more qualified.

In addition, even if it were possible to attract qualified people, it is very difficult to keep them in the light of the high competition from the private sector. The E-government Director said:

“Despite the availability of technology experts in the programme, we are suffering from their movement into the private sector, which causes a big problem because there are only a few qualified employees to work with us. The cause behind this is the insufficient salaries we pay them, whereas the private sector offers them double the salary for them to move”

The cause of this might be the lack of regulation in Jordan regarding the employment of experts in the public sector. This barrier can, however, be overcome by issuing new regulation that allow each ministry or government department to stipulate to the Civil Service Bureau, which is responsible for public employment in government departments
that are subject to civil service regulations, how many qualified people with high salaries and extensive experience they need. The E-government Director said:

“Believe me, I know many people who are very expert in the field of IT, but unfortunately we are not allowed to appoint them because they can’t apply directly to the MOICT. Instead they have to apply to the Civil Service Bureau first, and then wait for their role in recruitment”

However, this factor is not limited to Jordan since it has been found as a major obstacle to e-government implementation in both developed and developing countries (cf. Section 2.7 and 2.8). For instance Holden et al. (2003) mentions there was a lack of staff as said in Section 2.7, interestingly in Jordan there are availability IT skills but the problem is trying to get them in a position.

6.2.6 Financial Factors

A crucial factor in e-government implementation in Jordan is related to financial issues. The majority of interviewees believe that the financial resources available to fund the project are insufficient, and that without financial external assistance the project will not be fully implemented. Some concerns also presented related to the salaries in the public sector and to the high cost of Internet which make the utilisation of e-government services very difficult. The concepts that constitute this category are discussed below.

Funding Issues

Most interviewees referred to the e-government project as a “big project”: in their views, the government does not have the ability to implement such a scheme, as it requires a huge amount of funding and there is always a shortfall in the Jordanian general budget.
The majority of interviewees, both citizens and employees, asserted that external funding represents the most appropriate solution for implementing e-government in Jordan; an enhanced relationship with the private sector to transfer knowledge regarding the implementing of large-scale projects. They also asserted that e-government in Jordan needs a separate budget which should be managed by a separate committee, as one senior manager states:

“I say that it is necessary that there should be a committee for managing the programme and it must be completely independent and have its own budget; otherwise things will remain slow”

According to the E-government Director in Jordan, the budget assigned to the programme has been increased to 9 million dinars (equivalent to £6.5 million). However, some of these funds have been diverted from the implementation of the programme; and are instead being used to support an initiative to provide a laptop for every university student in Jordan. The intention is to increase ICT awareness among Jordanian students, but there is no guarantee that this initiative will have the desired effect, because students may sell their laptop rather than using them as tools to increase their personal ICT knowledge.

In addition, attracting skilled people is very difficult because of strong competition from the private sector in Jordan. There is also nothing in the public sector regulations that allows each ministry to recruit to satisfy their specific IT skill needs. Furthermore, it is difficult to public sector requirements IT skills to personnel in the private because of the existing bureaucratic regulation.
Two senior managers complained about the turnover of existing IT staff and the lack of recruitment of new IT staff within the MOICT. They believe that this problem will continue if salaries in Jordan remain low. Most of these skilled personnel are attracted either to other countries, mainly the Arab gulf states such as Dubai, or to the private sector in Jordan in order to make use of better opportunities. There, they obtain salaries three times more than they receive within public sector employment.

**Cost of the Internet**

According to Foley (2008), the more the people use the Internet the more e-government use increases. Most of the participants in this research mentioned how expensive the Internet is, and that this consequently acts as a barrier to using e-government services.

The interviewees believed that Internet subscription prices and the slowness of current speeds are two obstacles to the propagation and use of e-government services. As one citizen said:

“I can’t pay 50 Jordanian dinars per month to use the Internet. I prefer to go to government departments instead of paying 50 Dinars monthly to complete my transactions”

They stated that the private sector dominates the provision of Internet services in Jordan. Therefore, the government does not have any control over the cost of the Internet, whose high cost discourages citizens to go online and benefiting from such e-government services. In the Republic of Korea, by contrast, the government provides broadband connection at affordable rates, especially for middle income people. Moreover, the competition in
Korea’s Internet markets pushes the prices down further (Choudrie & Lee, 2004; Choudrie et al. 2003).

Even though the cost of the Internet has been reduced, 4.6 million Jordanian citizens – most of the population – use mobile phones instead of land line phones. In Jordan there are four major providers of mobile services. The country was considered one of the highest in the developing countries in terms of mobile phone connections (ESCWA, 2007). However, this high use of mobile phones is, in itself, a barrier to the use of the Internet, because a dial-up connection needs a landline. The high costs of the landlines in Jordan have been evident in several UN reports. In 2003 there were 12 landlines per 100 users, while in 2008 the number had declined to 10. On the other hand, mobile users have increased from 16 per 100 users in 2003 to 74 in 2008 (UN, 2003; UN, 2008).

These views confirm the findings of a field survey which was carried out by the MOICT in Jordan (MOICT, 2007) on the issue of the private use of IT. It showed that 64% of Jordanian families do not have computers due to financial constraints, that only 16% of households are online, and that 68% of Internet users use dial-up connection which is very slow compared to other connections like ADSL. This survey showed that the main reason why more households are not connected to the Internet is the high cost of subscription (interestingly, it also showed that 68% of Jordanian families preferred using the Short Messages Service (SMS) via mobile phones to benefit from e-government services).

Given that the main objectives of implementing e-government in Jordan (cf. Section 2.10.2) is that services should be available to all categories of citizens irrespective of age, location,
gender, and income level it would appear, and in the light of above facts, appropriate for
government to provide access to the Internet through computers in public libraries and
municipal offices. Similarly, community centres in Jordan might offer an excellent
environment to situate public computer facilities. In addition, government should provide
public web kiosks as an alternative to home and office computers to ensure Internet access
to those people who are unable to afford purchase computers. Moreover, access to
computers in universities should be an option for the Ministry of Higher Education, and the
use of universities facilities (i.e. libraries, labs) for public computer use should be
considered as an e-government access point. Librarians in the universities should be trained
to help new computer users in the skills required to access internet or e-government
services on-line.

6.2.7 Citizens’ Concerns

This category represents citizen’s perspectives in terms of the e-government project in
Jordan. It is evident from the interviews that citizens consider that there are issues that
should be addressed before such an initiative is implemented. These issues are discussed
below.

Citizens’ Expectations Prior to E-government

As mentioned previously, most of the people interviewed agreed on the importance of
improving their lives and their income levels before considering any technological
initiative. They asserted that other projects should take precedence over e-government, such as projects that serve the population directly and reduce unemployment in Jordan.

From a citizen’s point of view, improving the infrastructure of cities and villages should be the government’s priority. For instance, many citizens complained that some schools at which their children were studying did not have central heating. Their priority was for their children to be taught in a suitable environment. They argued that money even money spent on buying computers in schools, must go instead to improving the conditions in which pupils are studying. One citizen asserted:

“Some schools’ windows are broken and students suffer in the winter term. I truly believe that our government is crazy. They should provide a suitable environment for our children instead of implementing e-government. Currently we don’t need e-government. We need to improve our villages before such initiatives. To me, I will not use the e-government services because I do not have a computer. I prefer instead to spend my money on my children”

Unemployment, poverty, and inflation are known to be the biggest challenges facing Jordan (CIA, 2008). Citizens confirmed that the handling of such problems is more important than anything else. This is because there are three territories in Jordan, central, south, and north. Within each territory there are number of cities such as: Ma’an, Karak, and Tafeelah in the South, Alagwar Alwesta in the Central, Al-Mafraq and Northern Agwar in the North. All of these cities have been classified as the least developed cities compared to other main cities such as Amman, Irbid, Zarqa (National Agenda, 2008). The least developed cities in Jordan share common concerns regarding lack of infrastructure, health centres, hospitals, and typical schools. In addition the majority of people living in these areas are very poor as unemployment is extremely high with large family sizes.
One citizen affirmed the importance of developing the existing government hospitals as a priority over the e-government, he said:

“I suggest that you visit Al-Mafraq Hospital so that you can see that the lift has not been working for 6 months. Even the central heating does not working all the time in the winter as a result of the increases in petrol prices”

However, provide citizens’ with basic needs especially in health and education, improving the infrastructure should be a prerequisite before asking the citizens to engage in such initiatives like e-government.

It appears to this author that the Jordanian government is unable to respond to citizen’s needs in an appropriate way. This suggests that there is a lack of citizens awareness to their rights regarding the government’s unwillingness to respond. This view is supported by Schacter (2000) who believes that accountability between the government and citizens in the developing countries is often weak.

It can be concluded from this research that citizens are demanding that the modernisation and development of the infrastructure of their villages and cities takes precedence over e-government, and that money presently allocated to e-government should therefore be redirected toward such infrastructure projects.

**Cost of Living**

Most citizens interviewed named the financial difficulties they face as a barrier to their using e-government services – when these are available. This was confirmed by the aforementioned survey conducted by the MOICT (MOICT, 2007) which shows that 64 per cent of Jordanian families do not have computers due to financial constraints, and that only
16 per cent of the population has Internet access. The main reason given for not having Internet access was the high cost of subscription, especially in rural areas.

The aforementioned increase in the cost of living (see Section 6.2.4) has resulted in a large number of Jordanians who are not able to benefit from e-government services even when these are available. This assumes that the percentages just mentioned remain static. It is possible, however, that the situation could decline even further as prices rise further. This is surely not a healthy prognosis, especially given that the government’s aim is to deliver e-government services directly to the citizen. Consequently, a general inability to access the Internet and make use of these e-government services, which are presented directly to the public, would result in project failure because citizens will not be able to utilise from e-government services.

Another problem is that of landlines. Most of the interviewees mentioned that they use cell phones rather than land phones because it’s much cheaper an interviewee said.

“I disconnected my land phone and got a cell phone because most people are now using cell phones to communicate since it has become cheaper than landline”

This again confirms the findings of the MOICT field survey, whose results show that 86% of families have cell phones (MOICT, 2007).

**Previous Experiences with Governmental Projects**

There is a general apprehension on the part of citizens that e-government will fail, as has been the case with previous government projects. Participants in this research referred to failure as the common characteristic of governmental projects for many reasons, including corruption, lack of financial funding, and Wasta (as mentioned before). Such consistent
failure has created a stereotype that such projects are unsuccessful. To some extent this is already becoming a reality with regard to this e-government project. Six years after starting the e-government project, the Minister of ICT announced in Al-Rai newspaper on 19 April 2006 that the strategy of the programme had been changed because it was inappropriate due to clashes between ministries and bad performance within the public sector.

One citizen asserted that the government would fail to introduce any e-government services even in 2050:

“I don’t think the government has the ability to provide even one e-service by 2050. You can see that successful projects in Jordan have been implemented by overseas companies, whereas the projects that were implemented by the government almost failed. Look at the Prince Hamza hospital in Amman; it is typical of failed government projects. Three months after opening the hospital lots of problems emerged at all levels. An even more recent example of these failed projects is the new complex which brings all the courts in Irbid city together into one building. The water leaked in on the lower floors of the building, causing damage to many important files. After that, can you expect me to see e-services? I don’t think so”

As mentioned earlier, one of the barriers to the implementation of this project is the communication and coordination process between the MOICT on the one hand and other ministries and governmental departments on the other. The citizen’s viewpoint therefore confirms the reality of the situation in Jordan in terms of the factors that affect the implementation of e-government.

6.3 DRIVERS OF E-GOVERNMENT

In the previous section the barriers to the implementation of e-government identified from the empirical work have been discussed; these were classified into seven principal categories (Section 6.2). In this section, the researcher will shed light on the viewpoints of
the interviewees in terms of the factors that emerged as driving the e-government programme.

The identified drivers have been, as part of grounded theory analysis, placed in one category named national drivers, and each driver will be discussed in the following sections in turn.

6.3.1 National Drivers

The King’s Wish and Will to Improve Citizens’ Status

The King’s instructions for improving the life of the ordinary Jordanian and the image of Jordan in general motivated the commencement of the e-government initiative in 2000. All research participants including citizens said that the prime motivator for announcing the initiative was the King. In 2000, he announced the e-government initiative as a way of raising the status of the public sector in Jordan so as to be in a position to offer high quality services to citizens and mitigate their hardships by reaching a stage in which e-government services can be offered directly to the people without the constant need to travel to Amman, where most government departments and ministries are located. An interviewee said:

“Without the King’s wish, the e-government project would be now on the shelf. We want to complete the project so as to be able to perform any transaction with a government department irrespective of location or economic status”

This was confirmed by an official from the Ministry of Finance:

“Note that his Majesty King Abdullah is open-minded and is personally interested in following up technological developments. He is known to encourage the government to widen and develop the IT sector in Jordan, but regrettably consecutive governments do not take this issue seriously”
In Jordan, the King, being at the top of the hierarchy, provides the basic motivation for the fulfilment of any initiative.

**Attracting Investment**

Attracting Arab and other foreign investment to Jordan is one of the basic factors that supports the country’s economy, reduces unemployment and brings hard currency to Jordan. However, this will only happen if a means of facilitating government procedures for investors is made available. Since Jordan is a small country having no natural resources, it works on attracting investment, especially Arab investment, to invest in areas of development (e.g. hospitals, universities, schools, factories). The necessary legislation to ensure the success of such investment has been passed, including an exemption for new investors from taxes for five years and the accelerated implementation of some e-government services relating to investment. Most participants in this research said that attracting investment is one of the factors driving the achievement of the e-government project. For instance, staff member from the JIB said.

“Note that Jordan is seeking to create an investment environment through which investors can establish any project easily and without any complications. I, therefore, think that e-government will help in this regard. We notice that his Majesty is personally interested in investment, particularly in the IT sector in Jordan”

In brief, if e-government is implemented, this will encourage investors to conduct business in Jordan because the procedures will be simple easily and transparent.

**Competitive Characteristics of Jordanians**
Most participants viewed Jordan as having many characteristics, at both local and Arab levels that motivate the e-government project.

Initially, levels of education in Jordan are high compared with other countries, and there is widespread Internet literacy, which is clear from the large number of Internet cafe’s in the Kingdom. One street in Irbid city, for example, contains the highest concentration of Internet cafes in the world. This street was listed in the Guinness Book of Records (Wheeler, 2006). Since 2007, computer courses have been compulsory for every school and university student, which keeps the next generation of working adults abreast of ICT developments.

In addition, Jordan has well-qualified experts that could enable it to achieve such ambitious projects as e-government, but these experts go abroad in order to obtain the more attractive salaries offered there. These experts must be made use of in Jordan in order to implement the scheme. The Director of E-government in Jordan mentioned that:

“Most of those who left the Ministry went to Gulf countries. You may be surprised if I tell you that three officials are now working in e-government in Dubai at high levels of responsibility. If we paid them the salaries they deserve, they would not have left Jordan”

There is even confidence in local experts and their ability to tackle the e-government project without seeking the assistance of foreigners, which is evidence that Jordan is actually competitive in terms of the human resources required to work on such projects. A citizen said:

“Why do we in Jordan seek the assistance of foreign experts when we have qualified people who are able to run such projects as e-government? For example, look at the successes of the private sector, achieved by Jordanian experts. The government should, therefore, assure these experts that we believe in their capability to achieve government projects, whatever their type”
In addition, Jordan is considered to be relatively secure from terrorism compared with other countries. It is therefore considered a suitable environment into which to attract investment, especially technological investment. E-government largely depends on technology; consequently, it is possible to capitalise on the kingdom’s safe status by special companies specialising in the field of developing and improving the domain of technology in particular.

**Expectation for a Better Public Sector**

One of the factors hindering the implementation of e-government is the general weakness of the public sector (see Section 6.2.3). The expectation of strengthening this sector in Jordan is therefore generally agreed to be a fundamental driver for the project. Most participants thought that this may help in increasing the sector’s efficiency, as well as improving transparency and delivering better services to citizens. One of the participants in this research said:

“I think that achieving the e-government project will make government procedures easier and will increase staff productivity, which will reduce current administrative expenditure”

Since most of the participants in the study, even officials, suffer from the convoluted procedures involved in the government sector, most of them complain that this traditional system results in wasted time and effort. An interviewee said:

“When I want to finish a transaction as a Jordanian citizen in a government department, I may need many days to finish it because of the complicated procedures and routines prevalent in governmental departments. I think that doing transactions from home will get over all these problems, and there will be no need for being subject to the officials’ moodiness”
E-government is expected to help solve complicated problems in government departments by technological means. It is therefore necessary to modernise the public sector administratively, organisationally, financially and in other respects so as to reach the levels of other countries like Dubai. This means that restructuring the public sector was considered a motive for the implementation of e-government.

**National Objective**

Most developing counties are keen to pursue technological developments so as not to be left behind with bureaucratic and traditional methods of working. The implementation of e-government is therefore a national objective for Jordan, as was demanded by the National Agenda, which is a committee recently formed to prepare a long-range plan to achieve sustainable development (National Agenda, 2008). The agenda is to be executed by governments over the next decade in order to accelerate the pace of reform and entrench it in all aspects of political, economic, technological and social life, in addition to providing appropriate solutions to combating poverty and unemployment and improving the standard of living and incomes of the population (National Agenda, 2008). Consequently, it could be said that e-government is a national objective that must be achieved as soon as possible due to its advantages across the board. Making good decisions leads to good results, and consequently, the improvement of the quality of those decisions. E-government will help directors make such good decisions and allow them to have easy access to data, and thereby to make decisions suited to the nature of the administrative and organisational problems they face.
Citizens’ Services

Citizens form the main category benefiting from public sector services. The basic aim of public sector organisations and departments must consequently be to provide citizens with effective services in a transparent manner. One of the motives towards achieving the e-government services is therefore the delivery of these services to the prime beneficiaries – the general population – in an easily accessible and transparent way. The Director of E-government confirmed this:

“One of the motives pushing us towards achieving e-government is the desire to serve citizens, who are always complaining about bureaucracy and Wasta in the public sector. This definitely provides an impetus to seek ways to offer them better services”

In addition, reducing national and individual expenses is one of the factors supporting the achievement of the project, since the Jordanian citizen is the object of the comprehensive development publicised by the Jordanian government in all its speeches. The King always directs the government towards serving Jordanian citizens and making effective services available for them to use easily and rapidly.

6.4 RELATIONSHIPS AMONG CATEGORIES

As mentioned in chapter four, the final stage of the grounded theory analysis process is to determine the core category via the selective coding phase. The core category is “the central phenomenon around which all the other categories are integrated” (Strauss & Corbin, 1990, p.116). The integration process here is not dissimilar to that in axial coding but it is performed at a higher level and therefore
leads to more abstract category than that of axial coding. Strauss and Corbin (1990) assert that, in order to develop relationships among categories, the researcher should find these relationships in the actual data he or she collects and not “what might be out there but haven’t come across” (p.112). They suggest that the researcher keeps asking questions such as: What phenomena are reflected over and over again in your data? What essential message about this research do you want to pass on to others? What do you consider important about this area? What was mentioned frequently by participants? These questions may help the researcher to develop the core category. In addition, Strauss and Corbin (1990) utilise what is called paradigm model (cf. Section 4.7.1) in order to develop relationships between categories.

Initially, the use of the paradigm model was attempted by the researcher and did not work for the research problem, and therefore the author investigated alternative approaches and found Urquhart (2001) approach the most sensible. Urquhart (2001) used relationships like “leads to” and “affects on” instead of paradigm model, as shown in Figure 6-3.

In this section the relationships between the major concepts and categories that have emerged from analysing the data is presented.

The core category, to which all other categories are related, is finances.

The following paragraphs illustrate the relationships between categories and how they link to the core category as shown in Figure 6-3.
Core Category

As evidenced from the data analysis, the lack of skilled IT workers available to work on programmes for the e-government or other ministries is due to the low salaries paid to this category of employees and, consequently, the barrier results from initial financial conditions, whereas employees will always search for work that fulfils their ambitions.

It is noticed from Figure 6-3 that there is a direct relationship between this barrier and the core category.

In this research it has been noted that such employees initially work in the e-government programme for a short period, through which they acquire more experience to move on to work in the private sector or outside Jordan in order to get higher salaries. As already discussed, this factor represents a big problem and impedes the progress of the programme.

Furthermore, some employees in ministries and government departments resist the programme for fear of losing their jobs or, for some of them, having their privileges withdrawn as regards their financial rights. This indicates, at least with respect to some employees, that the financial factor determines their action in this case.

With respect to Wasta, this is sometimes carried out for the benefit of someone so that they can get a particular job and, consequently, a stable income, because unemployment and poverty are two of the worst problems in Jordan. This factor is significant in that it forms a barrier that affects not only e-government but also the whole public sector. To some extent, this barrier is related to another barrier, namely corruption.
Figure 6-3: Core category and relationships among concepts
As already mentioned, corruption exists in Jordan, especially in the public sector, as was mentioned by many Jordanian officials. Linkage of corruption with the core category is very strong, in that most of the corruption that takes place is of a financial nature. In 2007, 48 financial corruption cases were detected and investigated, all of them involving public money. The cases related to the embezzlement of public money through forgery and the manipulation of financial records.

Concerning the e-government programme, corruption is a major barrier obstructing the progress of the programme, referring to the manipulation of a number of tenders. These tenders, for computers and electronic equipment, were not compatible with the specifications prescribed by the MOICT, which confirms the direct connection between corruption and the financial aspect of the programme.

In addition, the high cost of Internet subscription has a direct effect on Internet penetration in the Kingdom, which is clearly the result of financial difficulties. This prevents citizens from using e-government services, even at informative level, because of the unavailability of the Internet, which is the main tool for accessing the e-government services. The lack of Internet penetration in Jordan is therefore placing an obstacle in the way of the e-government programme due to financial difficulties, as discussed in previous sections, this represents a close connection with the core category.

It is true that some problems in the public sector are of an administrative and procedural nature; however, the most important factor relating to the weakness of the public sector is the financial one. As discussed earlier, most government buildings are rented and the
government is unable to build modern buildings due to the continuous deficit in the general budget. The weakness of infrastructure in government departments has a negative effect on their readiness to carry out the programme. Failing to modernise is the result of financial difficulties in the public sector. In brief, in the eventuality of appropriate funding becoming available, the public sector will be able to modernise its buildings on the one hand, and enable its officers to become properly qualified on the other, when training programmes are provided for them so that they can handle the e-government programme. In addition, salaries are very low in the public sector, which contributes to its weakness.

Another factor is that the computer systems used in government departments are very old and incompatible with the e-government system. This is due to the inability of the ministries and their departments to purchase new systems, which is in turn due to the financial limitations of each ministry. Therefore, there is a clear connection between the weakness of the public sector and the financial factor.

One of the emerged barriers is the lack of laws and regulations related to e-government services, which is in turn due to a lack of interest among MPs, whose current priority is to find solutions to the problems caused by the continuous increase of prices and unemployment in Jordan. For Parliament, financial difficulties and improving citizens’ lives takes priority, and the e-government project is not regarded as a likely way to improve the lives of Jordanian citizens. Consequently, there is a clear connection between MPs priorities and the finance core category.
The war in Iraq has also imposed additional financial burdens on the government that have impacted negatively on the general budget in Jordan, thus affecting the progress of the programme as a result of this factor. Hence, the war in Iraq has a strong relationship with the core category of financial issues.

In addition, citizens in Jordan seek to improve their lives instead of implementing ICT initiatives because they prefer development projects that lead to provision of direct services to them, eventually reducing unemployment levels in Jordan. They also want the government to increase salaries before thinking of such initiatives. In addition, citizens demand improvement of their villages’ and cities’ infrastructure in preference to implementing the e-government programme.

Furthermore, attracting investments is one of the main drivers of the implementation of e-government. The majority of participants said that Jordan was seeking to initiate this programme in order to attract foreign and Arab investment so as to support the country’s competitiveness and brings hard currency to the country. Hence, attracting investments has a strong relation to financial issues.

6.5 FURTHER DISCUSSION OF FINDINGS

Throughout this chapter, the researcher has discussed aspects to do with individual barriers and drivers. This section is devoted to identifying and discussing any issues that cross over more than one concept/category. These are as follows:
This research identified a number of new barriers which have not been mentioned in the previous literature. Table 6-1 shoes between the factors that have been found in Jordan and whether or not these were also found in developing and/or developed countries. It should be noted that some of these barriers have been presented with different names to those in the previous literature. For instance, the concept of previous experience with government project is an issue of trust and therefore is

Table 6-1: Barriers that have been found in Jordan compared to barriers in developing and developed countries.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Developed countries</th>
<th>Developing countries</th>
<th>Jordan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wasta</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Corruption</td>
<td></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Resistance to change</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Regulation and legislation</td>
<td></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Parliament’s priorities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data security</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Government’s priorities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Changing ministers</td>
<td></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Complication in processes</td>
<td></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Public sector weaknesses</td>
<td></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Legacy systems</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>War in Iraq</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of e-government understanding</td>
<td></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Lack of IT skills</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Funding issues</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Cost of the internet</td>
<td></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Citizens’ expectations prior to e-government</td>
<td></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Cost of living</td>
<td></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Previous experience with government projects</td>
<td></td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>
matched with lack of trust in the literature. In addition, Lack of e-government understanding has been matched with lack of awareness in the existing literature (Sharma & Palvia, 2003; UN, 2001).

- The majority of the participants in this research asserted that the practice of Wasta is the essential part of the Jordanian culture, therefore Wasta can be seen as a cultural barrier. However, since Jordan is very similar to the countries that have been analysed by Hofstede’s Cultural Dimensions (cf. Section 2.9), Jordan’s society cannot be considered as individualism. On the contrary, it can be classified as collectivism where people from birth onwards are integrated into strong, cohesive in-groups - often extended families, which continue protecting them in exchange for unquestioning loyalty. Hofstede (2009) asserted that the term collectivism refers to the group, not to the state and therefore has no political meaning. The author argues that the term loyalty to the group explained in Hofstede’s five cultural dimensions could cause Wasta in Jordan since any person who provides any kind of service by means of Wasta can be seen as loyal to his/her tribal (i.e. group). This confirmed by Cunningham and Sarayrah (1994), who write that “solidarity and loyalty to relatives have top priority in the Arab value system and that Wasta is seen by many Arabs as an expression of these values” (p.182). Therefore, loyalty leads to Wasta, as the expression of this loyalty.
Heeks and Bailur (2006) confirmed that none of 84 papers published in the field of e-government which they investigated, had an overall pessimistic view of e-government implementation. This research presents a picture of the e-government situation in Jordan as it was actually perceived by the participants. It is interesting that there were 19 barriers, yet only 6 drivers were found in the data as the researcher interpreted. This was despite the fact that the researcher asked question about benefits and advantages of e-government implementation in Jordan (cf. Section 5.8): no participant directly answered this question. Instead, the interviewees turned it around, and started talking about the barriers that could hamper the implementation process and the reasons as to why the government wants to implement e-government services (i.e. the drivers as described in Section 6.3.1). From this, this author concludes that the Jordanian government does not realise the magnitude of the problems it faces regarding the implementation process.

The researcher chose financial issues as a core category since it was highlighted over and over during the interviews. However, this author believes that culture is behind several of the identified factors. For example, factors such as corruption, Wasta, changing ministers, and parliament’s priorities came from the tribalism system and could be considered culturally caused. In addition, the data security factor stems from the organisational culture since there is involvement of military-based departments in many government services. Therefore, one could ask is culture a more appropriate core category? And is there a lack of guidance within the
grounded theory procedures as to how to determine the most appropriate core category. Further research would need to be undertaken to look into this issue in more detail.

- From the fieldwork, it appears that most of the stated goals of e-government implementation (cf. Section 2.10.2) within Jordan (i.e. improving service delivery, improving responsiveness to customer needs, increasing transparency, saving time and money and create positive, spin-off effects) have not yet been achieved. Dada (2006) mentions that e-government failure can be explained as the inability to reach its planned goals. This may have bearing on why citizens and employees are pessimistic about e-government (as described above). The Jordanian government is struggling to produce credible output from the programme. From the start of the project in 2000 until the time of writing, service delivery is still very much at the first stage of development.

- The results of this research show that several of the barriers that face e-government implementation in Jordan are similar to those in developed countries (see Table 6-1) despite the fact that Jordan is still in the very first stage of implementing e-government while most of the developed countries have reached the second or third stage.
6.6 CONCLUSION AND SUMMARY

This chapter discussed the research findings regarding the factors that affect e-government implementation in Jordan over time. Based on the grounded theory analysis, the factors were classified into two main categories; barriers and drivers. Barriers fell into seven major categories: cultural, political, institutional, external, human, financial, and citizen. Drivers were placed in one category called national drivers. The theory that explained these factors are embraced within a model of identified factors and their dynamism, as depicted in figures 6-1 and 6-2. Figure 6-1 represents all factors that this research has identified, whereas figure 6-2 shows that whilst some factors that affect e-government implementation in Jordan persisted over three years, others emerged in the second and third cycle of the empirical work. It also separated the factors into those that have only been found in Jordan vs those that have been found in previous studies. In addition, based on the viewpoints of the participants, the core category and the main phenomena in this research was identified as financial problems, since these were reflected most constantly in the interviews. This, and the relationships between the identified factors, are depicted in Figure 6.3 and described in Section 6.4. Further discussion of the overall findings was also presented.

The next chapter will summarise and conclude this research, by presenting several recommendations for the Jordanian government so as to ensure more effective implementation of e-government. In addition, the next chapter will show how the research has achieved its principal aim, and establishes the significant contribution it has made to
research. Finally, the limitations of this research are described and recommendation for future research made.
CHAPTER 7

RESEARCH ACHIEVEMENT, MANAGEMENT

RECOMMENDATIONS AND CONCLUSIONS

7.1 INTRODUCTION

This chapter considers how the research has met its original aims. It then recommends methods by which the Jordanian government could seek to minimise the effect of some existing barriers and therefore achieve more effective implementation. Following that, the contributions to knowledge that this research has made are stated, and the final part of this chapter discusses the limitations of this research with several recommendations for future research within the field of e-government implementation.

7.2 ACHIEVEMENT OF RESEARCH AIMS

The research found that some of the factors that affect e-government implementation are similar to those mentioned in the existing literature, whereas others are based specifically on the Jordanian context (see Table 6-1). The findings of this research revealed a dynamic nature to the barriers of e-government implementation, as some of them remained present throughout the fieldwork period whereas others were more dynamic in nature. For example, the lack of infrastructure remained present throughout the period of this research. However, it was only on the second cycle of investigation that barriers such as government priorities
and the war in Iraq were found to be present. However, it appears that the drivers of e-government implementation in Jordan are relatively static since they were all mentioned repeatedly over the three cycles of fieldwork.

The following section provides a discussion on how the research questions have been answered explicitly.

### 7.2.1 Answers of the key research questions

In chapter one, the principal aim of this research was “to investigate the dynamic nature of, and interrelationships between, the factors that influence e-government implementation in Jordan over time”.

Also in chapter one and three, three questions were stated so that the principal aim of this research could be achieved, those questions being:

1. What does the existing body of knowledge provide with respect to understanding the factors that influence E-government implementations within developed and developing countries including Jordan?
2. Does the empirical work confirm or contradict this body of knowledge within the Jordanian context?
3. Are the factors within a Jordanian context time dependent, and, if so, how?

These questions have been answered, culminating into the model of e-government implementation factors in Jordan as presented in Figures 6-1, 6-2 and 6-3. The following paragraphs provide a more detailed description of how these three questions were answered.
To address the first question a review of previous studies within the existing literature regarding e-government and its implementation, as evidenced by chapter 2, was undertaken. In addition, reviewing the factors within the previous literature provide the basis for the comparison needed later to answer the second research question. It should be noted that reviewing the previous literature helped this author to formulate the second and third research questions.

From this literature, an overall understanding on e-government implementation was gained. It was found that the majority of existing research was based on western countries and their experiences; fewer and more recent studies have focused on the implementation of e-government in developing countries. However, no studies regarding the factors that affect the implementation of e-government in developing countries over time were found. Yet, factors have been found to be dynamic within other fields of IS (as discussed in Section 3.2).

The author reviewed research on both developed and developing countries in order to provide a list of factors that have been found to affect the implementation of e-government. These factors were categorised into benefits and barriers. The benefits of e-government are similar for both developed and developing countries, and were classified based on whether they are benefits for either citizens and businesses, or for government. Table 2-4 provides a summary of these benefits.

In addition, chapter two identified six major categories of barriers that affect the implementation of e-government in developed countries: technical, economic, organisational, strategic, political, and social. These are detailed in Table 2-5. Some of these, such as technical barriers, were especially prominent in developing countries. On the other hand, security and
privacy was considered a significant barrier in developed countries, while in developing
countries these issues were not of great importance. However, with regard to the second
research question, none of the empirical findings of this research contradicts the existing
findings in the literature as some of these factors have already been presented within the
existing relevant literature on e-government implementation in both developed and
developing countries (see Table 6-1). In contrary, this research not only strongly confirms
the body of knowledge, but also adds to it in terms of the factors that influence the
implementation of e-government (see Table 6-1). This research adds the following barriers
that appear to hinder the implementation process of e-government within Jordan:

**Wasta:** Most of the participants mentioned that Wasta would lead to the programme
failing if the government does not deal with it seriously and find solutions to minimise its
effect on the public sector, in general, and on the e-government programme, in particular.
As a consequence of Wasta people with high qualifications may not be appointed in the
government departments, and those who are appointed may not be able to do the job. This
leads to poor job performance in departments, including those important to the success of
an e-government programme such as IT. One interviewee went so far as to say that:

“As a result of recruiting people by the way of Wasta you don’t necessarily find the right
people in the right place in Jordanian government departments”

It also results in those who obtain their appointments in this manner not doing their jobs
effectively and being dependent on others (as discussed in Section 6.2.3).

Another consequence of Wasta is that too many people are employed causing overstaffing
in the public sector departments. Overstaffing affects the efficiency of these departments
and may thus cause other identified barriers such as public sector weaknesses and complications in procedures to emerge.

Interestingly, although Wasta leading to overstaffing, it can be seen by many people as beneficial in dealing with unemployment and poverty in Jordan. As one employee mentioned:

“The municipalities also help people to find work. Many of the employees have work because of social reasons, and they are poor. This is related to the mayors who are under pressure by MPs who seek jobs for their supporters. They are approached by people who bring evidence for their situation”

Several participants commented that many ministers in Jordan are also appointed on the basis of Wasta. Some of them have no background in the e-government programme and have no experience on how to manage such a programme; their main objective is to benefit their relatives and families, as already discussed in Section 6.2.3.

All in all, if Wasta continues to play a major role in Jordan, the public sector will become increasingly inefficient and unable to implement e-government or indeed any other initiatives.

**War in Iraq and Rise in Petroleum Prices:** As of the time of writing, nearly one million Iraqi people have entered Jordan since the war on Iraq (CIA, 2008), and accepting those refugees has had a negative impact on many aspects of life in Jordan. One of these aspects, according to the opinion of several participants in this research, is the e-government programme. The reasons for this impact are the following:
• A portion of funds allocated to the MOICT had to be re-channelled towards dealing with the Iraqi people, and therefore there were fewer funds available for the development of the e-government project.

• Some ministries committed their employees principally to meet the needs of the Iraqis. For example, the Interior Ministry was extremely busy issuing them with residence permits and the Ministry of Labour likewise for work permits for those wanted to work in Jordan; security departments were busy round the clock admitting large numbers of Iraqis into the country. Consequently, none of these ministries and departments are free to communicate with the MOICT regarding the e-government programme.

• After the Iraq War, Jordan lost sizable oil subsidies. That led to the removal of subsidies on the prices of petroleum. Jordanian citizens thus have had to face an additional burden which has made their life very difficult, and they cannot afford any extra expenses such as Internet subscriptions or computer purchases. These latter things have consequently reduced in importance from both the citizens’ and employees’ viewpoints.

**Parliament’s Priorities:** One of the new barriers mentioned by the majority of employees is that the Members of Parliament do not regard e-government implementation as a priority; rather they give other issues priority over the e-government programme. Changing the laws was mentioned by several participants as vital throughout the period of this research, and the researcher interviewed one of the MPs who represents Irbid city in order to uncover his
viewpoint regarding this matter. It was noticed that this MP did not favour e-government services taking priority over other issues such as dealing with the rising cost of living and the fight against corruption. This MP stated that e-government could not play a leading role in improving the lives of Jordanians unless their salaries were increased and the level of unemployment was reduced. The focus of MPs’ work is to provide opportunities for employment for the people he or she represents. As one citizen from the Bedouins area commented:

“If you want to be an MP in the Jordanian parliament, you should offer jobs or other benefits for the family members who will vote for you”

From the researcher’s viewpoint, lack in the regulations and laws for legalising e-government services can also be related to some extent to the aforementioned issue of Wasta. Most of the MPs are not elected because of their ideology or party but because they are apparently seen as representatives for their families and tribes. In addition, citizens see them as a good Wasta for finding jobs. As a result, MPs have little incentive to introduce legislation regarding e-government services, or indeed any legislation at all. However, further research is required to address the issue of, and motives behind, MPs’ priorities regarding the process of development in Jordan.

It was also interesting that the sub-committees appointed by the House of Representatives to discuss the many issues and problems facing the country, and the concerns that directly affect Jordanians, do not include any committees regarding ICT in general and e-government in particular (House of Representatives, 2008). Even though the programme’s existing strategy was inappropriate (cf. Section 6.2.7), none of the MPs took the initiative
of asking the Minister of ICT why this should be so, and who was responsible for this state of affairs. There appears to be a level of ignorance within the Parliament regarding the e-government project, possibly because most of the MPs are of a similar opinion to the MP interviewed for this research, although further research would need to establish whether this is, or is not, the case.

This disregard by the Parliament of e-government delays the provision of electronic services to citizens, because new laws and regulations are vital to regulate the project and safeguard stakeholders.

**Government’s Priorities:** One factor affecting the e-government programme in Jordan is that the programme is not a high priority for the government. The overall opinion of participants in this research was that other events occur from time to time in Jordan that claim the government’s attention, which means that the e-government programme is delayed until these episodes have been dealt with. For example, the municipal and parliamentary elections which took place in 2007 were most important events which occupied a substantial amount of the government’s attention during that year. Jordan became a democratic country in 1989 and it was vital that the elections were seen to be free and fair; this required great effort and expense. The political image of the country was very much based on the results of the electoral procedures and processes involved. Therefore, throughout the period of preparation for the elections, many ministries and employees were very busy, to the extent that communication between ministries and the e-government team became impossible. This resulted in the e-government programme being delayed in several
ways, one of them being that MOICT employees were used in the election preparation process.

From the above discussion, the reason as to why the field work identifies different factors to the existing literature is only partially explained by culture. Other issues such as external events, the human dimension and the passage of time appear to come into play.

For instance, the external events such as the war in Iraq, the rise of petroleum prices, and the municipal and parliamentary elections are dynamic as they were only evident in the second and third cycles, due to the following reasons:

- The number of Iraqi people reached a threshold point where they created problems for the government in taking care of them. This factor was not mentioned in 2006 (i.e. first cycle) because the Iraqi people had not yet had a significant impact. In addition, the liberalisation of oil prices following the rise in the cost of petroleum occurred in February 2008, which had a very negative effect on Jordanians’ ability to buy computers or subscribe to the internet.

- The effect of municipal and parliamentary elections factor was only felt strongly in 2007 (i.e. the second cycle of investigation), yet by the time the third cycle was completed, the elections had finished and the elections’ negative impact on the implementation of e-government had disappeared.

Based on the results of this research, and responding to the third research question, it appears that some factors that influence the implementation of e-government in Jordan are more dynamic than others. This is because of the advantage of the longitudinal nature of
this research coupled with grounded theory as a data analysis, has uncovered new factors affecting the implementation of e-government. This validates the approach to this research with regard to its longitudinal focus, and also provides evidence that snapshot investigations of such factors are not sufficiently rich on their own to provide a comprehensive picture. If further investigative cycles were to take place, it could be that the factors such as the war on Iraq would disappear as refugees return to their country and, as a result, their impact on the implementation process would diminish. Likewise, even aspects such as the lack of regulation may not be as prevalent several years from now. However, further cycles of research would be necessary to see if these conjectures are accurate.

7.3 ISSUES & RECOMMENDATIONS FOR JORDANIAN GOVERNMENT

The following subsections discuss in turn each of the principal recommendations emerging from the data analysis and subsequent findings of this research.

7.3.1 Government should change their focus of attention

It seems to this author that the current focus of attention of the Jordanian government is wrong for the following two reasons. Firstly, as regards to modernising the country, the citizen’s ICT skills are an important factor. As part of this process, it should be clear that the more ICT literate they are, the more capable citizens will be of using e-government services. This is why poor ICT training has
an impact on the success or otherwise of e-government. The Jordanian government is seeking to improve citizen’s ICT skills, but it provides no e-government services for them to use at present. Even when implementing training programmes, most of the people targeted to be trained were the least likely to buy a computer because of their financial difficulties (see section 6.2.1). From the data (as highlighted in Sections 6.2.1, 6.2.3 and 6.2.6), citizens indicated that the cost of purchasing a PC would be at least as much as their whole monthly income if not more, for most Jordanian families.

Secondly and as already mentioned, employees are also not given anything to show the benefits of e-government as the citizens are not shown benefits through the provision of using e-services. For instance, they see the International Computer Driving License (ICDL) as an exam they must pass in order to sustain their job requirements by getting the certificate, rather than anything of any long term significance.

In order to address the first issue, this author believes that the government needs to consider how it can enable ordinary people to acquire computers and gain Internet access by such methods as purchase subsidies.

Regarding the second issue, the government should hold seminars to make people aware of the benefits of e-government, rather than just running exams and providing training courses. Over time, employees may lose the basic skills they obtained by
these methods, leading to most training programmes being a waste of time and effort.

7.3.2 **Implementing new strategy that reflects Jordan’s profile**

Analysis of the comments made by participants has led the researcher to the opinion that there is a lack of a long-term strategy or realistic timetable for e-government that reflects the country's capabilities. An indicator of this has been the fact that no e-government transactional services have as yet been offered, which is surprising given that, since its commencement in 2000, the programme has had 32 millions of dinars spent on it with no e-government transactional services to show for this investment.

According to Weerakkody et al. (2007), neither a comprehensive strategy nor a more flexible one is approved to be a suitable strategy for e-government projects. However, Mintzberg (1994) states that a comprehensive strategy will be more likely to succeed in a complex environment, which, it can be argued, e-government is. Therefore, the introduction of a new long term vision and strategy, combined with appropriate short term renewable plans and goals, seems the most appropriate first step in dealing with at least three identified e-government barriers: public sector weaknesses, lack of IT skills, and complication in procedures. The Jordanian government must apply a new strategy reflecting the country’s profile as well as its social and cultural needs. Strategies must be well defined and based on a sound understanding of what the project is intended to deliver. Even when setting goals for
the implementation of e-government, Jordan must not be over-optimistic and aim to introduce a dramatic transformation within a short time period. This is because (as has already been shown in and as described in Section 2.10.2) such overconfidence results in several strategy changes during the implementation process, in response to none of the project’s goals being achieved.

7.3.3 **Government should focus on delivering e-government services via mobile phones**

Compared to the Internet, mobile phone connection in Jordan is very high. Indeed, it has one of the highest mobile connection rates of any developing country. This is why government should consider this channel as the principal way of delivering e-government services as part of its long term strategy.

Because most Jordanian citizens have access to a telephone, call centers should be developed on a large scale to benefit from increasing mobile phones. These call centers can provide citizens with an extremely important way of accessing to electronic government services. Citizens would be able to access several government services via voice or numeric keypad-activated responses.
7.3.4 Solving the issue of Wasta in the country

There is a strong connection between Wasta and public sector weaknesses, yet very little attention has been given to its elimination by the Jordanian government. As highlighted in previous sections, Wasta can make the public sector workforce over-subscribed and ill qualified to implement e-government in the sector, with a consequently negative effect on the implementation of e-government.

The Jordanian government must seek a way of minimising the effect of Wasta. There are several things that the government might consider in this respect:

1. The Jordanian government needs to establish transparency and accountability at all levels of the public sector. With regard to transparency, citizens should be able to find out who is responsible for a decision or an administrative procedure and to check whether this is in line with their official roles. All employees must be held accountable for all their decisions.

2. Government must consider decentralising the decision-making process regarding employment in the public sector, in order to remove authority from those who have the power to exercise Wasta.

3. The government should also strengthen the employee’s loyalty to the departments they work in. As one employee said regarding the issue of Wasta:

   “Most of the Jordanian citizens considered Wasta an obligation to help your family members and tribe. Otherwise, they will not respect you”
This quote indicates that loyalty in Jordan is not directed toward the state, but rather toward family members and tribe. Further research into how to break up existing loyalties may be useful to help in overcoming this long established issue.

All of these requirements cannot be implemented without a major reform of the public sector.

7.3.5 **Eliminating resistance to change due to the e-government programme**

As mentioned in Section 6.2.3, one method to tackle resistance to change within government departments should be by the direct involvement of all the respective heads of department in the e-government programme. A senior manager within the public sector commented that:

“Although we hear a lot about the term e-government in our work, there is still no solid understanding about it. We cannot really realise what it means and what its goal is. We just think it is a method of improving our current systems and updating our computers”

Thus, the concept and the perceived object of e-government must be explained to them; the heads of department must be aware of how to deal with ICT and they must also accept e-government transformation as one of their responsibilities. In this way, resistance to change when implementing e-government will be less if commitment is obtained from heads of agencies, since they have the greatest influence in most decision making.
7.3.6 Working on implementing e-government as a holistic group

As stated in Sections 6.2.2 and 6.2.4, there are both technical and managerial problems in the process of implementing e-government. One method of addressing these problems is to create an e-government team in each department. Some of these teams would be tasked with solving managerial problems that could arise between different departments. Other teams could be allocated the resolution of technical problems including system integration and data sharing. These teams could solve standing issues between different government departments that hinder the implementation process within a given government department, and could at least cover the issue of coordination and communication process that was mentioned earlier as being a barrier in this research.

7.4 RESEARCH CONTRIBUTION

The research presents an original contribution to the literature by creating a “model of e-government implementation” within Jordan (as depicted in Figures 6-1, 6-2, and 6-3). Concepts in the model have emerged from qualitative investigation. The model itself adds to the field of e-government for the following reasons:

- The model provides a dynamic view of the factors that affect the implementation of e-government in Jordan.
- The model highlights those factors (see Figure 6-2) that have not been found in any previous e-government literature. It is possible that in similar environments (for
example, other Arab countries), some factors such as Wasta could be at least as problematic than they are for Jordan, as Wasta, for instance, is known to exist in other Arab countries.

- The model provides an awareness of the changes in factors that affect the implementation of e-government in Jordan. This model shows researchers and policy makers that they should never regard the list of factors to be static or complete; some may be persistent at some times and not others. It provides an indicator for those researchers who have undertaken research on a one-off, “snapshot” basis to go back and revisit these factors after some time has elapsed to see if their focus has changed.

- The majority of previous studies have aimed at discovering a list of factors affecting the implementation of e-government without examining the possibility of there being interrelationships between them. This research presents a model (see Figure 6-3) showing that there are such interrelationships, investigation of which would result in the discovery of the main barrier facing the implementation of e-government in Jordan. This model provides evidence that the central phenomenon (i.e. core category) in this research, to which all other categories relate, is financial in nature.

- To the author’s knowledge this is the first time that grounded theory been used in a longitudinal sense within the field of the implementation of e-government. It therefore provides an exemplar of grounded theory in a longitudinal study using
multiple interviews which other researchers may wish to follow. Conducting multiple interviews using grounded theory was recommended by Charmaz (2002); she stated “unfortunately, grounded theory studies have come to be identified with a “one-shot” interviewing approach. However, multiple sequential interviews form a stronger basis for creating a nuanced understanding of social process” (p.682).

- This research investigated the factors that affect e-government implementation as it was perceived at various levels including employees from all managerial levels and ministries and citizens with different demographic profiles. Multiple interviews conducted over time with stakeholders enabled the researcher to construct a solid basis from which to explore the factors affecting the implementation of e-government and their dynamic nature. The result is a richer view of the factors that affect e-government implementation in Jordan than found in the previous studies uncovered during the search of existing literature.

7.5 LIMITATIONS AND REFLECTIONS

The following sections address the limitations of this research that need to be taken into consideration:

- The substantive theory (see Section 5.3 for more details on this aspect) of this research was limited to the kingdom of Jordan and therefore the results of this research cannot be generalised to anywhere without addition research.

- From the researcher’s viewpoint, using grounded theory in a longitudinal study was a difficult process, in particular with regard to developing the core category. As the
researcher started open coding immediately after each interview, it became very clear that many concepts were emerged as abundance of codes were being identified. This process was completed after conducting the last cycle of the empirical work. After that, selective coding was started to develop core category. Here the researcher has to go back to data and start thinking of the relationships among all concepts. As a result, many concepts that emerged during the first and second cycles were changed during the developing of the core category, because the researcher interpreted the data in a different ways when the second time of viewing compared to the first time. This process produced different drafts of grounded theory. The researcher believes, however, that although if this was a long and difficult process to undertake, the theory that was produced as a result was much improved as his understanding of the data was increased by undergoing this very process.

- Strauss and Corbin (1990) asserted the importance of the Paradigm Model (see the description in Section 4.7.1) by stating “your final theory is limited to those categories, their properties and dimensions, and statements of relationships that exist in the actual data collected-not what you think might be out there but haven’t come across” (p.112). The researcher was concerned about the collected data not containing properties or dimensions, and whether this meant that the emergent theory is not well-developed.Strauss and Corbin say that “what you can’t find in your data becomes one of the limitations in your study. That is, either you didn’t
collect enough information, go to the right places, and so forth” (p.112). From the researcher point of view there is no guarantee that these properties and dimensions will be found even if further data collection takes place. In addition, there are no criteria to judge what the right place or who the right person is. The researcher could argue that even he goes to the right place there are still no dimensions or properties of the phenomenon under investigation. As a result, it is difficult for the researcher to uncover the aspects necessary to formulate the paradigm model and it is therefore a limitation of this research. However, the author is unclear as to whether the lack of a derived model was because it is a weakness in grounded theory or whether it is due to other factors. It could be a weakness of the questions the researcher asked to the stakeholders, for instance the researcher felt that asking the same question in many different words lead him to same things. Further research need to look into the paradigm model and its formulation in more detail. Instead, the researcher used relationships such as “as a result of” and “leads to” (cf. Section 6.4) which it was very useful to apply from the researcher point of view.

- Another limitation is that despite Strauss and Corbin allowing the researcher to borrow concepts from the technical literature, they remark that this can “have a grave disadvantage” (p.68). In this research, the theory was substantive and emerged through open, axial and selective coding. However it was difficult not to be influenced by the concepts found in the literature the researcher had read concerning the implementation of e-government. However, the presence of new
factors such as Wasta and the war in Iraq provides evidence that the researcher was at least to a sufficient degree, open-minded.

- The researcher recognises that this is interpretive work and it is only one person’s interpretation of the phenomenon under study. Another researcher may, therefore interpret the views expressed by participant’s and the categorisation in slightly different way. This may be able to be done with the existing transcripts and to compare the overall result.

- Since the interviews were conducted in Arabic, translating the transcripts into English was a big challenge for the researcher, especially when trying to find equivalent English words for some of the expressions used by the participants. However, to try to provide an effective translation, the researcher enlisted help (cf. Section 5.9) from two other Jordanian students at De Montfort University to examine the translations for any errors.

7.6 FUTURE RESEARCH

In this research more attention was paid by the participants to the social, economic and political aspects of e-government implementation rather than to technological ones. The following list provides suggestions regarding these aspects for future research, which will help implementing e-government more effectively.

1) Conducting further cycles of investigation in Jordan could be interesting future research to extend the model, as new factors may emerge and/or some existing factors may disappear.
2) During the analysis process, it has been very difficult to apply the paradigm model within the identified research questions. More research therefore is needed to investigate whether or not the described paradigm model in grounded theory is suitable for studying certain phenomena such as e-government implementation. In addition, more research is required to discover whether or not the grounded theory guidelines are enough to develop the appropriate core category.

3) More research is required on the application of stage models to e-government. For example, it will be interesting to look and see if the government can apply all the stages in every single department, or whether government have to stop half a way.

4) Wasta is a more recently noted barrier having been discerned in various locations in Jordan. This research has suggested, however, that its influence in e-government may not be peculiar to Jordan or to the implementation of e-government. Further research might be interesting to discover if Wasta influences the implementation of e-government in other Arabic countries or in other ICT projects, even within Jordan.

5) The loyalty of the Jordanian people toward the family and tribe rather than to the state is an interesting finding. Loyalty has been studied in general by several researchers (Niehoff et al., 2001; Duboff & Heaton, 1999; Silvestro, 2002) and it has been shown to have a profound effect on an employee’s
commitment to the productivity of his/her department. Future research is therefore important in order to evaluate the effect of this loyalty on the performance of employees in public sector departments. Such research could be of benefit to both citizens and government.

6) Future research could be conducted into the workings of legislative authority in order to address the role of the MPs toward the development of the public sector. Discovering MPs’ priorities could help the government in defining or changing its strategy according to those priorities.

7) From the literature, it appears that no existing research has examined the success of other ICT projects in Jordan. It might be of advantage to ascertain if such projects could be transferable to the implementation of e-government. For instance, methods of introducing and adopting ICT within Jordanian employees’ working environments that have proved successful could be used in this way.

8) One barrier revealed by this research is that of conflicts in neighbouring countries. More research is therefore needed, specifically in the Middle East, to explore in detail the impact of external events (i.e. war and conflict) on the implementation of e-government or any other ICT initiatives.

9) Research has shown the importance of employees’ and citizens’ satisfaction before ICT initiatives such as e-government. It would therefore be useful to conduct further research to examine stakeholders’ needs prior to
implementing such initiatives. Addressing people’s needs would lead to more effective implementation.

7.7 SUMMARY AND CONCLUSION

This last chapter has provided answers to the research questions. In addition, new factors that have been identified within the Jordanian context have been incorporated with those in the existing literature that were found to be present within the Jordanian context into a model of the factors and their dynamic nature, as depicted in Figures 6-1, 6-2, and 6-3. A number of recommendations by which the Jordanian government can apply e-government effectively were presented, based on the research findings. This research’s contribution to the body of knowledge was presented in terms of several issues such as the aforementioned model, the research methods used in this research and the way in which these research methods were applied. Future research in the field of e-government and ICT and the principal limitations to the present research as identified by the researcher were presented. Finally, the researcher’s point of view is that the implementation of e-government is a highly complex process, which requires a strong strategy, whose factors change over time, and which takes a long time to implement and, therefore people should not view this process as a simple task.
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APPENDICES

Appendix 1: Example of a translated interview with the Director of Change Management

Interview with the Director of Change Management Department (MOICT)

Question 1: what is your job please?

I am the chief of the Change Management Department in the E-government program. I am practically part of the MOICT.

Are there any new responsibilities added to you since last interview?

Nothing new has been added to my responsibilities since then.

Question 2: can you please tell me what happened in the programme since last interview in 10/2006?

Surely, I am here with Mr. Hasan al-Hurani (the director of e-government programme) in the same ministry, which means the same things said by Mr. Hasan since we are working together.

Question 3: can you please tell me what do you think the advantages, if any, of the E-government programme?
Okay. What can I tell you? What is better than seeing citizens enjoying doing their transactions without going to 100 ministries and government departments in order to complete his/her transaction? He instead accomplishes 99% of them while sitting in his home if having Internet or by making a call to the ministry or the department. Our citizens always complain about Wasta and corruption in the governmental departments. This program will definitely solve these problems. E-government in Jordan basically aims to simplify the government procedures within the public sector. We do not have to forget that the procedures in Jordan are overlapping terribly which leads to slowing down the progress on the programme, and sometimes there are terribly overlapping among the tasks. For example, I remember one time a contradiction was happened between the Ministry of Health and the Ministry of Tourism regarding problem of tourist restaurants and the responsibility of supervising them or getting licenses for opening tourist restaurants. Each ministry refuses to take responsibility for issuing and supervising the tourist restaurant. There is some overlapping among government departments; to be more precisely with you the interference happens between some officials in the same department or ministry. Of course this happens because the lack of clarity of officials' responsibilities in making some departments. E-government will solve these problems from my point of view.

Hasan has surely told you that we trained about 5,000 government employees. If the program has not been taken, this would not have been accomplished. To me,
this is a great advantage. Also, Hasan may have told you about the initiative of a laptop for every university student. This is also something great for a poor country like Jordan. This will increase the ICT awareness among students.

We do not have also to forget that big investments are taking place due to the development happening in the IT sector in Jordan. Implementing the E-government will definitely be one of the important factors attracting investments in Jordan. In other words, when an Arab citizen’s wants to invest in Jordan, knowing that the government procedures are electronic, they will definitely be confident when investing his millions in the country. When the investor knows that his transaction will be done electronically without Wasta, this will be an attraction for investment.

These are the most important advantages that can be touched about the E-government in Jordan.

With regard the citizens, e-government will increase the transparency, where citizens know that their transactions will not be delayed because of this or that reason and will not need any Wasta when doing their transaction or applying for job.

Question 4) can you please tell me what are the barriers facing you in the implementation of e-government? Why?
I think that the financial barrier is the most important (that is, if there is money, we would have made ministries and governmental departments completely different). However, when there is no money, what can we do other than asking for external financial assistance? The external funding exists but it comes to the country in general rather than for a certain project. Part of the funds goes to the e-government programme; the rest are taken by other initiatives or projects.

Another thing is related to the lack of qualified human staff in the MOICT and other ministries and government departments in Jordan. For example, the team we are working within the Ministry keeps on changing; someone enters while others leave. If an officer gets a three-fold salary to that he gets from the ministry, how can s/he stay working with us? He will definitely leave it to work with the private sector or gulf countries. I, therefore, say that the salaries issue creates other barriers that are not taken into consideration. In addition, partnership with the private sector is very important in terms of supplying us with qualified people because, to be honest, all Jordanian qualified people are working in the private sector because they get high salaries that are better than those got from the government; you know the average of the salaries in the public sector is very low and does not encourage qualified people to work in. We work on training and qualifying the officers and when they get better offers they directly leave us for this job, which is a big problem. We also do not have to forget that the infrastructures in the ministries are very weak; some buildings are too old and are
not fit to be a department. This is a real problem because you make the required equipments only to get surprised that the department or the ministry will move to another place, which means that your effort is a waste of time and money.

Furthermore, there is a strong resistance on the side of the officers, especially those who have no knowledge about computers (those people think that we will dispense with them). We told them a thousand times that we will not dispense with any officer, but no one believes what we say.

Question 5) What are the problems of the E-government you are facing?

There are many officers that will not cooperate with us; rather there are sometimes lots of contradictions in the information they gave to us. For example, the director of the department tells you something and the junior officers tell you something else.

Another problem is that if we suppose that we provided complete e-services, do not we need new law, statutes and even interior regulations for each ministry to deal with e-services when these are available? Changing the regulations and laws in order to be in line with the offered services is very critical issue. This is not easy because it needs a parliament, Senate House, and government decisions to deal with it. It also takes a long period of time because we are talking about regulations and bylaws that cannot be changed overnight.
In addition, up to now there are ministries and departments updating their systems and buying special software for their departments. We ask them to coordinate with us before taking any step in this matter. However, at the end no one cares or replies. For example, a department buys expensive software and tells us later on that the program is not agreeing with the E-government standards. How can you make such a department cooperative with you? An example of this, the Public Customs Department purchased a special system costing 5 million dinars, but we surprisingly discovered that the system does not cope with the e-services that will provide by the customs department through the e-government portal. Also, we discovered that the new system does not cope with the new law passed by Parliament regarding some regulations that are relevant to the customs department.

Another big problem is that some military based departments, such as the Ministry of Interior and the Ministry of Justice, do not want to disclose their database for us or share them with other departments.

So, these are the problems we are facing.

Also, we suppose that when we offer services for ministries we expect that we will find support and assistance, but what happens is the reverse. We have not expected that they will be uncooperative. We are not also responsible for them or
we cannot force them; that is, employees from other ministries do not care about us.

Question 6) In your viewpoint, why do you think that Jordan is concerned in implementing the E-government?

King Abdullah day and night keeps on saying “I want to improve the level of citizens’ lives”. E-government programme is part of this improvement because the E-government will reduce the government's and citizens’ expenditure. Consequently, citizens will save money and time relating to the government transactions they want to do. In addition, his Majesty the King wants to make Jordan an economical, investment centre like Dubai. This programme will definitely change the image of Jordan towards the better. We also do not have to forget that Jordan is a relatively secure country in comparison to neighbouring countries like Iraq and Israel. This is considered a competitive advantage definitely; this investment if occurred will bring benefit to the country.

Question 7) in your viewpoint, what are the risks and disadvantages of the programme?

The big investment and enormous sums of money spent on the programme are the most serious risk in case that it fails, may Allah prevent that.
There may be other external risks leading to delay in the progress of the programme. For example, following the war on Iraq more than 700,000 Iraqi people entered into Jordan, which costs the government too much to take care of them. If these sums of money were spent on the programme, I think we would have got some progress in the programme. This is an unexpected external factor and is not relating to the Jordan, we don’t expect that they will affect on the country to that degree. Their effect is clear in all aspects of the country. In addition, lack of qualified resources to deal with the project in all government departments is another risk to the programme.

Moreover, Wasta may cause the programme to delay as the employee will not be loyal to his department because he knows that everything in the public sector is not based on loyalty and efficiency, but on the one’s who has a strong Wasta.

Also, inconsistency between all government departments, such as military and civil departments is another risk.

We don’t expect that things will be difficult like this, so we always get surprised about some difficulties emerged that affect negatively on the progress of the project. The programme is like any other programme in the world; it can temporarily fail but all of these are experiences that will increase our effort to make it successful as much as we can.
I tell you in brief: we need money and restructuring the public sector for the programme to become real. That’s it.

Question 8: Is there any resistance against the programme?

I told you that we are in need of restructuring the public sector; I mean restructuring buildings, re-qualifying officers, issuing new laws, etc. If you take a look to the public sector in Jordan you will definitely realise that some offices have six employees while the job can be done of just two employees. If there has not been any resistance in all aspects, I would not have told you that we are in need of restructuring the whole public sector.

As I told you, employees believe that the E-government will empty the government buildings from the employees. I myself do not blame them because they need to be enlightened. They should also be trained according to the programme to become more aware and more cooperative. Because of the nature of the department I work in I touched on this issue on the part of the officers. When we go to any ministry to talk about the project we find some employees afraid because they think that we will bring computers instead of them. We, however, explain to them and make them aware.

Question 9) How will you promote for the program?
At the beginning it is supposed that we start with enlightening campaigns target the employees within ministries and government departments to show them the benefits of the E-government in improving the procedures and increasing the efficiency of the whole public sector. We will also carry out awareness campaigns targeted citizens and investors to create an atmosphere of awareness. I think that if we give them actual examples from the developed countries, it will be good particularly for the officers and citizens. However, I say that it is still too early for the awareness campaigns for citizens because the significant thing is to focus on the employees first because there is nothing to offer for citizens by means of e-services.
Appendix 2: Example of an interview in Arabic with an employee from the Audit Bureau.
لا يمكنني قراءة النص العربي غير الواضح على الصفحة المقدمة.

يرجى تقديم نسخة أفضل من الصفحة أو نصًا مكتوبًا بشكل صريح حتى أتمكن من مساعدتك بشكل أفضل.

لا يمكنني قراءة النص العربي غير الواضح على الصفحة المقدمة.

يرجى تقديم نسخة أفضل من الصفحة أو نصًا مكتوبًا بشكل صريح حتى أتمكن من مساعدتك بشكل أفضل.

لا يمكنني قراءة النص العربي غير الواضح على الصفحة المقدمة.

يرجى تقديم نسخة أفضل من الصفحة أو نصًا مكتوبًا بشكل صريح حتى أتمكن من مساعدتك بشكل أفضل.
هـ

مسار أعمٍّ في المواد تُرجَّح على مُثِّغاء SGN مع ذلك، يكون نوعًا مُؤثرًا في المواد لتعزل بنكها.

إنها باعتُقالات، إناء الموازنة في الرؤية كما تعُد على المصايد والضغوط التي أثارها ما شكل من هذا المثير. ففي كل حال، كجزء من الحكوكة عما تم إجراؤه. يعني ما أُجَّدَّد النّور.

الموانئ الرئيسي هي المجمع الدكنريدي.

الله - مالي من المواقف اليانغويي بعُضْماده لا

إننا استمتعون تدُّمَج المُؤثر على المُثِّغاء بعُضْماده من الرؤية ومنها ستيكر تكويك الحكوكة. يعني ما كُبر. استمتع

معاواتهم لمُثِّغاء بعُضْماده لا يؤدّي إلى الله فَنِفَظ.

في مِكّاءة تَّأثِي من بعض المُثِّغاء ساحر بِرَبَّيز

عَدَّمَهُ بإسحاق حُبّاء والأَناج الهلالي، إذا ما المُثِّغاء، ملَّ اللَّه في ترُفه امزيًا حُبّاءة الحُبّاءة استمرّةة نَّظامه وحُبّاءة

الندفَة التَّأثِي من بعض الرواداء لم يتَّصل بِرَبَّيز 5 ملتامه دينار. وَهُوَ سُهِيفر

رَبَّيز الحُبّاءة صدّ عنه الرواداء الحُبّاءة بِرَبَّيز وَالرَّواداء

النَّدفَة هو إن ترك سعتَهُ سُهِيفر سُهِيفر بِرَبَّيز بِرَبَّيز

237
من: ماذا يملأ السير؟ منع الشكوى، بناءً على الرجاء.

بالنحو الذي أظهره النموذج الكحولي في عصر الحادية
رغم الاستغلال، من مبادئ الوصول للسلام، مقوم بل الجهل.

الञاعور: بأن عن معاييرك، قد ردوداتها، أو رفع تحت

مانالك: نبتاءة مكروهة، التزمت، كما أمر الآت في ديني.

النهاية، نجى في ظل النزلاء، لإنشاء النور.

كانت القابل، الرسول، دبلوماسي في الدائرة الشاملة، لتخفيف

السياحة، في ظل النزلاء، بناءً على النور.

كانت لتخفيف العبء، على الجزء من زاويات المدارس،

الدارية، والتي تتمثل في كل القول، وإلغاء التزامات

النهاية، تعزز مكانة الدائرة، بين العمل، وحتى، بإدارة

 شيوع مبرر في النزلاء، مبادئياً، المكالمة، له، الرسم

الحة من المواد المختصرة، لدكتور عملية التطور، والإعارة، في زينه.
لا يوجد نص يمكن قراءته بشكل طبيعي من الصورة المقدمة.
هل تعتقد أن سكوننا عبارة عن مقاربة ضد البرامج؟
نعم المنتقد. بيد أن الحقيقة التي أرى أنها تتم مملاً وتزعم...
سأحكم تنظيمي، وسأرى هذه المرجعية سياسية ضيقة ورسالين.
سيتم ترجمته دون إذن الترجمة.
المرجع هو المقطع العام. إيقافه! لا سيما الاستخدام.
نعم، هناك تعليمات الإصرار. أما الحل خلال المصطلح الذي
تعتبره على النفس السري، فإنها متماسكة، الأمهات ملتائمة.
سيتم الاستفادة من سيطرة المرجعي، الزراعة، عدم التأثير.
والنازل، أعتقد أنه سكوننا تلك ممارسة غير صحيحة.
لذا ستتغيب.
Appendix 3: Lists of open codes along with key words or phrases

<table>
<thead>
<tr>
<th>Codes (concepts)</th>
<th>Examples of Key Words/Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding issues</td>
<td>“to be funded and financed by donor states” “Asking for outside support” “Instead of making an E-government it is better to improve our salaries” “Without external funding, this will be extremely difficult” “Such an enterprise needs much money” “We need money” “If those people find good salaries in Jordan, they will not travel to the Gulf countries”</td>
</tr>
<tr>
<td>Cost of the Internet</td>
<td>“Not all people can subscribe in the Internet” “The prices of computers and Internet subscription must be reduced” “Even those who had phone line they disconnected them” “I myself cannot pay 50 Dinars per month to subscribe to the Internet” “how will the citizens who do not have phone lines will use the e-services” “If I have Internet in my house, I will definitely prefer to do my transactions electronically” “I will disconnect my telephone” “If we guarantee that each home in Jordan own PC”</td>
</tr>
<tr>
<td>Lack of e-government understanding</td>
<td>“They believe that we will dispense with them” “Some officers feel afraid of computer” “think that the systems will be an alternative of the employees” “Their knowledge of the E-government is almost zero” “They think that we will bring computers instead of them” “E-government is less technology and more management”</td>
</tr>
<tr>
<td>Lack of IT qualified employees</td>
<td>“Lack of qualified human resources” “All capabilities are working in the private sector because they get high salaries” “There is tremendous lack of trained employees that are able to deal with this initiative”</td>
</tr>
</tbody>
</table>
| Fear of and resistance to change         | “We find the officers frown” “Strong resistance on the side of the officers” “We find them uncooperative” “Resistance is
made by employees” “I told you that there is resistance against the project” “Officers who spent 10 or 20 years working traditionally or manually will resist”

<table>
<thead>
<tr>
<th>Wasta</th>
<th>“Wasta is widely spread in Jordan” “Citizen searches for a mediator” “It limits the phenomenon of mediation” “We live in a tribal community” “You cannot say no to your relatives” “You cannot go to any department without Wasta” “a person who has weight in the country”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corruption</td>
<td>“Administrative corruption” “Our citizens always complain about bureaucracy and corruption” “Financial corruption” “We have officers taking bribes to issue work statements”</td>
</tr>
<tr>
<td>Complication in communication processes</td>
<td>“Some departments renewing its systems without returning to us” “Communication process…. Demands a longer time” “Bureaucracy in this communication process” “There is a huge overlapping between departments” “Procedures in Jordan overlap terribly” “Overlapping between the tasks” “We find that the procedures regarding this project very complicated and routine”</td>
</tr>
<tr>
<td>Public sector weaknesses</td>
<td>“The infrastructures in the ministries are very weak” “Every ministry and department has its own system” “Some governmental centres do not have central heating” “Administrative weaknesses”</td>
</tr>
<tr>
<td>Legacy systems</td>
<td>“Working for 20 years with the old system” “We are used to the traditional system for tens of years”</td>
</tr>
<tr>
<td>Regulation and legislation</td>
<td>“Laws and even interior laws for the employees and ministries” “Up to now there is no laws dealing with any e-service” “Laws will also be a big barrier” “The issue of E-crimes and E-signature” “Government should speed up changing laws” “You have to change all regulations and laws”</td>
</tr>
<tr>
<td>Parliament’s priorities</td>
<td>“We as a Parliament are just observing the...”</td>
</tr>
</tbody>
</table>
government’s performance” “Even in Parliament there are sub-committees dealing with such matters as finance, law, agriculture and foreign affairs. However, there is no committee specialising in IT” “but till now I have not heard that anything is to be formally discussed in Parliament regarding e-government”

Data security

“Some security departments do not want to disclose their databases” “Protecting data from being penetrated, especially financial data” “Data relating to personal issues about employees and citizens” “The problem of data security” “Some security departments do not want to put their databases on one server” “Security departments”

Government’s priorities

“I mean I do not think that the E-government is a basic priority” “Government is busy now with the issue of elections” “government has a lot to work on before taking any such initiatives” “One time you find that the government is focusing on the E-government, whereas at another time you find that there is another national project on which everyone is working”

Changing ministers

“Every minister comes make changes” “Changing or creating some governmental departments or even ministries” “Continues changing in the ministers” “Change governments constantly” “Notice how many ministers have been changed and the program is still stop”

War in Iraq

“Funding spent on Iraqi people” “950,000 Iraqi citizens entered into Jordan, which costs the government too much to take care of them” “Following the Iraqi crisis” “Jordan always affects by the surrounding countries and everything taking place in the Arab world” “Iraqis have entered the country and, consequently, the price of
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citizens’ expectations prior to e-government</td>
<td>“Bedouin areas are poor and need for developmental enterprises before the E-government” “Modernizing health centers and improving citizens' life level is more important than 100 E-governments”</td>
</tr>
<tr>
<td>Cost of living</td>
<td>“Take notice that prices in Jordan have increased” “I prefer to pay 50 JD for my car instead of subscribing with the Internet” “you know the prices in Jordan is increased three-fold”</td>
</tr>
<tr>
<td>Previous experiences with governmental projects</td>
<td>“Many enterprises before this, failed and their files were closed” “there are many programs in Jordan that failed” “In Jordan always heard projects, but not seen” “Planning of Jordan is not a strategic, not a far-reaching”</td>
</tr>
<tr>
<td>King’s wish and will to improve citizens’ status</td>
<td>“The King's anticipation is to improve the services of citizens' rights” “King's hope is making Jordan ………… similar to Dubai or Singapore” “King wants to make Jordan an economical, investment centre” “He himself is interested in IT sector”</td>
</tr>
<tr>
<td>Attracting investments</td>
<td>“Making the whole of Jordan an economical zone like Aqaba” “Attracting investments to the country” “Attracting investors from Gulf countries” “Making Jordan the best place to invest in” “E-government will definitely be one of the basic factors attracting investments in Jordan”</td>
</tr>
<tr>
<td>Competitive characteristics of Jordanian</td>
<td>“We have experts people who has ability to develop this project” “Cafe nets are spread everywhere” “Most of the Jordanian society is of youth category” “Jordan proves that it is a safe country” “Jordan exports technological experts and competences to the Gulf countries”</td>
</tr>
<tr>
<td>Expectation for a better public sector</td>
<td>“More productivity” “will facilitate the administrative procedures within governmental department” “Will improve the performance of Gov departments”</td>
</tr>
<tr>
<td>National objective</td>
<td>“Reduces the governmental expenditure” “fighting administrative weaknesses” “Improving the level of general performance” “to simplify”</td>
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<td>-----------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>“Enhance the market of communications and IT in Jordan” “make Jordan an economical zone” “give a good picture about Jordan” “showing a bright picture of Jordan” “to complete the process of development” “Public expenditure can be controlled in a better way” “to compete with such countries as Bahrain and Dubai” “Will create an educational community”</td>
<td></td>
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<tr>
<td>Citizens’ services</td>
<td>“Citizens know that their transactions will not be delayed” “May create new jobs” “It increases transparency” “E-government will facilitate things for citizens living in distant areas”</td>
</tr>
</tbody>
</table>
Appendix 4: Interview templates

Draft Letter to Interview Participants
P.O Box 150405
Irbid
Jordan
August, 2006
Dear Sir / Madam,

E-government has become a popular focus of government efforts in many countries around the world. Jordan is one of those to implement e-government in its ministries and departments. Many factors must be taken into account when such programmes are implemented.

This work aims to investigate the dynamic nature of, and interrelationships between, the factors that influence e-government implementation in Jordan over time. It seeks to define potential cultural, national and other national and regional factors that might influence the implementation of e-government in Jordan.

In order to achieve the desired goals, the researcher is conducting interviews with officials and citizens such as yourself, who are in a position to provide valuable information on e-government and related data. We would like to invite you to be part of this study, which will help the researcher to identify the factors that influence the implementation of e-government in Jordan. This study has major significance for both the government and citizens. It will assist the Jordanian government in the implementation process of e-government.

I assure you that all responses will be confidential. Could I please ask you to complete the attached Consent Form prior to our interview?

Thanking you in anticipation of your involvement

Yours sincerely

Mr. Raed Kanaan
Consent Form for Interview Participants

CERTIFICATION BY PARTICIPANT

I,

From,

Certify that I am at least 18 years old and that I am voluntarily giving my consent to provide information for the above described work entitled Investigating the dynamic nature of, and interrelationships between, the factors that influence e-government implementation in Jordan over time, being conducted at De Montfort University, Leicester, UK by Mr. Raed Kanaan.

I certify that the objectives of the interviews, together with any risks to me associated with the procedures listed hereunder, have been fully explained to me and that I freely consent to participate in this work.

Procedures:

Semi-structured interview conducted by Mr. Raed Kanaan. The interview will be taped or notes taken according to the participant’s preference in order to record information accurately. The information gathered will be kept confidential along with the identity of the participant.

I understand that I can withdraw from this work at any time and that this withdrawal will not put me at risk in any way.

I have been informed that the information I provide will be kept confidential.

Signed: ...........................................

Dated: ......................
Appendix 5: List of questions with employees

The following employees have been chosen for involvement and have been asked research questions in three cycles:

1. E-government Director in the Ministry of Information and Communication Technologies (MOICT) (Em1)
2. Head of Change Management in the MOICT (Em2)
3. A project manager from the Specialized Technical Services Company (a principal supplier for e-government project in Jordan) (Em3)
4. One senior manager from the Ministry of Labour (Em4)
5. One senior manager from the Central Bank (the Ministry of Finance) (Em5)
6. One middle level staff member of the Audit Bureau (Em6)
7. One low level staff member from the Loans and Grants section of the Ministry of Planning (Em7)
8. One Jordanian parliament member (Em8)
9. One high level staff member of the Jordan Investment Board (JIB) (Em9)
The following table lists the questions assigned to each employee.

<table>
<thead>
<tr>
<th>Question</th>
<th>Em1</th>
<th>Em2</th>
<th>Em3</th>
<th>Em4</th>
<th>Em5</th>
<th>Em6</th>
<th>Em7</th>
<th>Em8</th>
<th>Em9</th>
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<tbody>
<tr>
<td>1- What role do you play in the Ministry? Give me an explanation.</td>
<td>X</td>
<td>X</td>
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<td>If the role has changed since the last interview, the researcher</td>
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<td>will ask if any additional responsibilities have been added</td>
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<td>2- What happened so far from last time?</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<td>X</td>
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<td>3- What advantages and benefits can you see coming from the e-government</td>
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<td>project?</td>
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<td>If the benefits have changed since last time, the interviewee</td>
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<td>will be asked what these changes are, so that any changes</td>
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<td>in Jordan’s strategy for service delivery can be discovered.</td>
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<td>4- What do you think the barriers are?</td>
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<td>X</td>
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<tr>
<td>A question will be asked to ascertain whether, and why, the barriers</td>
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<td>have increased or decreased (a) since the last interview and (b) over</td>
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<td>the total time that the researcher has been in contact with the</td>
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<td>participant. The question will also be asked as to why the barriers</td>
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<td>that remain are still there.</td>
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<td>5- Why do you think Jordan is interested in e-government?</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
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<td>X</td>
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<td>Do you believe that the interest has increased or decreased (a) since</td>
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<td>the last interview and (b) over the total time that the</td>
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</tbody>
</table>

249
<p>| | | | | | | | | | |</p>
<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>researcher has been visiting the participant? If so, what are the reasons for any change?</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>6- What are the risks and disadvantages of the e-government? Do you believe that the risks/disadvantages have increased or decreased (a) since the last interview and (b) over the total time that the researcher has been in contact with the participant, and what are the reasons for any change?</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
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<tr>
<td>7- Is there any resistance to the e-government project? A follow up question will be asked: Do you think the resistance you have mentioned has decreased or increased (a) since the last interview and (b) over the total time that the researcher has been in contact with the participant? What are the reasons for any change?</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>8- How many services does your department or Ministry have?</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>9- How many citizens use this service?</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>10- Do you think that the e-government project has been successful to date? What criteria do you base this assessment on? Do you have any quantitative measures and evidence to support your assessment that the project has been</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>11</td>
<td>How will you promote the services that will be introduced by e-government?</td>
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<td>12</td>
<td>What do you suggest for future research for e-government in Jordan?</td>
<td>X X X X X X X X X</td>
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<td>13</td>
<td>Have you faced any problems in dealing with government routines and procedures during the project?</td>
<td>X</td>
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<td>14</td>
<td>Do you think that e-government will change the behaviour and practices of users within government offices? If so, how?</td>
<td>X</td>
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<td>15</td>
<td>What process has been used up to the present to implement e-government in Jordan? Has this changed over time, and if so, why?</td>
<td>X</td>
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<td>16</td>
<td>Have any new investments taken place in Jordan as a result of commencing the e-government implementation?</td>
<td>X X X X X</td>
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<td>17</td>
<td>How would you envision the program affecting the future of employment in the public sector?</td>
<td>X</td>
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<td>18</td>
<td>Are there any plans in your Parliament’s agenda to change the laws and regulations so as to be aligned with e-services?</td>
<td>X</td>
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### Appendix 6: List of questions for citizens

<table>
<thead>
<tr>
<th>QN</th>
<th>The Question</th>
<th>Justification</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>What do you think e-government is?</td>
<td>The aim of this question is to find out the citizen’s perceptions of e-government and to know where this perception comes from. If the citizens do not know what e-government is, the researcher will explain it to them.</td>
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<td>2</td>
<td>Do you prefer to do your transactions electronically or face to face? If yes, why? If no why?</td>
<td>This question aims to discover to what extend Jordanian people willing to accept technology in general and e-government in particular.</td>
</tr>
<tr>
<td>3</td>
<td>In your opinion, do you think that Jordan can implement an e-government system? Why? and What types of factors need to be taken into account in order to achieve successful implementation?</td>
<td>This question gave us an overview about how difficult or easy it is for the government to implement this system, and what reasons, stemming from citizens perspectives, underlie this.</td>
</tr>
<tr>
<td>4</td>
<td>What do you think the advantages of e-government are?</td>
<td>This question may uncover some advantages that are not discovered during the first cycle of investigation.</td>
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<tr>
<td>5</td>
<td>In your opinion do you think there are any barriers to use this technology? Can you please give examples?</td>
<td>This question is important in term of understanding the main barriers from the citizen’s point of view, and also to see how popular demands were met by the government.</td>
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<tr>
<td>6</td>
<td>Do you trust technologies that are used to conduct the various e-government services (e.g. Internet, email, fax, telephone)?</td>
<td>Citizens may have thought that technology will solve all problems. This question will uncover the reasons behind this issue.</td>
</tr>
<tr>
<td>7</td>
<td>Do you think that e-government can increase the transparency of government procedures? How?</td>
<td>This question may lead to discussion of other issues, such as corruption and accountability.</td>
</tr>
<tr>
<td>Question</td>
<td>Description</td>
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<tr>
<td>8</td>
<td>Do you think that e-government is going to reduce corruption? If yes, how? If not, why not.</td>
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<td>9</td>
<td>What type of corruption do you mean?</td>
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</table>

The object of Questions 8 and 9 is to understand how an e-government system can help government to reduce corruption.