E-government in Saudi Arabia
The Influence of Organisation Structure on E-Government Implementation in Saudi Arabia
(Ministry Of Education case study)

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DECLARATION

I, Mohammed Bindrees, confirm that this work submitted for assessment is my own and is expressed in my own words. Any uses made within it of the works of other authors in any form (e.g., ideas, equations, figures, text, tables, programmes) are properly acknowledged at any point of their use. A list of the references employed is included.

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

Date: .................................................................
Firstly, I would like to express my appreciation to Dr. Saad Al Fahaid, the Schools Affairs Secretary in the Ministry of Education - Saudi Arabia, who supported me in choosing this project and provided me with some valuable information. I would also thank my parents and my wife and children, who helped me during my project.

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Abstract

This dissertation is concerned with the relationship between organisation structure and E-gov project problems in Saudi Arabia. Some organisations are faster than others at implementing E-gov projects for many reasons. Their organisational structures and project environments could be among the most influential factors. Organisations worldwide remain stable until any project begins growing; an organisation must check its structure carefully prior to beginning a project. Organisation structures have been divided into four categories: the functional structure, the dedicated project team structure, the matrix structure, and the network organisation structure. E-government has four models and activities, which are Government-to-Citizen, or Government-to-Customer, (G2C); Government-to-Business (G2B); and Government-to-Government (G2G). In addition, E-government has five maturity stages, which are emerging presence; enhanced presence; interactive presence; transactional presence; and seamless, or fully integrated, presence, all of which have been described thoroughly.

A qualitative evaluation approach was chosen. I conducted four kinds of interviews (four layers: A, B, C, and D). The four layers were decided upon based on the role of interviewees, who will help in choosing a suitable organisation structure. Interviewees evaluated the current organisation structure and tested the effectiveness of the four organisation structures in E-government projects from managerial and technical perspectives. The responses were unitized and grouped based on two dimensions: interviewee layer and interviewee main idea.

At the end of this dissertation, a number of recommendations have been made, such as that the strategic plan must be drawn up officially, training plans regarding project management skills are desperately needed, the matrix organisation structure could be the best frame for Saudi organisations and any other similar cases, and Project Management Offices (PMO) could be the best idea to manage and control projects if they are given adequate authority and support.

Keywords:
E-government, E-gov, Organisation structure, Information Technology, MOE, Ministry of Education
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Chapter One: Introduction

1.1. Introduction

Online or electronic government (E-government) services refer to a government’s use of Information and Communications Technology (ICT) to offer electronic services to citizens, businesses, and other government agencies via an Internet network. In fact, governments worldwide have been practising E-government for more than fifteen years in Saudi Arabia. Moreover, E-government strategies are about harnessing the information revolution to improve the lives of citizens and businesses and to improve the efficiency of government (Borras, 2004). While the concept of E-government is rapidly gaining momentum, there are differences in the improvement level among Saudi organisations. The best Saudi Arabian organisations at implementing E-government have been praised on the official E-government website.

1.2. Background

In 2005, the Saudi Cabinet made a governmental decision by imposing an integrated E-government project on all Saudi organisations in order to automate all government procedures. Since that date, implementing the E-government project has become a compulsory goal for all Saudi organisations. An annual report is published on Saudi E-government Commission website showing some slight progress and delay from some Saudi organisations.

According to the Saudi E-government Programme’s official website (Yesser, 2012), “Government entities have reached different stages of e-Government transformation. However, a unified methodology should be formulated for all such entities, deciding the point of launch, yet keeping in mind the status of both advanced and lagging entities.”

The above statement means that some Saudi organisations have made good progress, while others are still struggling and working theoretically rather than practically. Investigating the reasons behind the delay is a very wide area to be addressed; however, based on the project management principles, organisation structure may play a noticeable role in building successful projects (Gray, 2005). Therefore, this project attempts to address the potential impact of
organisation structure on E-gov. Whether they have a positive or negative impact, it is essential to understand the concepts of both E-gov and organisation structure.

1.3. Place of Study and Local Purpose

The purpose of this project is to evaluate and create recommendations for an organisation structure that suits the Ministry of Education in Saudi Arabia by studying and comparing the organisation structure of many organisations and their efficiency in implementing E-government projects. In addition, this project might suit other organisations who are in the same developing and political conditions.

1.4. Research Issues

Recently, the implementation of E-government projects has faced many obstacles in Saudi Arabia. One of the noticeable obstacles is the differentiation in the organisations’ structures. This makes the process more difficult for those who incubate E-gov projects. In the same context, some organisations have recorded satisfactory progress in terms of implementing these projects. For example, the Ministry of Commerce and the Ministry of Education have registered a delay in their projects, while the city council of Al Madena has registered the recommended progress. All these organisations are governmental. The differences appear in the strategies and tactics used in their IT projects’ development. However, a principle concern regarding E-government projects is whether these projects are being adopted in an appropriate environment. Many organisations have had to change their managerial styles and structures to bring them into line with technological improvements.

It has become obvious that most projects cannot guarantee success; nevertheless, the number of projects is growing because of the need for their technological features. Also, it has become very important to understand a project’s environment prior to exploring the project implementation itself.

This research is very important because organisation structure is considered to be the basis of all such projects. However, changing the governmental department structures in Saudi Arabia might be very difficult due to the lack of persuasive studies that demonstrate the impact of the current structure on the development plans.
According to Mochal (2003), “Some organizational structures can definitely impair your ability to deliver projects.” He also commented that “organizational structure may also impede the ability to share resources.”

The research will discuss and investigate how E-government projects in Saudi Arabia have been progressing since the E-government plan was established in 2005. On one hand, comparisons will be made between the Ministry Of Education in Saudi Arabia and other Saudi Ministries. On the other hand, all gathered information, the literature, and the project management principles will be matched up and compared to give a clear description of the current situation and the desired situation.

This will be done through a process of primary qualitative research. Four types of interviews will be conducted to gather as much information as we can about the current organisational behaviour in projecting E-government applications. The interviewees will be chosen carefully based on their roles within their organisations and how they affect or are affected by E-government projects.

The responses will expectedly provide valid examples of how E-government projects are implemented in many organisations.

Interviews will be translated into the Arabic language and translated again into English in order to analyse them and compare them with the principles of project management. The variance in the organisations’ structures will be correlated with their progression in E-government projects. The project management principles will be the main theoretical framework for this discussion.

The conclusion drawn will form the basis for choosing the best organisation structure in order to help in implementing E-government projects successfully. In addition, an organisation structure will be recommended for the Ministry of Education.
1.5. **Aims and Objectives**

1.5.1. **Aim**

The overall aim of this research project is to conduct a critical analysis of the current organisation structure of the Ministry Of Education in Saudi organisations in comparison with their progress in implementing E-government projects. Understanding E-government project management and some organisational limitations from the Saudi Arabian perspective will ultimately help in choosing an effective organisation structure, which might improve E-government implementation.

1.5.2. **Objectives**

To achieve the aim of this research, the following objectives must be accomplished:

1. Provide the necessary information about E-government and organisation structure.
2. Conduct an investigation and provide the necessary understanding of current organisations’ structures in conjunction with their behaviour and methodologies applied toward E-government projects.
3. Identify and analyse methods of choosing the best structure for organisations that are struggling with E-government projects in Saudi Arabia.
4. Conduct primary qualitative research on how E-government projects work within some current Saudi organisations.
5. Provide a set of guidelines based on effective E-government management practices drawn from PRINCE2™ and ITIL®.

1.6. **Research Hypotheses and Questions**

This research will concentrate on two types of variables:

1. *The dependant variable*, which is E-government progression.
2. *The independent variable*, which is organisation structure.

The two poles of this research (E-government progression, organisation structure) are testable by using the chosen methodologies.

- *Alternative research hypotheses*
\textbf{H1} - If an organisation has been restructured properly, its E-government projects will grow in a good working environment, and it will be implemented properly.

\textbf{H2} - If an organisation has adopted project management principles in implementing its E-government projects, the chances of success will be increased.

\textbf{H3} - If governmental organisations had enough flexibility in changing their structures, switching to the best structure would be much easier.

\textbf{H4} - If an IT department’s members have been armed with project management skills, E-government project progression will increase noticeably.

- \textit{Null research hypotheses (H0)}

As an E-government project is a purely IT operation, organisation structure will have no influence on E-government projects.

- \textit{Research questions}

1. What are the scope and services of E-government?
2. How can we measure the progress of implementing E-government?
3. How are Saudi Arabia organisations implementing its E-government projects?
4. How IT infrastructure and main framework have been prepared in Saudi Arabia?
5. What is meant by organisation structure in this context?
6. What are the types of organisation structure, and how does each type affect the work’s efficiency?
7. What is the relationship between IT and project management principles?
8. How can ITIL (IT infrastructure library) work within any organisation structure?
9. How can PRINCE2 principles help IT projects to be improved and managed properly?
10. How can an organisation choose the best structure to support E-gov projects?
11. How can project management principles affect the progression of E-gov?
12. How can an organisation support its E-gov project in order to allow it to move from one maturity level to another rapidly?
13. How can Saudi organisations support their E-government Readiness level?
14. How E-government projects are managed in Saudi Arabia?
1.7. Ethical and Legal Issues

There are many important ethical issues in this research because of the nature of the data sources.

1. **Confidentiality** is on the top of the list of ethical issues because of the nature of the Saudi people and their culture, for example:
   - It is unlikely to highlight any weaknesses points of any department.
   - Some organisations might mind giving some useful information because of the unregulated competition among many of the organisations.

2. **Honesty**: Some interviewees might give unreal or vague information about their efforts or attitudes within E-gov projects in two ways:
   - They might exaggerate their work if they want to cover some weaknesses.
   - They might minimise their efforts if they think this information is distinct and will be stolen or attributed to anyone else.

3. **Awareness**: All project participants and interviewees must be aware of the aim of this project and the consequences of giving good and useful information.

4. **Integrity**: All project participants should be treated in a friendly way to gain accurate information and increase their contribution. They should be given promises of confidentiality and should receive a formal letter of appreciation for their efforts.

- **Legal issues are concerns in this project**
  - **Formality**: Based on the Ministry of Higher Education’s regulations, any collecting of data or information should be processed through the official channels by the Saudi Embassy in London. It will be very important to meet the following requirements and criteria:
    - A formal letter from HW University should be sent to the Ministry of Education in Saudi Arabia with regard to the interview process.
    - A formal letter from HW University should be sent to the Saudi Arabia Cultural Bureau in London, mentioning that a field trip will be required for the researcher.
  - **Accuracy**: The accuracy of the collected information is a crucial issue because all statistics and information about the main Saudi E-government project should be derived
from the Ministry of Communication and Information Technology. Otherwise, this information will be officially unreliable.

1.8. Methodology Overview

Because of the nature of data needed in this project, the data will be gathered via the following avenues:

1. Primary data will be gathered by conducting an interview with a stratified sample as follows:
   - The planners and controllers of E-government in Saudi Arabia (layer one).
   - Management headings (layer two) (decision makers).
   - Functional department managers (layer three) (work conductors).
   - IT projects managers (layer four) (E-government development team).

2. Secondary data will be gathered based on two fields:
   a. Project management field.
   b. IT management field.

The resources for the secondary data were:

- Project management principles and best practice textbooks.
- IT management books and E-government textbooks.
- Updated and recent white papers and reliable websites.
- Saudi E-government programme official website and publications.

The following figure illustrates the writing plan and the literature review structure.

![Figure 1: Writing and Literature Review Plan](image-url)
1.9. Organisation of Dissertation

Chapter 2 examines the main concept of E-government by giving a theoretical framework for E-gov and its scope, importance, models, maturity levels, and applications. Also, this chapter will cover the independent variable in this research, which is organisation structure, by giving sufficient information about its types, importance, and implementation.

Chapter 3 thoroughly explains what the available research methodologies and methods are and which ones were applied to conduct the research so as to better comprehend the issues present within the organisations and their E-government projects. The reasoning behind the selection of certain research methods and methodologies is also provided.

Chapter 4 presents and analyses all information collected in research interviews that have been conducted as part of the primary qualitative research in Chapter 3. Participants from many Saudi organisations provided this information, which then helped to identify organisational and management issues related to e-Government projects. Literature sources also contribute to the identification of these organisational issues.

Chapter 5 is mainly concerned with the discussion of these research findings and the best practices of any organisation in enhancing E-government projects based on the discussion and issues identified earlier in Chapter 4. The limitations of the suggested organisation structure are also described thoroughly. Additionally, research hypotheses were checked and deeply validated.

Chapter 6 draws conclusions regarding the effectiveness and importance of the suggested organisation structure for the Ministry of Education in Saudi Arabia.

1.10. Summary

In this chapter, the project’s theoretical framework has been presented, along with research issues, aims, objectives, hypotheses, and questions. Furthermore, an overview of the methodology and research methods has been presented and illustrated to give an obvious picture of the project structure and approach.
2. Chapter Two: Literature Review

2.1. E-government

2.1.1. E-government scope and definitions

E-government is an abbreviation for electronic government; also know in some resources as E-gov or digital government.

Abramson and Means (2001) defined E-government as “the electronic interaction (transaction and information exchange) between the government, the public (citizens and businesses), and employees.”

In 2010, the World Bank’s report stated that “E-government is the government-owned or -operated systems of information and communication technologies that transform relations with citizens, the private sector, and/or other government agencies so as to promote citizens’ empowerment, improve service delivery, strengthen accountability, increase transparency, or improve government efficiency.”

According to a United Nations survey (2010), “E-government’ is defined as ‘the employment of the Internet and the World Wide Web for delivering government information and services to the citizens.”

In addition, the United Nations, in 2010, proposed another functional definition of E-gov, a “means of enhancing the capacity of the public sector, together with citizens, to address particular development issues.”

The above definitions and many others have adopted the use of the Internet and technology as the main framework for E-government projects. Furthermore, many governments are being challenged to show positive steps towards achieving a consistent and successful E-gov; this target has become a challenge for any government and one of the global competition criteria worldwide.
2.1.2. E-government Models and Frameworks

E-gov is functionally targeting four main groups: government, businesses, citizens, and employees. According to Ndou (2004), the interaction between government and each of these four groups constitutes web-based relationships, and the four main blocks of E-government are:

1. Government to Citizens (G2C)
2. Government to Business (G2B)
3. Government to Government (G2G)
4. Government to Employees (G2E)

Some researchers, such as Jeffrey and Glenn (2007), eliminated employees from the groups targeted in E-gov because employees in this context might be considered part of the government group. However, the strong relationships, interactions, and transactions between government and employees justify the existence of employees as an independent group in order to avoid making the government group overly complicated. Therefore, the main four models would be as follows:

2.1.2.1. Government to Citizen

This model is considered the most important objective from the perspective of the general population. Here, E-gov concerns the relationship between government and citizens. E-government allows government agencies to communicate directly and constantly with citizens; this approach could support accountability, transparency, democracy, and improvements to public services (Ndou, 2004).

Governments can develop various useful deliverable services for citizens in many sectors, such as education, health, and social services. G2C also allows citizens to gain free access to government information and services from anywhere by using devices such as the Internet, TV, mobile phones, or many other wireless devices.

On the other hand, there are also immense benefits to be gained from this model by governments, which involve encouraging people to participate in all of the governments’ official activities, for instance, elections, questionnaires, and voting (Riley, 2001).

In addition, E-gov can also enable citizens to engage in local community life (e.g., contributing to online discussion forums or sending emails).
2.1.2.2. **Government to Business (G2B)**

This model could be considered as a supportive framework for the E-commerce sector; in this model, government agencies interact formally with external private businesses.

According to Fang (2002), G2B allows “E-transaction initiatives such as E-procurement and the development of an electronic marketplace for government.”

Most companies currently conduct electronic commercial transactions (business-to-business) E-commerce in order to reduce their expenses and increase their business control. From companies’ perspectives, conducting online transactions with government will definitely simplify regulatory processes and will help businesses to become more competitive.

Activating G2B by developing integrated, single-source public services is likely to build a fruitful partnership and will reflect positively on citizens’ lives.

2.1.2.3. **Government to Government (G2G)**

The technical relationship in this model is obviously between governmental agencies, whether it is between local government agencies or other government agencies, such as national, regional, and local governmental organisations, or with other foreign government organisations. Governments depend on other levels of government within the state to effectively deliver services and allocate responsibilities (Riley, 2001).

In order to manage a high level of efficiency in this model, all government departments must collaborate and cooperate to achieve this target effectively. Leadership and management play a considerable role in this because of the high level of external competition in this area.

Ndou (2004) offers some advice to increase the likelihood of success in G2G models:

1. Prepare a direct online communication environment between government agencies.
2. Share public files and databases.
3. Share resources and exchange experiences.
4. Enhance the efficiency and effectiveness of processes.
5. Develop skills and capabilities.

There are many advantages of applying this model for governments, such as:

1. Reducing government expenses in the public sector.
2. Increasing the efficiency of public sector services.
3. Saving government time and effort.
4. Increasing the security level in the government.

2.1.2.4. Government to Employees

Relationships in this model are between government and its employees. G2E provides employees with many electronic services and opportunities for training to increase their knowledge and efficiency. It also provides employees with useful and relevant information for their work and rights, such as compensation and benefits policies, online or face-to-face training, new courses and learning opportunities, retirement and pension laws, civil laws, and many other useful strategies to encourage an effective mechanism in order to achieve government goals within a tactical implementation (Riley, 2001).

2.1.3. E-government Application Domains

According to Heeks (2001), the complexity in the relationships between all E-government models and blocks has led the design of three main application domains for E-government, as follows:

1. **E-Administration**: This aims to computerise and automate all administrative tasks and procedures in order to increase the possible strategic connections among internal functions, departments, and processes.
2. **E-Citizens and E-Services**: This domain concerns realising connections and delivering automated services between the government and its citizens.
3. **E-Society**: This domain is concerned with the inter-relationships and interactions among government’s public agencies and general civil community in the government.

The three above application domains should be considered to be overlapping; E-government can obviously be found in the shared overlapping areas of these domains.
2.1.4. E-government Readiness

Measuring a country’s ability and capability in its E-government projects has been a significant controversy since the emergence of E-government networks.

Therefore, the UN readiness assessment had to assess and report accordingly on 191 countries in 2001, 2003, and 2005. The readiness assessment included many aspects, such as a country’s state of readiness, economic development, technological development, and human resource development (Palvia, 2008).

In 2005, the E-government Readiness Index was produced as a synthetic indicator in order to measure the countries’ capacities and willingness to use E-government. It is comprised of the Web Measure Index, the Telecommunication Infrastructure Index, and the Human Capital Index (The UN global E-Government Readiness Report, 2005).

In 2010, a methodology for E-government assessment was published by the United Nation in the USA; this methodology was mainly a component-based assessment model, which consists of eight components:
1. **Demand**: This is the need for public services and access to information, as well as preferences regarding delivery.

2. **Capability**, including the current practice, on-going initiatives, and resource availability for ICT.

3. **Enabling Environment**, which includes the political and legal regulations, coordination, and relationship framework.

4. **Stakeholders**, including the requirements, capacity, and expectations of major stakeholders.

5. **Technology**, including ICT penetration, hardware and software platform, and network infrastructure.

6. **National Context**, including all the country’s features.

7. **International Context**, which emphasises the relationships with the international partners.

8. **Perceptions and Challenges** with respect to e-Government.

As mentioned above, an enabling environment is one of the main components of the E-government Readiness Index, and this component cannot be achieved or enhanced without investigating the organisation’s working environment.
2.1.5. E-government Maturity

The term maturity is usually used in this context to describe a high, continuous level of E-government containing a rich pool of organisational and technological issues.

According to Windley (2002), maturity stages are considered a form of guidance that can be used to help in developing and maintaining E-government services.

He stated that they “can also guide us in selecting process improvement strategies by determining current process maturity and identifying the few issues that are most critical to E-government quality and process improvement.”

According to the Gartner Group (Baum and Di Maio, 2000), E-government maturity consists of four stages: web presence, interaction, transaction, and transformation.

1. **Web presence** – in this stage, basic information is provided on most of the government agencies’ websites and published for public use.

2. **Interaction** – in this stage, a communication platform is implemented to enable users to contact agencies through websites (e.g., contact forms, downloadable forms and documents, websites with search ability).

3. **Transaction** – in this stage, transactions can be made from either citizens or customers (e.g., license applications involving payment processes and receiving licenses).

4. **Transformation** – in this stage, governments transform most of their operational processes to work online. In order to complete procedures efficiently, in this stage, all services should be personalised, unified, and integrated so as to provide full communication between the government offices and non-governmental organisations.

Another model for E-government maturity was published by the United Nations and the American Society for Public Administration in 2001; they suggested a five-stage model for E-government maturity. These stages were called the Web Measure Index in UN reports about the E-government Readiness Index (2005). The five stages are:

1. **Emerging presence**: in this stage, the government presents formal limited static information on its websites.

2. **Enhanced presence**: in this stage, the government updates and activates its websites regularly by providing dynamic, up-to-date information.
3. **Interactive presence:** in this stage, the government makes its websites more communicative and interactive than at the previous levels by connecting users and service providers in more sophisticated ways.

4. **Transactional presence:** high levels of capability will be introduced to users to allow them to conduct complete and secure transactions, such as obtaining passports or visas and updating marital status or birth and death records by subscribing to a single government website.

5. **Seamless or fully integrated presence:** in this stage, a single and universal website will be utilised to provide a constant portal through which users can immediately and conveniently access all kinds of services.

Much other literature has been published with regard to E-government maturity, such as the Layne and Lee model and the Public Sector Process Rebuilding (PPR) model. However, these have been designed based on the perspective of database integration and utilisation within any government website.

### 2.1.6. E-Government Challenges

Providing E-government and its benefits for all organisations is an ambitious target for all E-government stakeholders, leaders, agencies, and citizens. All parties are waiting for a successful IT project to create an explicit transformation in the new generation of government. During or even before the development of E-government, there are many challenges and barriers to be overcome, which might make this ambition relatively difficult to realise. These challenges have hampered the exploration and exploitation of the benefits of E-government. The complexity and multidimensionality of E-government projects have led to the emergence of a variety of challenges to their implementation and development efforts.

According to Ndou (2004), the challenges in implementing E-government projects are likely to exist in many developing countries and are as follows:

1. **ICT infrastructure** (E-readiness, computer literacy, telecommunications equipment).

According to Chao and Tong (2005), preparing an appropriate ICT infrastructure could be one of the most important challenges faced by many countries because of the high costs. The provision of effective internetworking services is required in order to enable all clients to communicate with one another and share their files electronically. Accessibility needs to be
taken into consideration; various methods exist that allow users access to E-gov information, such as cellular phones, satellite receivers, kiosks, etc.

E-readiness and ICT literacy have been classified as essentials in ICT infrastructure in order to encourage people to utilise and benefit from E-government.

2. **Policy issues** (legislation).

New laws and policies must be issued and formally recognised in order to protect electronic activities, procedures, and functions, such as electronic signatures, electronic archiving, freedom of information, data protection, computer crime, intellectual property rights, and copyright issues. These laws will add privacy, security, and the legal recognition of electronic interactions and electronic signatures, making them reliable methods in all businesses and transactions (Ndou, 2004).

3. **Human capital development and life-long learning** (skills, capabilities, education, learning).

Qualified and skilful staffs are an indispensable component of E-government projects in all developing countries. The lack of these could make meeting E-government objectives an unreachable target. Consequently, the availability of appropriate skills is considered an essential factor for successful E-government projects.

In general, it is strongly recommended that governments focus on creating training programs and educating staff in order to increase the likelihood of project endurance and greatly prolong the life expectancy of E-gov. However, concrete skills alone are not enough, because the technology and knowledge are constantly developing and E-government projects are always changing due to massive improvements in the technology sector (Freeman and Soete, 1994).

4. **Change management** (culture, resistance to change).

Shifting people to new processes could cause resistance for many reasons; this change in work platforms needs to be managed efficiently.

Change management can be divided into two sub-concepts:

- **Change Management Approach**
- **Management of Resistance to Change**
The change management concept refers to the procedures that are established within organisations. According to DeLisi (1990), culture is considered the primary driver of strategic organisational change.

According to the Dutch ICT and Government Advisory Committee (2001), hierarchies might prevent free networking throughout organisations because of bureaucracy; in some cases, users are not able to share files or use the Internet for many purposes.

People’s, particularly employees’, resistance to change is still the most important barrier to successful change. Some employees fear ICT applications because they think that ICT will render them useless and cause unemployment. However, the successful controlling of resistance means that employees have accepted the change concept and are willing to learn and participate throughout all stages of the change process.

5. **Partnership and collaboration** (public/private partnership, community, and network creation).

Cooperation and collaboration between the public and private sectors are very important within any organisation in order to push E-government projects in the right direction.

Nevertheless, collaboration and cooperation are not as easily realised as they should be in some governments; there is considerable resistance from some governments to implementing open and transparent systems because they fear losing their authority, power, and hierarchical status. In some countries, citizens cannot trust their government, because of its dictatorial behaviour; however, the building of a solid bridge of trust throughout the government is an indispensable component, increasing the possibility of developing successful projects. People can support any IT project by developing, using, and assessing its functionality. Otherwise, ignorance may lead to the building of an obsolete system.

For example, the private sector can provide technical skills, infrastructure, and any capabilities that the government lacks; meanwhile, public institutions can provide training courses and learning, while government agencies can provide E-government with the information and data required to run that E-government smoothly (Talero and Gaudette, 1996).

6. **Strategy** (vision, mission).

Moving towards web-based interaction is not a simple process that can be achieved in a few days by renting a website and filling in some information. Rather, E-government projects must
be implemented with a high level of strategic planning in order to select the best methods in terms of development, integration, or any further improvement plans.

Clear strategies are very helpful for overcoming any barriers to change. Implementing a rigorous assessment of the current situation is considered an important part of the strategy; meeting the needs of citizens and improving their quality of life is also included in the strategy used to build IT projects (Nduo, 2004).

7. Leadership role (motivate, involve, influence, support).

Leadership is needed before, during, and after the development of any E-government projects. It is needed before this process in order to initiate and explain the concept and to create awareness among all organisation staff, as well as any external users.

It is also needed during the implementation of the projects in order to manage the changes and resistance, as well as to support projects and remove any unendurable hassles from the projects’ stakeholders. Finally, leadership is needed after the projects have been implemented in order to ensure the flexibility and adaptability of the new systems.

Leadership involves having clear lines of accountability to support management in overcoming the organisation’s natural resistance to change, as well as helping management to build a strong commitment to running the government in new ways (McClure, 2001).

2.2. E-government in Saudi Arabia

In 2003, the Saudi Arabian Government announced Supreme Royal Decree Number 7/B/33181, which included a directive to the Ministry of Communications and Information Technology to formulate a plan for providing government services and transactions electronically. This was named the E-government Programme (Yesser) due to a belief in the importance of using technology throughout the public sector. The transformation to an information society cannot be achieved without comprehensive collaboration and concerted efforts to realize the set objectives. Therefore, the Ministry of Communications and Information Technology (MCIT) established the e-Government Program in 2005 in conjunction with the Ministry of Finance and the Communication and Information Technology Commission (CITC).
2.2.1. Saudi E-government Program Objectives

The E-government Program in Saudi Arabia - Yesser - was launched with the following objectives (Yesser, 2012):

- Raising the public sector's productivity and efficiency.
- Providing better and more easy-to-use services for individual and business customers.
- Increasing return on investment (ROI).
- Providing the required information in a timely and highly accurate fashion

2.2.2. The Program Philosophy

The program's work methodology and philosophy are based on the following main principles (Yesser, 2012):

- Principle 1: Unified vision, priorities, standards and frameworks
- Principle 2: Not only technology, but much more.
- Principle 3: Reduce centralization as much as possible.
- Principle 4: Develop once, use many times.

![Figure 4 E-government Philosophy in Saudi Arabia](image)

2.2.3. E-government Strategies and Regulations in Saudi Arabia

Since E-government has launched, hard work gas been done on drawing up the strategies and plans for the visions of the future. These strategies have been divided into two ambitious plans. The E-government Program has been assigned the task of developing and implementing these plans and strategies in cooperation with government agencies. The First Action Plan, from 2006 to 2010, has been completed. Now, Saudi Organisations are in the process of launching the Second Action Plan, from 2012 to 2016 (Yesser, 2012).

There are number of pieces of legislation and regulations that have been published regarding the E-government Programme in the KSA (Kingdom of Saudi Arabia), such as:
1. Supporting and boosting of E-government transformation mechanism  
2. E-government implementation rules  
3. E-government regulations and by-laws  
4. Cybercrime control regulations  
5. Creating higher positions for IT resources  
6. Strategy of informatics and IT systems in health sectors  
7. Instructions to government agencies to create their own e-Government committees  
8. Smart national identity  
9. Computing and networking controls in government agencies  
10. Rules governing the awarding of IT contracts to the private sector  
11. Instructions to the GIS national committee to ensure close coordination with Yesser to avoid overlapping  
12. Information technology and national security conference recommendations  
13. Instructions to government agencies to ensure compliance with E-government transformation controls  
14. Instructions for integration with the Public Inspection Bureau and the utilization of E-government programs  
15. Instructions to introduce E-processing of the general public transactions, applications and admissions  
16. The national CIT plan  
17. Resolution to ensure the transformation from conventional to electronic processing  
18. Instructions to establish government agency databases  
19. Telecommunication regulations

| Table 1: E-government Standardisation in Saudi Arabia |

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### 2.2.4. E-government’s Specifications Guidelines in the KSA (Kingdom of Saudi Arabia)

Yesser Programme guidelines and specifications are a unified framework to implement E-government. They include cross-governmental specifications and policies to enable cross-governmental integration and facilitate G2G transactions and data sharing (Yesser, 2012).

These specification guidelines aim to:
• Enable electronic cross-governmental integration.
• Facilitate cross-governmental data sharing.
• Facilitate cross-governmental transactions.

In addition, these guidelines consist of many important documents, such as:

• Data Standards Catalogue.
• Technical Standards.
• Header and Metadata Specifications.
• XML Schema Naming and Design Rules.
• Consultation and Version Control.
• Interoperability Framework Document.
• Interoperability Framework Technical Questionnaire.

2.2.5. E-government Transactions Methodologies
Disseminating IT knowledge and building up an IT community in Saudi Arabia is an indispensable component in the E-government Programme. Working on this aim requires a series of publications, regulations, and guiding methodologies that must be followed in order to obtain the best practices. All these publications are presented in a simple and easy-to-understand format for all the government employees in two languages, Arabic and English (Yesser, 2012). In addition, these series will also act as a guide for the implementation of E-government transactions projects that are undertaken by the government agencies.

The following guidelines and documents are published in detailed PDF files for the public:

1. Guidelines for the design and management of public sector websites
2. Change management strategy
3. Risk management plan
4. Communications plan
5. Business process redesign methodology
6. E-readiness assessment methodology for government organizations
7. Government guidelines manual for government agencies

2.2.6. Saudi E-government Achievement Award
A survey has been conducted by the Saudi E-Government Programme that covers four themes (Awareness, Usage, Satisfaction, and Trust) over 5,000 Government/Citizens (G2C) respondents and 500 Government/Business (G2B) respondents, and the results were:
The Kingdom's annual "E-government Achievement Award" is an important indicator for encouraging, inspiring, and valuing government agencies' extraordinary efforts in adopting E-government applications every year. This award can be earned by improving business methods and working in complementary ways with one another to provide high quality, efficient, and effective electronic services to people and businesses as they establish the concept of e-services in society.

To encourage government agencies to achieve this level of E-services, there are many objectives for this programme, as follows:

1. Encourage government agencies to provide better and easier-to-use services for individual and business customers.
2. Inspire government agencies to work together to provide integrated electronic services with a higher level of efficiency for individuals and businesses.
3. Highlight and value the extraordinary efforts provided by the E-services and E-government teams within government agencies.
4. Encourage government agencies to participate in developing the national economy by providing more easy-to-use E-services to businesses.
5. Support a culture of "best standards and practices" and encourage government agencies to adopt "top standards" in E-services.
6. Open doors to include the public in helping to design better E-government services.

### 2.2.7. Saudi E-government Programme Summary

It has become obvious that most of the requirements and preparation processes that are needed in implementing and running E-government projects exist in the Yesser E-government Programme, from the main aims and objectives to the very detailed specifications, including
interoperability and programming guidelines. The main role of the government agencies themselves is now to adopt and implement all these specifications.

There are no indications of financial problems in E-government in the KSA, because the Ministry of Finance is a main supporter of the E-government Programme (Yesser).

According to the official Yesser website, there are still many organisations struggling with implementing E-gov projects.

### 2.3. Organisation Structure

#### 2.3.1. IT and Project Management Principles’ Relationship

E-government is considered a very complicated IT project, which should be implemented interdependently and cohesively. However, it is a project that has the same components as any other project (cost, quality, and time). Therefore, using project management principles would be the main framework for implementing E-government projects.

According to Evangelidis Adrianos (2004), any E-government transaction service can be seen as a Socio-Technical System (STS). STSs usually consist of two subsystems, the social subsystem and the technical subsystem, which are interdependent. The social subsystem contains two components: the structure (roles), i.e., workflow, communications, authority, and systems, and the people that have different behaviours and attributes, i.e., attitudes, skills, and values. The technical subsystem consists of two components as well: the technology that is required for the system and the task(s) needed to achieve the goals of the system.

Prior to studying any project, understanding some organisational issues is essential, including organisation structure, cultures, administrative hierarchy, and other issues. Studying and choosing a good structure for any organisation will definitely help the organisation cope with its projects effectively.

Max Weber (1864-1920) is the leader of one of the main management schools which Bureaucracy School, most of the Saudi public organisations have been structured officially and organised based on the Bureaucracy School which is perceived the traditional organisation hierarchy.
However, organisations should act enthusiastically in implementing their projects. Moreover, there is no consensus regarding the best structure for all organisations to adopt; one organisation can be structured differently from another, depending on its objectives and goals. The formal structure of any organisation plays a considerable role in its performance and operations.

In any organisation, accountability can be achieved via the proper allocation of work functions and processes, such as workgroup and individual entities; therefore, every organisation must have a specific structure in order to offer a high level of transparency to its clients and services including its projects and ongoing development plans (Gray, 2005).

An organisation’s structure can affect its performance in two ways:

1. Providing the formal platform for the standardisation of the work.
2. Determining the proper individuals for the associated decision-making processes.

Adopting an inappropriate structure can lead to divergence between the work processes and the performance level. The current structure for some organisations may not help them achieve their objectives, including all their routine operational actions. Selecting the wrong structure may put many obstacles in the way of cooperation and thus delay the completion of work procedures. In addition, organisational structures can be adapted to work requirements, aiming to increase the productivity level (Houston, 2007).

E-government projects should be implemented in well-structured organisations in order to achieve completion within the assigned time and budget and with the desired quality level.

All projects, whatever their kind, should have three main components, which are cost, time, and quality; information technology projects definitely have the entire three component as they are struggling to meet them properly.

According to a Standish Group Report (2011), the success rate of IT projects has increased rapidly recently. Around 28% were successful in 2004 out of all projects in the USA, but this percentage has increased significantly in 2011 to jump over 60%. This increase could be referred to best practice in project management principles

2.3.1.1. ITIL and Organisation Structure

The IT Infrastructure Library (ITIL) emerged in 1980. It covers five main areas of IT businesses, which are service support, service delivery, IT infrastructure, business perspective,
and applications management. There are ten core books and many other complementary books. Now, it has been adopted by the Office of Government Commerce (OGC). ITIL is considered a preferable approach to IT Service Management worldwide because of its useful contributions to the best practises of IT project management in both the public and private sectors internationally. ITIL is managed and supported by highly regarded qualified expertise and accredited training institutions, such as the British Standards Institution (BSI).

ITIL aims to:

a. Increase the business capacity of organisations’ electronic procedures.
b. Reduce the service delivery cost of IT projects.
c. Improve profitability.
d. Allow financial resources to be freely available for all IT sub-departments so that they can be invested properly.

However, ITIL alone cannot guarantee an IT project’s success; organizational structure plays a considerable role in adopting ITIL successfully (Marquis, 2010).

In 2006, Gartner predicted that 45% of IT organizational realignments will not succeed, because of the confusion of process with performance. This confusion has been caused by the organisation structure. Thus, it caused resistance within organizations. In 2006, Evergreen Systems Inc. conducted a study and found that 72% of respondents claimed that the biggest obstacle to ITIL adoption in their organisations was organizational resistance.

2.3.1.2. **PRINCE2 and IT management**

PRINCE (PRojects IN Controlled Environments) is a structured method of effective project management. This method was created in 1989 by CCTA (the Central Computer and Telecommunications Agency). PRINCE is technically based on PROMPTII, a project management method created by Simpact Systems Ltd. in 1975. Then, in 1979, CCTA adopted PROMPTII for all government information system projects. PRINCE superseded PROMPTII in 1989 within government projects (Assirati 2002).

In 1996, in response to user demands and requirements, PRINCE2 was improved based on the best practices drawn from the experiences of scores of projects in order to cover all project types, not only information systems projects.

**According to the official PRINCE2 website (2007), the objectives of PRINCE2 are:**
• Focusing on business demands and justification.
• Defining and preparing a good organisation structure for the project management team.
• Supporting a product-based planning approach.
• Breaking down the project into manageable and controllable elements and stages.
• Providing projects with the needed flexibility.

As mentioned above, PRINCE2 covers all project types and is based on information systems projects. Also, it is concerned with organisation structure regarding a belief in the importance and significance of project management principles in managing IT projects.

2.3.2. Organisation Structure Models

Since the 18th century, especially during the industrial revolution, a need emerged for more formalised structures in large business organisations. Many important theories emerged during that era, including German sociologist Max Weber’s (1881-1961) ideal bureaucracy, which was based on absolute authority, logic, and order in organising any organisation. During the 1920s and 1930s, the concept of structuring organisations was developed by Elton Mayo, who conducted the famous Hawthorne Experiments by monitoring people under specific physical conditions with external stimulation (Malonis, 2000).

According to Gray (2005), four different project management structures are used by firms to implement projects:

1. **Functional organisation.**
2. **Dedicated project team.**
3. **Matrix.**
4. **Network organisation.**

The same structure can commonly be used in two organisations with different management methods; thus, management approach and efficiency can affect the implementation of any structure. Furthermore, an organisation’s culture can impose some unlikely restrictions on the adopted structure.

The project implementation environment consists of many functional elements, such as organisation structure and organisation culture; balancing these two major elements requires a
very skilful project manager if the E-government project is to be taken safely to its destination (Gray, 2005).

2.3.3. Functional Organisation Structure

A functional organisation structure attempts to assign projects to the associated department and people within the organisation, depending on their roles and specialities; thus, the department head would definitely be the project manager or team leader, even if his or her experiences are not helpful in some of the project’s phases.

According to Gray (2005), projects can be implemented within functional structures without the need to make any changes in the hierarchy of the organisation. Once management decides to start a project, each project segment is delegated to the respective department; furthermore, communication and coordination is maintained through formal management channels. In some circumstances, one dominant department, which is the most interested and enthusiastic regarding the project concerned, might lead the coordination and communication processes, and accordingly, most parts of the project will be carried out by a specific functional department.

According to Project Management course’s handouts (Herriot-Watt, 2009), functional organisational structures are more likely to be suitable for organisations that have standardised their products and services. Functional structures work most effectively in stable organisations with low rates of change in their management and dynamism.

![Functional Organisation Structure](image)

*Figure 5: Functional Organisation Structure*
2.3.3.1. Functional structure advantages

According to Gray (2005), there are many advantages and disadvantages to the functional structure. Some of the advantages are:

1. **No change** in the organisation hierarchy; even if there is a need to change, there would be no radical alteration in the design and operation of the parent organisation.

2. **Flexibility** in using staff and specialists to support the project within their departments or even temporarily helping other departments before returning to their normal positions to continue with their routine work.

3. **In-depth expertise**: Using local experience would definitely narrow the project scope and decrease the risk.

4. **Easy post-project transition**: Specialists contribute significantly to their organisation’s projects. The organisation can benefit from their experiences in other projects if necessary because the specialists remain professionals in that field and it is difficult to change their working place because of any other work. Furthermore, this provides an easy path on which employees can grow sideways within the organization, as well as upwards through the organisational tree.

2.3.3.2. Functional structure disadvantages

1. **Lack of focus**: Some functional departments have their own high-load routine work, which can make project priorities more of a challenge; this complexity may affect the jobs of other departments involved in the project due to dependency or may decrease the quality of some segments of the project.

2. **Poor integration**: Some specialist might do their job related to their department segments but not help other departments in their task with their experiences (selfishness).

3. **Slow**: The lack in communication and coordination channels could reflect negatively on the speed of project completion; slow response would lead to slow decision making, which will slow project delivery accordingly.

4. **Lack of ownership**: The absence of intrinsic motivation toward the project is considered to be a crucial factor affecting projects; some employees do not feel any affiliation to the project, because they see it as an additional burden. This feeling might discourage their commitment to project-related activities.
2.3.4. Dedicated Team Structure

In a dedicated team structure, the organisation tries to create a new, exemplary, independent working environment that is supplied with efficient staff members and project managers in order to implement its projects with a high level of efficiency and professionalism (Gray, 2005).

Project managers in dedicated team structures in some firms have more freedom than project managers operating under other structures. In another situation, the parent organisation imposes and specifies administrative and financial control procedures over the project as a part of the process of alignment with government rules.

![Dedicated Team Structure Diagram](image)

**Figure 6: Dedicated Team Structure**

2.3.4.1. Dedicated team advantages

According to Gray (2005), there are many advantages and disadvantages of dedicated team structures. Some of the advantages are:

1. **Simple**: does not disrupt the organisation’s operations or detract from the parent organisation’s resources.
2. **Fast** because of the dedicated efforts in a supported working environment.
3. **Cohesive**: The work in a dedicated team has the support, motivation, and adhesion of the team members. Members are able to support each other because they share a common goal, and each member can concentrate on his or her responsibilities within the project.
4. **Cross-functional integration**: The traditional bureaucratic barriers have been dissipated by this structure; all specialists work closely with one another and can cooperate under proper guidance.

### 2.3.4.2. Dedicated team disadvantages

1. **Expensive**: Assigning new project team members and preparing new positions or generally creating a new working environment might be more costly. There may be some duplication of effort within the organisation; for example, both the parent organisation and the dedicated team may have their own IT developers.

2. **Internal strife**: Sometimes, a dedicated team structure causes a problem known as “Projectitis,” which makes team members feel a kind of disconnection from their parent organisation, making them reluctant to return to their original departments after the completion of the project.

3. **Limited technological expertise**: The team may be affected by a lack of qualified technicians; creating a dedicated team does not guarantee technical competence. In some cases, culture may play a negative role, preventing team members from asking for help from members of the parent organisation due to the “we-they” syndrome.

4. **Difficult post-project transition**: Once the project is complete, there may be nowhere for dedicated team members to return to. In some cases, they have an original functional department in their parent organisation, but they may have missed out on opportunities to improve their work skills and will thus have to work harder upon their return in order to catch up with their new colleagues’ knowledge and skills.

### 2.3.5. Matrix Organisation Structure

Matrix management is a heterogeneous organisational form. It has two dimensions in terms of its command and operations: the horizontal dimension, which is overlaid upon organisations’ functional departments, and the vertical dimension, which is continuous with the project line (Gray, 2005).

Instead of creating an independent work team or distracting the functional department by implementing projects, project participants can carry out their project tasks in conjunction with their formal tasks and routines within their functional departments (Malonis, 2000).
The matrix can be implemented for a short period (temporary application), or it can be a permanent fixture. The matrix is designed to effectively utilise the maximum benefits of an organisation’s resources; it can also assist individuals in taking part in many work projects simultaneously, in addition to carrying out their original jobs.

According to Malonis (2000), the first application of the matrix structure occurred in 1947, in the engineering department of General Chemicals. In the early 1960s, a more formalised matrix method called "unit management" was implemented by a large number of U.S. hospitals. It was not until 1965, however, that matrix management was formally recognised.

![Figure 7: Matrix Organisation Structure](image)

### 2.3.5.1. Matrix structure forms

In terms of the internal implementation of the matrix, Malonis (2000) stated that there are three models for the matrix: coordination, overlay, and secondment.

In the coordination model, staff members remain at their original departments, and there is an emphasis on cross-departmental cooperation and interaction, with the aim of achieving departmental goals. In the overlay model, staff members are divided into two groups, each of which has a separate manager. In the secondment model, individuals move from functional...
departments into project groups and back again, but may effectively belong to one or the other at different times.

In another classification, Gray (2005) classified the matrix into three forms based on the nature of the relationship between the project manager and the functional department. These three kinds of matrix structure are weak matrix, balanced matrix, and strong matrix.

The authority in the matrix structure is an effective factor between the project manager and the functional department manager; it might be a slow reporting system, which could lead to some conflict within the project.

1. **Weak Matrix**, or lightweight matrix: In this form, the functional manager is stronger than the project manager in terms of leading the project. The project manager acts as an assistant to the functional manager, but is unable to change the project direction as long as the functional manager has given his or her instructions.

2. **Balanced Matrix**, or middleweight matrix: In this form, the matrix structure is traditionally implemented via a high level of collaboration between the project manager and the functional manager.

   On one hand, the project manager in this form is responsible for establishing the overall plan, standardising the project, monitoring the system, and assigning everything that is needed to get the project completed on time, under budget, and to a high level of quality.

   On the other hand, the functional manager is responsible for how the project will be implemented, who is responsible for each segment of the project, and when the tasks should be carried out based on an agreed-upon time schedule. In this form, both project managers and functional managers must work closely together to solve all the project’s conflicts and manage its risks.

3. **Strong Matrix**, or heavyweight matrix: In this form, the project manager takes control of most aspects of the project, including scope adjustment and the assignment of functional personnel, while the functional manager is consulted at the beginning of the project as needed, after which he or she acts as a client.

In some situations, a functional manager’s department may serve as a subcontractor when the project involves a high level of specialisation and professionalization.
2.3.5.2. Matrix structure advantages

According to Gray (2005), there are many advantages and disadvantages to the matrix structure. Some of the advantages are:

1. **Efficient**: Resources can be utilised in more than one project at the same time. Individuals can participate in many projects as long as they have the energy to contribute positively to each of them and to carry out their responsibilities. This will definitely reduce project cost.

2. **Strong project focus**: This structure is stronger than the functional structure because of the formal designation of the project manager, leading him or her to play an important role in solving conflicts and increasing the coordination level among many independent functional departments.

3. **Easier post-project transition**: Project members maintain their original positions and have routine work to return to when the project has been accomplished.

4. **Flexible**: There is flexibility in obtaining help from skilled members of the organisation. Both the functional and project manager are able to arrange the resources and work depending on the matrix grade (weak, balanced, or strong).

2.3.5.3. Matrix structure disadvantages

1. **Dysfunctional conflict**: Working too closely with one another in some organisations might lead to tension between the project manager and functional manager due to power struggles or differences in opinion.

2. **Infighting, conflict**, or what is known as negative competition can occur because of having to share limited resources within the organisation, in particular with some skilled professionals.

3. **Stressful**: Having two bosses at the same time can be very stressful; each gives his or her own instructions, which may not always coincide, leaving employees in a dilemma as to whose orders they should obey.

4. **Slow**: The often-complicated agreement between two functional departments might lead to the project manager feeling overwhelmed and being unable to run the project at the necessary or expected speed.

2.3.6. Network Organisation Structure

A network organisational structure consists of more than one organisation working together for one purpose: a unified objective to provide products or services. Among these collaborative
organisations, there is one core organisation that coordinates the network process and provides one or two core competences.

This overlapping of more than one organisation makes this structure more complicated than any of the previously discussed structures. In addition, managing projects using the network structure is quite a sophisticated process.

Figure 8: Network Organisation Structure

2.3.6.1. Network structure advantages

According to Gray (2005), there are many advantages and disadvantages to network structures. Some of the advantages are:

1. **Cost reduction**: One of the advantages of outsourcing work is keeping the prices in harmony with external competition. Furthermore, in the future, the prices might be lower, as long as the company does not change the contracted services (Gray, 2005).

2. **High level of expertise**: Obtaining services from various companies and contractors allows the core organisation the opportunity to improve its core functions rather than following the latest technology or tools in order to produce certain products.

3. **Flexible**: Using other companies’ resources can compensate for a shortage in those of the core organisation. Utilising temporary resources for a given project can certainly impact positively on the stability of an organisation’s environment.
2.3.6.2. Network structure disadvantages

1. *Coordination breakdowns*: The overlapping of some tasks and differences in various stakeholders’ opinions might lead to problems in coordination; therefore, there is an increased demand for the project manager to arrange tasks in such a way that they are as well-defined and independent as possible.

2. *Loss of control*: In some cases, one team may experience delays that other teams have no authority or control over; this may lead to a crash of all teams’ schedules, causing problems with meeting the delivery date.

3. *Conflict*: Network structures put different working teams at a high risk of conflict, as there is likely to be a mismatching of ideas and cultures, together with a noticeable distrust of one another.

2.3.7. Choosing the Best Organisation Structure for E-gov Projects

According to Gray (2005), there is a noticeable consensus regarding the strong relationship between project success and the amount of autonomy and authority given to project managers.

Many studies have been conducted in order to investigate the suitability of a structure for a specific project. However, how to adapt a specific structure might be the most complex question currently facing organisation leaders.

Although there is no precise answer to this question, many criteria and issues should be considered in order to provide an organisation’s leaders with positive methods to help with this critical selection.

According to Gray (2005), the selection criteria are based on the following two considerations:

2.3.7.1. Organisation-level considerations

i. *The importance of the project* to the organisation and the percentage of core work that involves projects. If the organisation’s core work consists of more than 75% projects, then the entire organisation should work as a project department. If the organisation has both routine work and projects, then the matrix structure would be the favoured form. Conversely, if the organisation has few projects and primarily carries out routine work, it requires a less formal arrangement.

ii. *Resource availability*. If there is a lack of skilled resources and there are many projects, the matrix structure would be appropriate for the organisation. If there
are no resources, allocating a dedicated team or outsourcing projects would be more appropriate for the organisation.

2.3.7.2. Project-level considerations

Many influential factors on the project side help in deciding the appropriate structure for the parent organisation; most of them concern the need for autonomy on the part of the projects.

Hobbs and Menard (1993) identified seven factors that might influence the selection of a suitable organisation structure:

a. Size of project.
b. Strategic importance.
c. Novelty and need for innovation.
d. Need for integration.
e. Environment complexity.
f. Budget and time constraints.
g. Stability of resource requirements.

Having autonomy and authority over the projects must be on the top of the project management and the project team’s list of priorities if they want to produce efficient work. According to Gray (2005), the matrix and other dedicated structures rank higher in terms of autonomy and authority than other structures.

2.4. Conclusion

The literature review revealed that analysing E-government is an immense project that needs to be implemented with a high level of coordination between many parties, such as government, citizens, businesses, and the private sector.

E-government is comprised of four models, which are based on the services’ recipients; these models are:

1. Government to Citizens (G2C).
2. Government to Business (G2B).
4. Government to Employees (G2E).

E-government cannot be built overnight; it has its own maturity levels, which are:
1. **Emerging presence.**

2. **Enhanced presence.**

3. **Interactive presence**

4. **Transactional presence.**

5. **Seamless or fully integrated presence.**

In addition, E-government faces many challenges. Many of the influential factors originating from the organisation itself can be solved internally, such as leadership/managerial conflict and collaboration. However, project problems still exist, and spending time solving small internal problems may be a waste of time if the projects are not implemented in a healthy environment at the outset.

Based on the literature, an organisation is considered an incubator for E-government projects.

It is clear that an organisation planning on implementing any kind of project should follow one of the following structures:

1. **Functional organisation (each department implements its projects)**
2. **Dedicated project team (group work outside the parent organisation)**
3. **Matrix (weak, balanced, or strong) (project management office conducts the project)**
4. **Network organisation.**

Decisions about the best structure for any organisation can be made based on specific criteria.

Choosing the best organisation structure may be one of the main methods of helping E-government projects to be implemented with the minimum number of challenges.

There are a strong relationship among IT, Prince2, and ITIL principles in terms of performance and process enhancement.

However, the literature recommended choosing the matrix structure as the best solution for organisations that adopt many projects simultaneously, while also continuing with their routine work.

The importance of organisation structure in Saudi Arabia needs to be demonstrated by conducting a thorough qualitative evaluation.
3. Chapter Three: Research Methods and Methodology

3.1. Applied Research Methods and Reasoning

There are many methods and tools of evaluation and investigation to choose from in order to identify and clarify any issues related to E-government projects and organisation structures and thereby improve a new suitable organisation structure that might help organisations to implement their IT projects more easily.

According to Sharp and Howard (1996), the term “applied research methods” refers to the approach through which it is possible to obtain any relevant information on a particular research subject and answer its questions accordingly.

On the other hand, “applied methodologies” is the approach adopted in analysing the collected information in order to generate valid and obvious results and conclusions on a particular research topic.

3.1.1. Applied Research Methods

There are primary and secondary and tertiary resources that have been published and used globally for all academic purposes.

According to (San and Sykes, 2009), there are a variety of qualitative research methods, as follows:

1) Interviews.

2) Case Studies.

3) Documentary research.

4) Ethnographic research.

5) Grounded theory.
6) Unstructured Web survey.

A literature review has primary and secondary sources. The primary sources are as follows:

7) Updated IT journals, e.g., the Electronic Journal of E-government.
8) Government publications and official periodicals.
9) Global and local Standards.

The secondary literature sources are as follows:

10) Monographs.
11) IT textbooks.
12) Project management textbooks.
14) Annals and periodicals.

The main tertiary literature sources are as follows:

15) Heriot-Watt university hand-outs (Project Management course).
16) Encyclopaedias.
17) Wikipedia.

From the above lists of qualitative research methods, numbers (1), (7), (8), (9), (11), (12), (13), (14), and (15) were selected as the sources that would add a significant contribution to this research.

Nick Moore (2000, p. 121) briefly distinguished between qualitative and quantitative approaches as follows:
“Quantitative research aims to show *what* is happening. Qualitative research, on the other hand, sets out to tell you *why* it is happening.”

Due to the nature of this project, which is an investigation of the current organisation structure and its effects on IT projects in Saudi Arabia, it must to be controlled qualitatively by using safe and reliable methods.

According to Bell (2005), “The approach adopted and the methods of data collection selected will depend on the nature of the inquiry and the type of information required.”

Qualitative research is concerned with obtaining an in-depth opinion and perception from a project’s participants.

According to Wilkinson (2000), interviews can be used when:

- In-depth information is required.
- The subject matter is potentially sensitive.
- The issues under examination would benefit from development or clarification

### 3.1.2. Interviews’ Importance

Honest and reliable information is required because of the importance of the results in developing a practical answer to this project’s question, which can be recommended to the Ministry of Education in Saudi Arabia to be considered in their coming strategic plans.

Gathering such sensitive information anonymously via an online survey might not be helpful in obtaining good results for the following reasons:

1. A concrete evaluation of the working environment of the participants is needed in order to make a reasonable comparison.
2. Some helpful new ideas are highly expected to appear during the interviews’ discussion. Therefore, an online questionnaire or any other method will not record these valuable contributions.
3. The results of this project might be officially added to the strategic plans of the Ministry of Education in the future.
4. The information must be gathered equally from three types of project stakeholders: top management, functional managers, and IT management.

5. Direct, face-to-face discussions with the selected interviewees from the Ministry of Education might break some bureaucratic barriers so that the interviews could be a part of the problem’s solution.

Therefore, using a qualitative method will be the best way to gather the necessary data. Thus, an in-depth interview was highly recommended to be used in this project.

**3.1.3. Interview Concepts and Types**

According to LTDI Evaluation Cookbook Evaluation, in 1996, Kvale defined interviews as “conversations where the outcome is a coproduction of the interviewer and the interviewee.”

Furthermore, McAteer (1998) in LTDI Evaluation Cookbook has classified interviews into three categories, as shown in the following table:

<table>
<thead>
<tr>
<th>Type</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardised, open ended interview</td>
<td>Questions can be asked in the same way across a sample population by different interviewers.</td>
<td>There is a risk of losing some valuable information and other unexpected useful information.</td>
</tr>
<tr>
<td>Structured interview</td>
<td>Focuses on interaction, allowing individual experiences to emerge.</td>
<td>Cannot be greatly diverted from the question’s boundaries without losing part of ‘the story.’</td>
</tr>
<tr>
<td>Informal, conversational interview</td>
<td>Encourages the interviewer to respond quickly to individual differences and changes in the situation.</td>
<td>Takes a long time to be accomplished</td>
</tr>
</tbody>
</table>

Table 3: Interview Types LTDI Evaluation Cookbook
3.1.4. Interview Stages

Based on LTDI Evaluation Cookbook, Erica M (1998) described the nine steps needed to accomplish any interview correctly:

1. Define your sample.
2. Identify the target interview issues.
3. Design your study.
4. Produce an interview script.
5. Pilot the interviews.
6. Conduct the interviews.
7. Transcribe the responses and organise them in the best way for analysis.
8. Analyse outcomes.
9. Interpret findings.

All the previous steps have been followed in order to accomplish the interviews and answer the prepared questions accordingly.

3.1.5. Interview Style and Structure

In-depth interviews have been used due to the necessity of multiple sources of information in order to provide as complete a picture as possible for E-government project progression.

In 2006, Boyce stated that “In-depth interviewing is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea.”

These in-depth interviews consisted of four types of interviews that were conducted to achieve the highest level of reliability and validity and thus answer this research questions. Interviews were conducted in the following order:

<table>
<thead>
<tr>
<th>Interview Category</th>
<th>Priority in time</th>
<th>Interview type</th>
<th>Interviewee type</th>
<th>To measure</th>
<th>Interviewee No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>conversational</td>
<td>E-government planners in Saudi Arabia</td>
<td>The strategic support and E-gov infrastructure</td>
<td>2</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
<td>conversational</td>
<td>Top management, leaders</td>
<td>Direction, willingness, ambitions, knowledge</td>
<td>5</td>
</tr>
</tbody>
</table>
** MOE Ministry of Education in Saudi Arabia

<table>
<thead>
<tr>
<th>Interview Category</th>
<th>Intended Interviewees</th>
<th>Interview objectives</th>
</tr>
</thead>
</table>
| A                  | Executive managers in E-government projects  
                     IT projects managers in the Saudi E-gov Programme | Identify the difference between Saudi organisations  
Obtain a comprehensive view of the structures of Saudi organisations.  
Highlight the support and the facilities for E-government in Saudi Arabia. |
| B                  | Leaders in MOE  
                     Top managements  
                     Decision makers  
                     Project legislators | Identify the current maturity level of E-government.  
Identify the current organisation structure.  
Explore their efforts in supporting E-government.  
Explore their willingness to make some changes in organisation structure.  
Identify their concerns in assigning projects.  
Identify the current skills of project management principles.  
Identify some E-government obstacles.  
Explore their need for the Project Management Office. |
| C                  | Functional department managers in MOE  
                     Functional department managers in other Saudi organisations  
                     Activists in E-government projects in MOE | Explore their efforts in supporting E-government.  
Investigate the currently applied project management style.  
Examine the application of the functional organisation structure.  
Examine the application of the matrix organisation structure. |
Examine the application of the dedicated teams organisation structure.
Examine the application of the networking organisation structure.
Test some projectizing skills (planning – communication-sharing resources – portfolio).
Test the trustworthiness levels of the IT department.

IT project management in MOE

Investigate their readiness for E-government.
Investigate their experience with the E-government concept.
Explore their project management skills.
Explore their technical skills and knowledge.
Identify their authority level.
Test matrix organisation structure.
Test networking organisation structure.

<table>
<thead>
<tr>
<th>D</th>
<th>IT project management in MOE</th>
</tr>
</thead>
</table>

3.1.6. Interview Sampling

According to the Research Method Knowledge Base website (2005), there are two general approaches to determining the sampling methods that are used in social science research. These approaches are:

1. Probability sampling: any method of sampling that utilizes some form of random selection and in which the opportunity is open for all people to participate. There are many methods of this type, such as:
   a. Simple random sampling: choosing randomly from a list by hand or by using a device.
   b. Stratified random sampling: dividing the whole group into homogeneous subgroups and then choosing from them randomly.
   c. Systematic random sampling: following steps in order to choose the sample, such as using a mathematical equation.
2. Nonprobability sampling: This type does not involve any randomisation in choosing the sample. It has two main types, which are:
   a. Accidental sampling (or convenience sampling): asking people in the street about a specific matter without any prearrangement.
b. Purposive sampling: This involves interviewing a predefined group that one is seeking to conduct interviews with because of their characteristics or positions.

In this research, I decided to choose Nonprobability sampling and work with the purposive sampling method because of the sensitivity of the intended information.

Three types of interviews were conducted, and each type has been tailored to a specific type of people in order to gain specific information. Interviewees have been selected based on the following table:

<table>
<thead>
<tr>
<th>Interview Category</th>
<th>Interviewee type</th>
<th>Interviewee Qualifications or Characteristics</th>
</tr>
</thead>
</table>
| A                  | E-government planners | • Monitoring E-government progress.  
|                    |                   | • Interacting with Saudi organisation.        |
| B                  | Leaders           | • Working as decision makers.                 
|                    |                   | • Assigning projects and asking for reports.  
|                    |                   | • Having authority over the organisation.     
|                    |                   | • Affecting or being affected by project failure. |
| C                  | Managers          | • Working as a general managers or department managers. 
|                    |                   | • Affecting and being affected by E-government projects.  
|                    |                   | • Participating via knowledge or resources in IT projects. 
|                    |                   | • Having functional requirements that must be met by E-gov projects. |
| D                  | IT project managers | • Working as a IT project managers.           
|                    |                   | • Interacting with a technical team.         
|                    |                   | • Writing and reading the technical reports.  
|                    |                   | • Being involved in E-gov projects.          |

Table 6: Interviewee Sampling and Qualifications

3.1.7. Interview Session Sections

The conducted interview sessions have been divided into three main parts based on the view of Carolyn Boyce and Palena Neale (2006).

A. **Introduction (3-5 minutes approximately):** included a brief friendly welcome and introduction. I explained my projects aims and objectives briefly. Some promises were given regarding the confidentiality and the importance of the information, as well as honesty. Permission to record the session was obtained (see Appendix 1).
B. **Questions (25-30 minutes):** included all the designed questions, which were recorded by a voice recorder.

C. **Interview closure (2-3 minutes):** included an open question via which the interviewee could add any comments or words of appreciation.

### 3.1.8. Interview Question Sheets

The questions have been designed and structured carefully in order to meet the project objectives and answer the research question.

Layer A’s questions were on the following points:

- What is the current situation regarding E-government projects?
- Why are some organisations better than others in Saudi Arabia?
- How can you measure the progression of E-government projects?
- Can you describe the support you offer to all Saudi organisations?

Regarding sample Layers B, C and D, questions have been designed and prepared in terms of the objectives that were displayed in Table 5 previously. In addition, Appendices 2, 3, and 4 will display all these questions as they are typically asked.

### 3.1.9. Reliability and Validity

Each research project needs to be tested and demonstrated clearly to increase its creditability. This creditability varies from qualitative to quantitative research based on the instruments and tools that are used in this process.

In quantitative research, the instruments are seen as software and statistical means, but in qualitative research, the creditability depends on the researcher’s efforts “The researcher is the instrument” (Patton, 2001, p. 14).

In quantitative research, reliability and validity are treated separately. In contrast, reliability and validity in qualitative research are viewed as a one concept that has many meanings, such as credibility, transferability, and trustworthiness (Golafshani, 2003).

On the other hand, Patton (2001) states that any qualitative researcher should be concerned about validity and reliability while designing a study, analysing results, and judging the quality of the study.
A qualitative study’s trustworthiness is considered to be the heart of the study’s validity and reliability (Seale, 1999). The most important issue in any qualitative study is the quality. Thus, the generalisation of any study will definitely increase its quality level. Therefore, the quality of a research project is related to the generalizability of the result and thereby to the testing and validity and trustworthiness levels of the research (Golafshani, 2003).

There are two main approaches that have been discussed theoretically in terms of qualitative research reliability and validity, which are triangulation and constructivism (Golafshani, 2003).

Patton (2001) emphasises the use of the triangulation approach by saying, “triangulation strengthens a study by combining methods. This can mean using several kinds of methods or data, including using both quantitative and qualitative approaches, as well as documentation.”

On the other hand, the next approach in qualitative research is constructivism, which concerns knowledge building and the social construction of knowledge, even if this knowledge may change depending on the circumstances (Golafshani, 2003).

Constructivism is defined from the social perspective as "the view that all knowledge is contingent upon human practices, being constructed in and out of interaction between human beings and their world and developed and transmitted within an essentially social context" (Golafshani, 2003).

From the foregoing discussion and perspectives, reliability and validity are conceptualized as trustworthiness, rigor, and quality in the qualitative paradigm. Therefore, a constructivist approach has been adopted in building this project’s findings gradually by conducting descending interviews from the top management down to the IT department’s members, using the following techniques:

1. The starting point was with the top management in order to understand the main framework of the organisation.
2. Top management’s information has been validated by asking the same question in a different way to their subordinates, who are working as managers of functional departments.
3. IT project managers’ skills and conceptions were tested based on the project management skills (PRINCE2 expertness) and E-government regulations and standardisations.
4. Some documents were asked for in order to prove the projectizing competency, as well as to validate some given information.

5. For each group, more than four interviewees were conducted in order to highlight the consensus and contentious areas.

6. Face-to-face interviews were highly useful in measuring and controlling some potential gyration around some questions, such as those regarding project management skills and organisation structuring changes. Reluctance and ignorance were recorded in some areas.

By implementing the aforementioned techniques, the quality of this qualitative research should have increased because the questions should have been answered consequentially.

3.2. **Applied Methodology and Reasoning**

Persuasive and logical results need to be built up gradually by adopting a *constructivist approach*. All the gathering and interpreting and analysis and results of this qualitative investigation of E-government and organisation structure should provide a real picture and allow us to create solutions for E-government implementation if needed by trying to develop treatments to fill potential gaps in technical, management, or projectizing skills. Thereafter, the recommended solution will be stated.

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**Figure 9: Working Stages in Project**
3.3. Facilities, Contacts, and Software Utilised to Accomplish Research

3.3.1. Library Facilities
The project has constantly required access to Heriot-Watt online and physical library, where books and journals were accessed. The online library archives and databases were used regularly to obtain many free e-books, papers, and newspaper articles.

3.3.2. Commercial contacts
Paving the way for this project was costly in terms of time and money. I had to verbally contact some top management in the Ministry of Education in order to explain the purpose and the advantages of this project and to get their opinions regarding it. These communications cost me more than 200 GBP because most of them have to be convinced to be friendly in order to obtain a higher level accuracy in the collected data.

In addition, the school of Mathematics and Computer Science in HW has charged me around 10 pounds for the official letters that should be sent to Saudi Arabia to obtain the official permission to conduct interviews.

3.3.3. Software packages
A licensed Microsoft Office package was the main software that was used in writing up this research.

1. MS Word 2010 was used for typing, word-processing, and editing
2. MS Excel 2010 was used for statistics and graphs.
3. MS Project 2010 was used to draw Gantt charts.

3.4. Limitations of the Study
Although the research has been conducted by following its plan and timescale, there were some unavoidable limitations, such as:

1. The holiday periods during July and August have limited me and caused some changes in my plans. I had to interview some participants during a time and a place in which I did not plan to do.
2. Although I started my interview by assuring my interviewees about confidentiality and privacy, some of them did not prefer to record the meeting due to their worries about the nature of the research. One of them asked me to see all my questions before the interview and asked me about some points (What do you mean by this?). In another case, another person from an IT department gave me an appointment, but then sent me to another person, who did not have permission to talk to me, and he also refused to record the meeting.

3. Regarding non-documented ideas, some ideas and information have not been registered officially. I tried to get them, but there were not any responses.

4. The lack of clarity of some ideas was due to the on-going work on the E-government projects and some interference between many technical tasks.

3.5. **Summary**

In this chapter, a number of primary and secondary research methods and methodologies have been presented and explained. Moreover, the obvious reasons for choosing interviews (qualitative) rather than questionnaires (quantitative) were listed. Therefore, the adopted approach has been justified clearly. Reliability and validity have been discussed and described in this chapter. The facilities, commercial contacts, and software packages utilised for the project have also been listed and explained. The following chapter will continue the on-going work process, represent the interview results, and illustrate the results in terms of E-government progression and its relationship with organisation structure in the Ministry of Education.
4. Chapter Four: Results analysis

4.1 Introduction

The main objective of this project is to investigate the influence of organisation structure in Saudi organisations on their E-government projects’ progress. Interviews were conducted between the 1st of July and the 24th of July 2012 in Saudi Arabia with people who are involved in E-government projects and occupy management or technical positions.

In this chapter, the results and the ideas gathered from the project’s interviews will be interpreted and described based on the technical order of the information to meet the research objectives clearly.

4.2 Interview Stages

Multiple-stage interviews were conducted in Saudi Arabia between the 1st of July and the 24th of July, 2012. Seventeen interviews were conducted, which was not as planned, due to the holidays, as mentioned in the limitation section. Most of the interviews were face-to-face as planned, except one of them, which was done by e-mail due to the interviewee’s holiday. The interviews stages were:

1. The main organiser of E-government in Saudi Arabia (Ministry of Communication and Information Technology) with the strategic and planning manager and some staff.
2. The top management in the Ministry of Education. They are the sponsors of this research and are concerned about its results.
3. The functional departments’ managers in MOE and other external organisations.
4. The project managers in the IT department of MOE.

4.3 Interview Style Used

Most of the interviews were closed-ended, except some that were conversational interviews because of the interviewees’ position or due to the expected valuable information that could be derived from interviewing them.
4.4. Interview Recording

The interviews were conducted in the Arabic language and recorded by voice recorder, except for some interviewees who refused to be recorded, as mentioned in the limitations section of the study previously.

Note-taking was used while interviewing some leaders instead of voice recording because of politeness. Voice recording is sometimes not acceptable culturally. Furthermore, they might think of it as a press interview, which would affect the quality of the given information.

4.5. Interview Piloting

Two sample interviews were conducted prior to my interview journey. Therefore, I had to add some graphics and simulations (Appendices 5, 6, 7, and 8) in order to increase interviewee’s understanding and interaction, as well as in order to clarify some ambiguous ideas.

4.6. Interview Analysis Style

Interview data is considered to fall within a qualitative research approach, which is not easy to interpret. It is also not easy to convert the outcomes into numbers, as with a quantitative approach.

Erlandson (1993) argues that analysing interview data needs to be done through via four elements:

1. Unitizing data.
2. Emergent category designation.
3. Negative case analysis.
4. Bridging, extending, and surfacing data.

Miles and Huberman (1994) distinguish three processes in the analysis of interview data:

1. Data reduction – this starts at the very first research phase, when concepts and methods are developed and subjects/phenomena are selected.
2. Data display – seeking the meaning of a limited part of the data (summaries, diagrams and text-matrices).
3. Conclusion – comparing, contrasting, searching for patterns, triangulation, etc.
In this project, I used the second technique. I have categorised the answers into two directions: positive answers and negative answers (see Appendices 9, 10, and 11).

The answers were summarized and grouped based on the interviewee’s layer and the questions. Then, the analysis began with presenting the main consensus and divergence (see Appendices 12, 13, and 14).

### 4.7. Interviewees List

<table>
<thead>
<tr>
<th>ID</th>
<th>Interviewee</th>
<th>Layer</th>
<th>Position</th>
<th>Interview method</th>
<th>Interview Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mr Tareq Alrasheed</td>
<td>A</td>
<td>Strategic and planning department’s manager in the E-gov programme of the Ministry of IT and Communications.</td>
<td>face-to-face</td>
<td>Conversational</td>
</tr>
<tr>
<td>2</td>
<td>Ali Alsabti</td>
<td>A</td>
<td>IT E-government staff - MOE</td>
<td>face-to-face</td>
<td>Conversational</td>
</tr>
<tr>
<td>3</td>
<td>Fahad Al Otaibi</td>
<td>A</td>
<td>IT Infrastructure department staff in the E-gov programme of the Ministry of IT and Communications</td>
<td>face-to-face</td>
<td>Conversational</td>
</tr>
<tr>
<td>4</td>
<td>Ali Al Nassar</td>
<td>B</td>
<td>Consultant in management of Administration and Finance - MOE</td>
<td>face-to-face</td>
<td>close-ended</td>
</tr>
<tr>
<td>5</td>
<td>Saleh Alhumaidi</td>
<td>B</td>
<td>CEO of Administration and Finance - MOE</td>
<td>face-to-face</td>
<td>conversational</td>
</tr>
<tr>
<td>6</td>
<td>Dr Hamad AL Eshaikh</td>
<td>B</td>
<td>Vice Minister of Ministry of Education – MOE</td>
<td>face-to-face</td>
<td>conversational</td>
</tr>
<tr>
<td>7</td>
<td>Dr Saad Alfehiad</td>
<td>B</td>
<td>Undersecretary of School Affairs -MOE</td>
<td>E-mail</td>
<td>close-ended</td>
</tr>
<tr>
<td>8</td>
<td>Dr Talal Maghrabi</td>
<td>B</td>
<td>IT operations manager</td>
<td>face-to-face</td>
<td>close-ended</td>
</tr>
<tr>
<td>9</td>
<td>Mr Mohammed Al haider</td>
<td>C</td>
<td>Manager of Finance department in MOE</td>
<td>face-to-face</td>
<td>close-ended</td>
</tr>
<tr>
<td>10</td>
<td>Mr Hamad Altammami</td>
<td>C</td>
<td>Manager of Budget department in MOE</td>
<td>face-to-face</td>
<td>close-ended</td>
</tr>
<tr>
<td>11</td>
<td>Mr Saeed Al farwan</td>
<td>C</td>
<td>Manager of Procurement department in MOE</td>
<td>face-to-face</td>
<td>close-ended</td>
</tr>
<tr>
<td>12</td>
<td>Yousef Alhamed</td>
<td>C</td>
<td>Employment department manager</td>
<td>face-to-face</td>
<td>Conversational</td>
</tr>
<tr>
<td></td>
<td>Interviewee</td>
<td>Title</td>
<td>Department</td>
<td>Format</td>
<td>Notes</td>
</tr>
<tr>
<td>---</td>
<td>-------------</td>
<td>-------</td>
<td>------------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>13</td>
<td>Saad Otaibi</td>
<td>C</td>
<td>Procurement department staff in Ministry of Commerce</td>
<td>face-to-face</td>
<td>Conversational</td>
</tr>
<tr>
<td>14</td>
<td>Sulaiman Alshehri</td>
<td>D</td>
<td>IT project manager – MOE</td>
<td>face-to-face</td>
<td>close-ended</td>
</tr>
<tr>
<td>15</td>
<td>Hussam Cabbani</td>
<td>D</td>
<td>IT project manager – MOE</td>
<td>face-to-face</td>
<td>close-ended</td>
</tr>
<tr>
<td>16</td>
<td>Ahmed Al hemedda</td>
<td>D</td>
<td>IT PMO staff – MOE</td>
<td>face-to-face</td>
<td>close-ended</td>
</tr>
<tr>
<td>17</td>
<td>Tamer Almallah</td>
<td>D</td>
<td>IT financial systems analyst - MOE</td>
<td>face-to-face</td>
<td>close-ended</td>
</tr>
</tbody>
</table>

Table 7: Interviewees list

- MOE: Ministry of Education in Saudi Arabia.

4.8. Current E-gov in the KSA and the Effect of Organisation Structures (Layer A)

It has been obvious that Ministry of Communication and Information Technology is leading the control of the entire E-government in Saudi Arabia by launching its governmental project called Yesser to support, enable, and monitor E-government project progression, as well as to measure how Saudi organisations are improving with regard to the comprehensive E-government project in Saudi Arabia.

An interview has been conducted with the Strategic and Planning Department's manager of the Yesser project. This interview has resulted in much useful information, such as:

1. There are differences among all Saudi organisations in terms of their progress on E-government projects.
2. Leadership, organisation structure, flexibility, and the type of services offered for each organisation play a considerable role in a project’s progression.
3. All organisations should have a dedicated office to observe and support its projects independently. This office is called a PMO (Project Management Office).
4. Some IT department managers affected an E-government project because they did not have a long-term strategy or plans for the organisation. They only focused on current projects.
5. There is a high level of competition among Saudi organisations to offer their services to the public as soon as they are ready to do.

Another interview has been conducted regarding the Yesser project with the staff of the IT Infrastructure Department with regard to the effort that has been made to enable E-government integration among Saudi organisations. The interviewee mentioned that a governmental secured network called GSN has been implemented to enable constant connections among all Saudi organisations. Furthermore, free hardware equipment (servers and routers) has been provided to all participating organisations as follows:

![Figure 10: E-government networking in the KSA](image)

All the above two interviews were conducted to avoid the possibility of technical problems from outside the organisations, which might reflect on the organisations’ projects’ progression. Thereafter, the next step would be to discuss the internal issues of each organisation with the interviewees from various organisations in Saudi Arabia. Moreover, these interviews have answered relatively this project’s questions number (4, 10, 11, and 13).
4.9. IT Projects and Organisation Structure in the KSA (Interviews Layer B)

The interviews with Layer B (with top management and leaders in MOE) have revealed many important issues, such as:

1. The Ministry of Education has launched two of the main strategic projects, ERP (Enterprise Resources Planning) and the Schools Management System, both of which are perceived as being at the core of E-government projects.

2. Most of the top managers have an intermediate level of information about E-government projects in Saudi Arabia, except the operation managers of IT departments, who reflected excellently on the first question about E-government. This variation is considered typical due to their assigned roles within the organisation. They are all very keen to see a comprehensive E-government project as soon as they can because of the strong government desire for this.

3. The discussion about managing projects in MOE has revealed much about the traditional way they assign their projects. Most of the Layer B participants did not show any skills in project management or a good awareness of how to control and manage any project, whether it was IT project or any other type of project. The prevalent project management style is to create a committee and then discuss the project’s objectives and goals and strategies with the committee’s members. If the core of the project is IT, then the IT department will take over all the project’s elements. Therefore, the IT manager will be the exclusive project manager and reporter for the organisation’s leaders.

4. By interviewing the IT department’s operations top manager, in-depth information has been gathered because the IT department has a segregated PMO (project management office) under a sub-department called planning and strategy. This PMO deals with some IT projects (not all of them) because it is still under development and was just created in 2010.

5. When I asked the participants about the communication plans that are used in the current E-government project, most of them mentioned that the most communications and problem solving happen during physical meetings and direct communication with the organisation’s leaders.
6. It has been very obvious that most of the top management are practicing project management by themselves for the following reasons:
   a. They might be cautious about guarding their projects against failure.
   b. One mentioned that he has a low level of confidence that his project will be planned and implemented properly.
   c. Because of the many changes in Saudi Arabian organisations’ leaders, many of the top management need to show their success and power by launching new projects in order to add them to their governmental contributions in developing the organisation (achievement feeling); therefore, they do not want to assign the project to any other person.
   d. Due to the lack of reporting and communication plans, each leader needs to ask and follow other people in order to get the intended reports.

7. Each participant has his own projects, and no other people can influence his ideas officially.

8. There is no development area (sandbox area) for their projects before, during, or even after implementation, except their offices and their unspecialised staff.

9. I presented the four styles of organisation structure and asked them kindly to choose which one they think would be mostly helpful in their projects (see appendices 5, 6, 7, and 8).
   a. They mentioned that the functional organisation structure is the current style that they are working with and that they are quite not satisfied with it, due to some problems between departments and miscommunications.
   b. When I asked about the networking style, they did not voice any objections, because they think that the external companies will remove all the hassles caused by their projects.
   c. When I discussed the dedicated organisation structure, most of them did not agree about this paradigm, because of monitoring and observation problems.
   d. As expected based upon the literature, they unanimously agreed on the matrix organisation structure as a best solution to their problems because project management takes between 40% and 60% of their working time.

10. The IT department’s operations manager has shown satisfaction and confidence regarding PMO operations, and he was very ambitious about the PMO’s future.

The main results of this interview type are as follows:
1. Most of the top management are willing to perform any changes in the organisation’s structure that are needed to make E-government projects easier and more successful.

2. They are all very enthusiastic about offering electronic services to their organisation and clients. They need some help to manage their projects.

3. Most of them are managing projects by themselves.

4. The IT department has its own PMO to control its projects; however, this model is incompatible with project management principles, as mentioned by Gray (2005), because he states that the PMO must be on the top of organisation structure, be connected directly to the organisation’s leaders and support all of the organisation’s projects.

There are two types of projects in Saudi organisations:

- **Operational projects**: Such projects are implemented regularly and daily by a functional department. For example, the building department deals with many constructions every day and all of the involved stakeholders are working under this department. This type of project needs to be implemented by the functional department, apart from any other departments.

- **Strategic projects**: This type of project involves many departments throughout the organisation (cross-departmental projects) and needs to be implemented carefully and efficiently because it is observed and monitored by the top management personally.

### 4.10. Applied Project Management in E-government Projects (Layer C)

Interviews with the Layer C samples were conducted with the participants identified in the methodology section of this project (functional department managers who are involved in E-government projects). All interviews were recorded verbally, interpreted, and summarised into their main points as follows:

1. All interviewees showed their efforts and willingness to support E-government projects because they understand the benefits of IT projects and how they reflect positively on their productivity and accountability. Some of them did not show a high level of awareness about E-government. However, they still believe that E-government is a very helpful and strategic goal for the whole government.
2. When asked about the applied project management style, the participants from MOE gave the same answer, which was that the IT department is taking over all the projects and they do what they are asked to do by the IT department. On the other hand, participants from the Ministry of Civil Services and the Ministry of Commerce stated they are using a PMO (project management office) and an external company (networking organisation structure), which means that the IT department only performs the technical roles and checks the technical quality and standardisations that meet E-government projects in MOE.

3. When discussing the four organisation structures with participants, most of them have reflected positively on the matrix organisation structure because they need a third party between them and the IT department to justify the delay in delivering IT projects fairly and arrange project plans.

4. When asked about their satisfaction with the current E-government projects’ implementation, interviewees from MOE replied that they were not very satisfied, because they have been loaded with many hassles on top of their routine work, and they became annoyed because they usually received many unexpected requirements from IT project managers. On the other hand, interviewees from outside MOE, who are working with another organisation structure, showed a high level of satisfaction because they are aware of the E-government projects’ plans and deadlines and they know their roles clearly.

5. All interviewees showed their willingness to describe their requirements clearly, but they need help in drawing up their quality assurance and project plans.

6. Most of them stated that communication plans, risk plans, and timescales are the most frequent problems in the current E-government projects.

The last interviews have answered this research question number 14 and revealed many notable points that might affect E-government projects’ progress, which include:

- A prevalent feeling that there is lack of project management skills in IT project management because their participation in E-government projects is merely giving requirements and discussing some unplanned problems.
- Each of them feels that he is a key player in E-government projects and that he is willing to support and participate as a stakeholder.
4.11. Project Management Skills in IT Project Managers (Layer D)

The last stage of my interviews was with IT project managers in MOE (Ministry of Education); it was harder than the other interviews because of the reasons mentioned in the limitations section, for example:

- Confidentiality of some information because they are still working on E-government projects.
- Holidays periods for some key player in IT projects have limited some valuable information.
- Some members were new to the work and feared stating restricted information.
- Some of them have not replied to my emails so far (ignorance).

The interviews revealed many useful components of E-government projects, including:

1. Most of the interviewees showed an intermediate level of awareness regarding the E-government competition in Saudi Arabia because they are focusing on their projects and struggling with some unexpected problems. Their scope of vision is limited by the current plans.
2. They are all unsure about the deadlines of E-government projects because of the expected delays due to limitations such as client resistance, new requirements, and risk occurrence.
3. Their knowledge of the project management field was very good. They stated some professional methods in communications plans and problem solving strategy.
4. None of them are working with software development, because the software is developed by an external company (ORACLE agent in Saudi Arabia), but they are preparing for implementation, analysing user requirements, and solving some working problems. When asked about the information system methodology used, only one of them responded positively.
5. When asked about PMO (project management office) services, they revealed that the internal PMO in the IT department does not have an influence on the E-government projects and that all E-government project managers report directly to the CEO and to the Vice Minister of the Ministry of Education. However, they were
happy with the idea of creating a general PMO in MOE to control and solve all cross-departmental conflicts.

These interviews have revealed some main points, which should be discussed in the discussion chapter, such as:

- IT managers are qualified technically but do not communicate properly with the end users in MOE, because of the absence of the best project management practices and communication plans and because of the complicated and overlapping tasks that they are taking over.
- The PMO is not working properly and efficiently, as stated in some interviews.
- There are many types of organisation structures inside the IT department, as seen from the interviews, including functional, matrix, and networking organisation structures.
- General PMO might help IT project managers to avoid some conflicts and complicated issues with the functional department.

Figure 11: PMO current location

4.12. Summary

In this chapter, I reflected upon all the information gathered during the interview process. Most of interviewees were recorded verbally, and some of them were interviewed conversationally.

All information was in the Arabic language, translated into English, and summarised by using a specific technique, as mentioned in the interview analysis section previously.
The interviews have uncovered some strengths and weaknesses with regard to the current organisation structure and its influence on E-government projects in Saudi Arabia. My plan was to interview three types of people. However, after arriving, I found that I needed to add another type to the role of the main organiser and planner of E-government projects in Saudi Arabia.
5. Chapter Five: Discussion of Findings

This study aims to choose a suitable organisation structure for the Ministry of Education (MOE) in Saudi Arabia and any other similar organisations in order to implement their E-government projects easily and smoothly.

The reason for this idea is the noticeable delay in E-government projects in Saudi Arabia, as expressed in the media. I had to communicate some of the problem’s parts, starting from the governmental organiser and moving to the software developers in order to find the weakest link in the E-government chain with regard to only the organisation structure.

To discuss the problem fairly, I had to divide it into its key points and discuss them separately:

5.1. The Effect of Organisation Structure

It has become very obvious that all E-government stakeholders are looking for the best organisation structure in order to make E-government a reachable goal. E-government organisers in Saudi Arabia believe that there are many factors influencing E-government and that organisation structure is one of them. The Ministry of Civil Services has changed its organisation structure recently to be a matrix structure instead of a functional department structure because they have been advised to by a big international consulting company after revising their organisation structure in conjunction with their offered services and strategic plans, as well as, with a package of recommendations as mentioned by Ministry of Civil Services participant. The Ministry of Commerce has also changed its organisation structure to be a networking structure instead of a functional structure because they found it much faster to launch their services by contracting with external company to take over all its E-government projects.

In contrast, MOE is still working with a functional structure and still struggling with their project, obtaining only a low level of satisfaction from some E-government stakeholders. Leaders in MOE are working on their projects and selecting the most suitable projects based on their preferences and priorities. There is a big gap in terms of using the best practices of project management in MOE. This gap might exist because of the absence of a general project management office.
5.2. **The Efforts toward Successful E-government:**

People’s demands regarding the use of IT to finish their daily business have increased the technology awareness among all E-government stakeholders.

The interviews have revealed that all stakeholders were working very hard on their segment of E-government and that each one of them is only concerned about his working area and not aware of what E-government projects others are working on. The willingness to change the organisation structure was fairly high, but there was some fear of making changes during the projects’ implementations, as well as of the fact that the main strategy has not been drawn up yet. The IT department in MOE is taking over all E-government projects because these projects are considered technology projects. However, stakeholders are from many departments, and they did not express a high level of satisfaction regarding the applied project management methods, because of the communication and risk problems.

5.3. **The Best-recommended Organisation Structure:**

Interviews have uncovered the best structure that MOE should adopt due to the interviewees’ experiences in E-government projects implementation.

On one hand, interviewees from some outside MOE were very satisfied with their organisation structure in terms of implementing their projects because they adopted a Matrix structure and took some helpful steps to avoid the expected conflicts and to forge the best path for their E-government projects.

On the other hand, interviewees from MOE have expressed their need to perform some changes in their organisation structure because they think that all the support is given only to the IT department, even though they are working equally as hard as IT members. In addition, they chose the matrix structure figure from the presented sheets (Appendix 8) as the best solution for them. They rejected the dedicated structure because of a lack of resources, and they rejected the networking structure because they do not have enough experience in writing their quality levels and they were worried about the honesty of some external companies (lack in trust of the commerce sector).
Therefore, the majority of interviewees, including top management, recommended the matrix structure; this selection could be because of the level of hassles and interference between various departments.

5.4. The Currently Applied Organisation Structure and Reasoning:

By reading the organisation chart of the Ministry of Education in conjunction with studying the projectizing behaviour regarding E-government projects, it has become obvious that MOE is adopting many kinds of structures at the same time, including:

1. The functional structure, by delegating the IT department to lead and control E-government projects independently.
2. The networking structure, by employing an external company to build the E-government software.
3. The dedicated structure, which is not applied in E-government projects but is applied in other educational projects.
4. The matrix structure, which is used inefficiently by some leaders who are acting as a project manager and trying to control and arrange some E-government elements, although they do not have basic experience in project management principles.

5.5. Limitations of Changing the Current Organisation Structure

The idea of changing the organisation structure was initially accepted by many stakeholders in MOE. However, some limitations were mentioned and discussed during the interview sessions, which were:

1. The matrix structure needs to be adopted within organisations that have already established their *long-term strategies* because project management offices need to measure and manage strategies rather than create strategies.
2. A lack of experienced staff might affect any change and might influence the new structure negatively. Nobody can be sure that the experienced employees will be on the same level in terms of satisfaction and productivity.
3. Change resistance might occur because of the distribution of power caused by creating the Project Management Office (PMO); this office might show some weak points in
some departments as stated in Grey (2005), therefore, it needs to be a weak-matrix in first period.

4. Skilful staff should be employed in the new PMO because of the expected problems in the first period.

5.6. Summary

In this chapter, all interview data have been discussed; the main points of the study were discussed, and all interviewee layers were compared.

This project’s hypotheses had to be investigated in order to test their truthfulness based on the selected methodology and its validation process.

The null research hypotheses (H0) was rejected by proving that an E-government project is not purely the concern of IT operations and that organisation structure has no influence on E-government projects because of the following evidences:

1. The planners of E-government in Saudi Arabia believe that there are many factors influencing E-government, not only the technical ability of IT departments.
2. A delay in E-government projects in MOE, in conjunction with the absence of project management principles, was shown during the discussion of the data.
3. More of the interviewees from Layer B and C have chosen Matrix structure to increase their participation in E-government projects.

Furthermore, most of the alternative research hypotheses have been proven, as follows:

H1 - If an organisation has been restructured properly, its E-government project will grow in a good working environment, and it will be implemented properly.

This hypothesis has been proven in many ways:

- It is stated in the literature that if organisations have around 50% of daily work on projects, they must apply the matrix organisation structure, although this structure is not implemented currently. Furthermore, Layer B interviewees showed that they have between 40 and 60% of their daily work on projects.
- Top management and leaders in MOE are acting as project managers and their offices have become as project management office (PMO), which means there is a gap in project implementation between the organisation’s departments in one side and with IT department in the another side.

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• The low level of satisfaction among the department’s managers in conjunction with feelings of overload for both IT project managers and top managers has decreased their optimism toward E-government projects and its future.

H2 - If an organisation has adopted project management principles in implementing its E-government projects, the chances of success will be increased.

This hypothesis has been proven via the following:

1. IT project managers showed their awareness of and skills in project management.
2. The IT department created its own project management office internally.
3. The noticeable weaknesses in implementing risk management and communication plans collected from the interviewees (Layer B and C) has led to increase their pessimism in E-government projects and their demands for Risk and communication plans.

H3 - If governmental organisations had enough flexibility in changing their structures, switching to the best structure would be much easier.

This hypothesis has been rejected by presenting the willingness of top management to change the organisation structure if they received tangible evidence proving the feasibility of change.

H4 - If an IT department's members have been armed with project management skills, E-government project progression will increase noticeably.

This hypothesis has been proven partly by showing that IT project’s managers are aware of project management skills. However, there was some lack in the application of these skills because of the communications’ problems.
6. Chapter Six: Conclusion and Recommendations

6.1. Introduction
In this chapter, there will be a summarisation of the results achieved by illustrating the current organisation structures and the recommended organisation structures that might be needed to achieve the goals for E-government and increase efficiency in implementing any further projects.

6.2. Conclusion
This project has argued for the importance of organisation structure in E-government projects. The proper organisation structure helps organisations to increase their projects’ implementation efficiency and makes the working environment more interactive.

As mentioned in Chapter 2, in 2006, Gartner stated that 45% of organizational IT realignments will not succeed, because of the confusion of process with performance.

This project concluded to the massive need for revising the current organisation structure and focusing on Matrix Organisation Structure because the current traditional bureaucratic structure which might not be able to meet the new generation’s demands. Shifting from one structure to another structure is not an easy task. It should be undertaken only after considering the organisation’s long-term strategies, and it might require a new style of leadership in order to manage the change and accept this challenge (transformational leadership style could be needed in this stage).

The comprehensive concept of E-government involves contributions from all organisations, not only one or two organisations. Furthermore, the IT infrastructure in Saudi Arabia is prepared carefully by the Ministry of IT and Communications. Hence, the rest of the work is on the software development and deployment end in each organisation.
According to Grey (2005), cross-departments projects should be implemented and controlled by an independent, efficient department inside the organisation which is Project Management Office (PMO). Therefore, E-government is a huge cross-departmental software project, and it should be implemented and managed by a third party inside the organisation, not only the IT department who takes over the project and not only the functional department. Thus, this PMO department will attempt to balance the power, experiences, tasks, and responsibilities. In addition, all top management need to be reported to automatically regarding the progress of E-government projects, rather than having regular meetings and becoming mired in controversial cross-department arguments. The independent department is officially called the PMO (Project Management Office).

As seen above in Figure 11, the PMO in the Ministry of Education is located in the third level of the official hierarchy, which is under a sub-department of the IT department. This led to losing its strategic goals. Therefore, upgrading this PMO office to be on the top or even in the same level of main departments in MOE could be one of the best solutions in order to increase the best practises of project management, as well as, to report to higher leaders directly apart of any administrative barriers as mentioned in Grey (2005) and illustrated in Matrix Organisation Structure at Figure no 7.

### 6.3. Recommendations

The interviews and results analysis emphasised the influence of organisation structure and the advantages of adopting the best structure. Therefore, the recommendations for this project are:

1. Create a general Project Management Office in the Ministry of Education (MOE) and run it by using an external company in the beginning. This structure is called the matrix organisation structure, which has been suggested to be the best organisation structure for MOE.
2. Recruit and employ skilful Saudi Arabian citizens for the following reasons:
   - To assure that the department managers will treat them in a friendly way.
   - To decrease the risk of the immigration of non-Saudi citizens.

3. Create administrative workshops inside the organisation to increase the work values, commitment, and knowledge regarding E-government projects, in addition to increasing the communication level during the transition period from one structure to another structure.

### 6.4. Applicability and Generalizability

The recommended organisation structure is the matrix organisation structure, as mentioned above; however, this structure might face many obstacles and barriers for the following reasons:

- The kick-off of the PMO might require some external help.
- Authority distribution might affect PMO plans.
- Power distribution might affect PMO reports or work in the beginning of its official job.
- Observation resistance (some people do not want to be observed).

In terms of generalizability, this project’s conclusion is not only for the Ministry Of Education in Saudi Arabia or only for E-government projects. It could be used widely in many organisations for many purposes, including the following:
• Any kind of strategic project could be implemented by adopting the recommended matrix organisation structure because most of the strategic plans are observed and monitored by an organisation’s top management, which needs to be done carefully. Moreover, most of the strategic projects are cross-departmental projects and share the same working circumstances and conflict, for example, training projects, exhibition projects, and others. Therefore, Project Management Offices (PMOs) are not only concerned with E-government; they can be utilized to manage any kind of project.

• Organisations in developing countries are highly recommended to use this project’s recommendations because of the expected conflict in terms of their projects and the expected lack of project management experience.

• All ministries in Saudi Arabia should adopt this type of structure, as mentioned in this project’s recommendations, because they are adopting the same project under the same legalizations.

### 6.5. Further work

Regarding the future work, many organisational and technical aspects should be highlighted in the near future. Studying the influence of the matrix organisation structure on E-government could be a good extension for this project because of the recurrent demands on this structure in many countries, as seen in the Internet and concluded from this research. This study could be used to compare two countries because of many factors behind adopting this structure.

Another recommended further research area is the relationship between work commitment and the project’s success and how to increase the opportunities for success by increasing the commitment among the project working teams.
References


### Introduction Key

<table>
<thead>
<tr>
<th>Components:</th>
<th>I want to thank you for taking the time to meet with me today.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Thank you</td>
<td>My name is ____________________________ and I would like to talk to you about ....................</td>
</tr>
<tr>
<td>• Your name</td>
<td>The interview should take less than an hour. I will be recording the session because I don’t want to miss any of your comments.</td>
</tr>
<tr>
<td>• Purpose</td>
<td>Although I will be taking some notes during the session, I can’t possibly write fast enough to get it all down. Because we’re on tape, please be sure to speak up so that we don’t miss your comments.</td>
</tr>
<tr>
<td>• Confidentiality</td>
<td>All responses will be kept confidential. This means that your interview responses will only be shared with the research supervisor and we will ensure that any information we include in our report does not identify you as the respondent. Remember, you don’t have to talk about anything you don’t want to, and you may end the interview at any time.</td>
</tr>
<tr>
<td>• Duration</td>
<td>Are there any questions about what I have just explained?</td>
</tr>
<tr>
<td>• How interview will be conducted</td>
<td>Are you willing to participate in this interview?</td>
</tr>
<tr>
<td>• Opportunity for questions</td>
<td></td>
</tr>
</tbody>
</table>

### Questions

| • No more than 15 open-ended questions | See questions appendices |
| • Ask for factual info before opinions | |
| • Use probes as needed | |
## Closing

### Closing Key

**Components:**
- Additional comments
- Next steps
- Thank you

Is there anything more you would like to add?

I’ll be analysing the information you and others gave me and submitting a draft report to the University in one month. I’ll be happy to send you a copy to review at that time, if you are interested.

Thank you for your time.

### Appendix 1 Interview session script and sections

<table>
<thead>
<tr>
<th>Int. Cat</th>
<th>Date</th>
<th>Time</th>
<th>Interview Place</th>
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</tbody>
</table>

**Interviewer name**

**Interviewee name**

**Interviewee Experience**

**Interviewee position**

<table>
<thead>
<tr>
<th>Question No.</th>
<th>Question</th>
<th>Question objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Could you please tell me what the current situation for the Ministry of Education is regarding E-government projects.</td>
<td>Identify the current maturity level of E-government.</td>
</tr>
<tr>
<td>2</td>
<td>What do you think about the recent competition in E-government projects?</td>
<td>Identify the current maturity level of E-government.</td>
</tr>
<tr>
<td>3</td>
<td>If you decide to conduct any type of project, what is the usual process that you adopt every time?</td>
<td>Identify their concerns regarding assigning projects.</td>
</tr>
<tr>
<td>4</td>
<td>Do you receive all projects’ reports automatically or do you have to ask about them?</td>
<td>Identify the applied project management style</td>
</tr>
<tr>
<td>5</td>
<td>What kind of decisions you find that any department is incapable of implementing in any project?</td>
<td>Explore their willingness to make some changes in organisation structure.</td>
</tr>
<tr>
<td>6</td>
<td>Have you tried thinking about changing the organisation</td>
<td>Explore their willingness to make some</td>
</tr>
<tr>
<td>Question No.</td>
<td>Question</td>
<td>Question objective</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Have you thought about any useful IT project that would help the E-government project? If yes, give more information.</td>
<td>• Explore their efforts to support E-government.</td>
</tr>
<tr>
<td>2</td>
<td>How are all IT projects implemented in the Ministry of Education? Are you happy with that? Why (even yes/no)?</td>
<td>• Investigate the currently applied project management style.</td>
</tr>
<tr>
<td>3</td>
<td>What if your suggested projects must be conducted by your department? What support do you need to get succeed? Resources? Funds? Skills?</td>
<td>• Examine the application of the functional organisation structure.</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Relevant Analysis</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>4</td>
<td>Do you think referring all IT projects to a Project Management Office will help the IT projects? Or can the IT department do it perfectly?</td>
<td>• Examine the application of the matrix organisation structure.</td>
</tr>
<tr>
<td>5</td>
<td>Have you ever joined any groups to conduct another department’s projects?</td>
<td>• Examine the application of the matrix organisation structure.</td>
</tr>
<tr>
<td>6</td>
<td>Do you think giving all our projects to an external company would more helpful? Why?</td>
<td>• Examine the application of the networking organisation structure.</td>
</tr>
<tr>
<td>7</td>
<td>What is the desired quality level in implementing your projects? Do you need help in this matter?</td>
<td>• Examine the application of networking organisation structure.</td>
</tr>
<tr>
<td>8</td>
<td>Have you ever received any sudden letters asking you to do anything relating to any IT project? Do you know who will contact you every time regarding to IT projects?</td>
<td>• Identify the applied project management style.</td>
</tr>
<tr>
<td>9</td>
<td>What are your roles in the current E-government projects?</td>
<td>• Explore their efforts to support E-government.</td>
</tr>
<tr>
<td>11</td>
<td>What is your potential response if you are asked to assign one of your best employees to work with other groups?</td>
<td>• Examine the application of the matrix organisation structure.</td>
</tr>
<tr>
<td>12</td>
<td>Do you think that the current working environment is not suitable for E-government projects and that they need to be done in another environment? Why?</td>
<td>• Examine the application of the dedicated teams organisation structure</td>
</tr>
<tr>
<td>13</td>
<td>Have you experienced any duplication or repetition in the new IT projects? Can you retrieve the previous ideas and experience?</td>
<td>Test some projectizing skills (planning – communication – sharing resources – portfolio).</td>
</tr>
<tr>
<td>14</td>
<td>Do you think the current IT department is able to perform E-government very quickly?</td>
<td>Test the trustworthiness levels of the IT department.</td>
</tr>
<tr>
<td>15</td>
<td>Is there anything more you would like to add?</td>
<td></td>
</tr>
<tr>
<td>Question No.</td>
<td>Question</td>
<td>Question objective</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Could you please tell me about the current E-government projects in the Ministry of Education?</td>
<td>• Investigate their readiness for E-government.</td>
</tr>
<tr>
<td>2</td>
<td>When do you think that we will release an E-gov project? In which maturity level are we now regarding E-gov?</td>
<td>• Investigate their experience regarding the E-government concept.</td>
</tr>
<tr>
<td>3</td>
<td>How can the IT department’s members deal with organisation’s units’ demands?</td>
<td>• Explore their project management skills.</td>
</tr>
<tr>
<td>4</td>
<td>Which information system methodology do you usually use in implementing IT projects?</td>
<td>• Explore their technical skills and knowledge.</td>
</tr>
<tr>
<td>5</td>
<td>Could you please tell me about E-government’s scope in the Ministry of Education?</td>
<td>• Explore their project management skills.</td>
</tr>
<tr>
<td>6</td>
<td>How could you avoid duplication in some IT projects?</td>
<td>• Explore their project management skills.</td>
</tr>
<tr>
<td>7</td>
<td>How do you communicate with the project stakeholders?</td>
<td>• Explore their project management skills.</td>
</tr>
<tr>
<td>8</td>
<td>Do you think you are limited by governmental restrictions? Do you need more authority and power?</td>
<td>• Identify their authority level.</td>
</tr>
<tr>
<td>9</td>
<td>Do think that you need to a third party to organise non-technical issues? Why? How?</td>
<td>• Test the matrix organisation structure.</td>
</tr>
<tr>
<td>10</td>
<td>Do you think assigning IT projects to external vendors will be helpful for E-government? Why?</td>
<td>• Test the networking organisation structure.</td>
</tr>
<tr>
<td>11</td>
<td>All projects now are techno-based projects. How can you prioritize them?</td>
<td>• Explore their project management skills.</td>
</tr>
<tr>
<td>12</td>
<td>Do you work simultaneously with the (Saudi E-gov) Yesser programme’s specifications? How?</td>
<td>• Investigate their readiness for E-government.</td>
</tr>
<tr>
<td>13</td>
<td>Is there anything more you would like to add?</td>
<td>•</td>
</tr>
</tbody>
</table>

Appendix 4 Interview question sheet (Layer D)
Appendix 5 Functional department organisation structure (stimulation sample)

Appendix 6 Networking Organisation structure (stimulation sample)
Appendix 7 Dedicated teams (stimulation sample)

Appendix 8 Matrix organisation structure (stimulation sample)
<table>
<thead>
<tr>
<th>Q. No.</th>
<th>Question</th>
<th>Question objective</th>
<th>Positive Answer</th>
<th>Negative Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Could you please tell me what is the current situation for Ministry of Education regarding E-government project?</td>
<td>Identify the current maturity level of E-government.</td>
<td>Give good, helpful, real, consistent information</td>
<td>Few words and general ambitions or (It is the IT’s people business)</td>
</tr>
<tr>
<td>2</td>
<td>What do you think about the recent competition in E-government projects? Where we are in this competition?</td>
<td>Identify the current maturity level of E-government.</td>
<td>Talk about Saudi achievement reward, Give a fairly enough description about the current plan, interaction and e-services improvement</td>
<td>General answer, no specific information.</td>
</tr>
<tr>
<td>3</td>
<td>If you decided to conduct any type of projects, what is the usual process that you adopt every time?</td>
<td>Identify there concerns in assigning projects.</td>
<td>Talk about projectizing, planning...etc. Show some P.M. skills</td>
<td>Look for the easiest way. No PM information</td>
</tr>
<tr>
<td>4</td>
<td>Do you receive all IT projects’ reports automatically or you have to ask about them? Do you observe them? Do you solve their problems? Do you direct them?</td>
<td>Identify the current skills of project management principles.</td>
<td>He receives regular and systematic reports from projects’ managers, he monitors but doesn’t observe or worry</td>
<td>No systematic reports, observe, solve problems.</td>
</tr>
<tr>
<td>5</td>
<td>What kind of decisions would you make if you found any department is unable to implement any project?</td>
<td>Explore there willingness to do some changes in organisation structure.</td>
<td>Create a committee, support them with any recourse, and employ project manager for them.</td>
<td>Suspend the project, stop implementing or seek to another department.</td>
</tr>
<tr>
<td>6</td>
<td>Have you tried thinking about changing the organisation structure to be more flexible? How? What if you are convinced to change the</td>
<td>Explore there willingness to do some changes in organisation structure.</td>
<td>Some consultations, tries, committees or plans in helping P.M. principles.</td>
<td>I can’t change, I am worry, and I am restricted from Government.</td>
</tr>
<tr>
<td>No</td>
<td>Question</td>
<td>Expected Answer</td>
<td>Validation for Q. No 5</td>
<td>Contradictory answer to Q 1</td>
</tr>
<tr>
<td>----</td>
<td>-------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>7</td>
<td>When do you think that we will be able to release a full version of E-government? And what are the potential barriers?</td>
<td>Explore there efforts in supporting E-government.</td>
<td>Try to talk about the future plans. Validation for Q. No 1</td>
<td>I don’t think it will be helpful. We can work without more offices</td>
</tr>
<tr>
<td>8</td>
<td>Do you think project management office PMO will be helpful for Ministry of Education? Why?</td>
<td>Identify the current skills of project management principles.</td>
<td>The idea deserve to be discussed seriously, we are thinking of PMO... we have a PMO but ….</td>
<td>Yes, No … no justifications or details</td>
</tr>
<tr>
<td>9</td>
<td>Do you think the financial issues are hindering E-government projects? Why?</td>
<td>Identify some E-government obstacles.</td>
<td>Give some information about funding and financial support.</td>
<td>No rough percentage.</td>
</tr>
<tr>
<td>10</td>
<td>How can you prioritize or sort up many projects to be implemented accordingly?</td>
<td>Identify the current skills of project management principles (portfolio)</td>
<td>Talk about the prioritizing process. Look for resources, funds,</td>
<td>No clear procedures.</td>
</tr>
<tr>
<td>11</td>
<td>What is the amount of projects’ papers you are working on every day compared to the routine work?</td>
<td>Explore their need to Project Management Office.</td>
<td>Between 30 – 50 % of our work is about projects.</td>
<td></td>
</tr>
</tbody>
</table>

Appendix 9 Interviews questions and expected answers (Category B)
<table>
<thead>
<tr>
<th>Q. No.</th>
<th>Question</th>
<th>Question objective</th>
<th>Positive Answer</th>
<th>Negative Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Have you thought about any useful IT project that would help E-government project? If yes give more information?</td>
<td>• Explore there efforts in supporting E-government.</td>
<td>Yes, I suggested, planned, created, thought ….</td>
<td>No it is not of my business It is IT’s business.</td>
</tr>
<tr>
<td>2</td>
<td>Could you describe how IT projects are implemented currently in Ministry of Education? Are you happy with that?? Why (even yes/no)?</td>
<td>• Investigate the current applied project management style.</td>
<td>Describe the process, give some criticism, suggestion. Talk about meetings, reports</td>
<td>I have no idea, every thing are vague, hidden.</td>
</tr>
<tr>
<td>3</td>
<td>What if your suggested projects have to be conducted by your department? What support do you need to get succeed? Resource? Fund? Skills?</td>
<td>• Examine application of Functional Organisation structure.</td>
<td>I am willing to do it without any help, I am responsible I can manage any project</td>
<td>I am not interested in taking on more work, fully with routine work is enough</td>
</tr>
<tr>
<td>4</td>
<td>Do you think referring all IT projects to a Project management Office will help the IT projects? Or just IT department who can do it perfectly?</td>
<td>• Examine application of Matrix Organisation structure.</td>
<td>Give justifications for any choice</td>
<td>I don’t know who is the best. They are the same.</td>
</tr>
<tr>
<td>5</td>
<td>Have you ever joined any groups to conduct another department’s projects? How?</td>
<td>• Examine application of Matrix Organisation structure.</td>
<td>Yes, give some details for experience exchanges, resources , PM skills</td>
<td>No, support individual work. Or Yes without reasons.</td>
</tr>
<tr>
<td>6</td>
<td>Do you think of giving all our projects to an external company would more helpful? Why?</td>
<td>• Examine application of Networking Organisation structure.</td>
<td>Yes or No and then talk about cost and experience and standardisation.</td>
<td>Yes or No without any justification</td>
</tr>
<tr>
<td>7</td>
<td>What is the desired quality level in implementing</td>
<td>• Examine application of</td>
<td>Talk about interoperability or</td>
<td>I can not do it by my self.</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Answer</td>
<td>Expected Answer</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Have you ever received any sudden letters asking you to do anything relating to any IT project? Do you know who will contact you every time regarding to IT projects?</td>
<td>- Identify the current skills of project management principles.</td>
<td>No, everything are scheduled and I know who and when will contact me. Yes, there are a sudden requirement and unscheduled communications.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>What are your roles in the current E-government projects?</td>
<td>- Explore their efforts in supporting E-government.</td>
<td>We have meetings; I am a member in..., we are working on ... I don't have any role. I have not been asked to participate.</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>What is your potential response if you asked to specify one of your best employees to work with other groups to implement other’s project?</td>
<td>- Examine application of Matrix Organisation structure.</td>
<td>That is ok, we can manage his gap No, we don't have enough number of skilled employees</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Do you think if we changed the current working environment, E-government project would be much faster? Why?</td>
<td>- Examine application of Dedicated teams Organisation structure.</td>
<td>Yes sure, to be far from the stress, more flexibility No, the current environment is ok.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Have you experienced any duplication or repetition in the new IT projects? Can you retrieve the previous ideas and experience?</td>
<td>Test some projectizing skills (planning - communication-sharing resources - portfolio).</td>
<td>Yes or No, with some details. There is a wasting of many previous efforts. Or there is an arrangement for that. No clear answer</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Do you think the current IT department able to do E-government very fast?</td>
<td>Test the trustworthiness levels to IT department</td>
<td>Yes they are working very hard and fast I don’t think so, if they do ... they need to be ...(more suggestions)</td>
<td></td>
</tr>
<tr>
<td>Q. No.</td>
<td>Question</td>
<td>Question objective</td>
<td>Positive Answer</td>
<td>Negative answer</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------------------------------------------------</td>
<td>--------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Could you please tell me about the current E-government projects in Ministry of Education</td>
<td>• Investigate there readiness to E-government.</td>
<td>• Show awareness, working with good plan, describe the situation clearly</td>
<td>• No real information, unbelievable facts.</td>
</tr>
<tr>
<td>2</td>
<td>When do you think that we will release E-gov project? In which maturity level we are now in E-gov?</td>
<td>• Investigate there experience in E-governement concept</td>
<td>• Describe e-government concept.</td>
<td>• No direct answer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Describe the current stage</td>
<td></td>
<td>• No clear plan.</td>
</tr>
<tr>
<td>3</td>
<td>How can IT department’s members deal with organisation’s units demands?</td>
<td>• Explore there project management skills</td>
<td>• Use communication skills, plans, sorting up jobs and show PM skills</td>
<td>• We can not response for all.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• It is hard work… etc</td>
</tr>
<tr>
<td>4</td>
<td>Which Information System methodology do you usually use in implementing IT projects?</td>
<td>• Explore their technical skills and knowledge?</td>
<td>• RAD, XP, SCRUM, DSDM, PRINCE2</td>
<td>• rough description, not obvious</td>
</tr>
<tr>
<td>5</td>
<td>Could you please tell me about E-government scope in Ministry of Education?</td>
<td>• Explore their Project management skills</td>
<td>• Talk about the objectives, stakeholders, plans and risk.</td>
<td>• General information</td>
</tr>
<tr>
<td>6</td>
<td>How could you avoid the duplication in some IT projects?</td>
<td>• Explore there project management skills</td>
<td>• Create portfolio, archive, scan the organisation’s projects</td>
<td>• As we are instructed from our manager …etc</td>
</tr>
<tr>
<td>7</td>
<td>How do you communicate with the project stakeholders?</td>
<td>• Explore there project management skills</td>
<td>• Show communication skills and plans or templates</td>
<td>• By mobile, formal letter… etc</td>
</tr>
<tr>
<td>8</td>
<td>Do you think you are limited by governmental restrictions? Do you need</td>
<td>• Identify their authority level</td>
<td>• Yes or No because (justification)</td>
<td>• No clear answer or unconvincing reasons (just</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td><strong>Do think that you need to a third party to organise the non-technical issues? Why? How?</strong></td>
<td>• Test Matrix organisation structure.</td>
<td>• Yes or No because (justification) Talk about teams and groups and responsibility</td>
<td>• No clear answer or unconvincing reasons (just more power)</td>
</tr>
<tr>
<td>10</td>
<td><strong>Do you think assigning IT projects to external suppliers will be helpful for E-government? Why?</strong></td>
<td>• Test Networking organisation structure.</td>
<td>• Yes or No because (justification) Talk about standards, requirements</td>
<td>• No clear answer or unconvincing reasons (just more power)</td>
</tr>
<tr>
<td>11</td>
<td><strong>Every thing and all projects now are techno-based projects, how can you prioritize them?</strong></td>
<td>• Explore there project management skills.</td>
<td>• Talk about technical resources, complicated details, resource interference and how to cope with them. And sorting up the projects</td>
<td>• Will be sorted out without reasons or techniques.</td>
</tr>
<tr>
<td>12</td>
<td><strong>Do you work simultaneously with (Saudi E-gov) Yesser programme’s specifications? How?</strong></td>
<td>• Investigate there readiness to E-government.</td>
<td>• Yes, must show evidence</td>
<td>• No, Why and what is the problem</td>
</tr>
</tbody>
</table>

*Appendix 11 Interviews’ questions and expected answers (Category D)*
<table>
<thead>
<tr>
<th>Questions / points</th>
<th>Int1</th>
<th>Int2</th>
<th>Int3</th>
<th>Int4</th>
<th>Int5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Their Knowledge about E-government</td>
<td>General info</td>
<td>General info</td>
<td>Deep info</td>
<td>Deep info</td>
<td>General info</td>
</tr>
<tr>
<td>Their Efforts within E-government</td>
<td>negative role</td>
<td>positive role</td>
<td>negative role</td>
<td>positive role</td>
<td>negative role</td>
</tr>
<tr>
<td>competition</td>
<td>committee</td>
<td>committee</td>
<td>committee</td>
<td>assign to IT manager or internal PMO</td>
<td>assign to IT department</td>
</tr>
<tr>
<td>Assigning projects</td>
<td>must ask or meet</td>
<td>must ask or meet</td>
<td>must ask or meet</td>
<td>weekly meetings</td>
<td>must ask or meet</td>
</tr>
<tr>
<td>Project management skills - reading</td>
<td>positive</td>
<td>positive</td>
<td>negative</td>
<td>positive</td>
<td>positive</td>
</tr>
<tr>
<td>Willingness to change the structure</td>
<td>reluctant - need it more strategic</td>
<td>positive</td>
<td>positive</td>
<td>negative</td>
<td>positive</td>
</tr>
<tr>
<td>Willingness to support e-Gov projects</td>
<td>positive</td>
<td>positive</td>
<td>positive</td>
<td>positive</td>
<td>positive</td>
</tr>
<tr>
<td>The need for general PMO in ministry</td>
<td>Positive</td>
<td>Positive</td>
<td>Positive</td>
<td>negative - happy with internal</td>
<td>positive</td>
</tr>
<tr>
<td>of Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>awareness about Government obstacles</td>
<td>Positive</td>
<td>Positive</td>
<td>Positive</td>
<td>Positive</td>
<td>Positive</td>
</tr>
<tr>
<td>Project management skills - prioritizing</td>
<td>negative - ordinary process</td>
<td>negative - ordinary process</td>
<td>negative - ordinary process</td>
<td>positive because of PMO</td>
<td>negative - ordinary process</td>
</tr>
<tr>
<td>Daily projects' work</td>
<td>50%</td>
<td>60%</td>
<td>50%</td>
<td>40%</td>
<td>50%</td>
</tr>
<tr>
<td>More information</td>
<td>pmo take off hassles</td>
<td>improvement in Yesser</td>
<td>mentioned bad risk management</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appendix 12 Interviewees’ summarized answers (Layer B)
<table>
<thead>
<tr>
<th>Question</th>
<th>Int6</th>
<th>Int7</th>
<th>Int8</th>
<th>Int9</th>
<th>Int10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Their efforts in E-gov project</td>
<td>positive - initiative</td>
<td>positive - initiative - low knowledge</td>
<td>positive - initiative</td>
<td>positive - initiative</td>
<td>positive - initiative</td>
</tr>
<tr>
<td>The current applied PM style</td>
<td>functional + networking by IT only</td>
<td>functional + networking by IT only</td>
<td>functional + networking by IT only</td>
<td>Weak matrix</td>
<td>networking</td>
</tr>
<tr>
<td>Functional OS</td>
<td>Not satisfied - need help in resources</td>
<td>Not satisfied - need help and resources</td>
<td>Not satisfied - need help</td>
<td>Not satisfied - so busy</td>
<td>good idea</td>
</tr>
<tr>
<td>Networking OS</td>
<td>good idea with some help in QA</td>
<td>not good idea - no experience in contracts</td>
<td>not good idea - no experience in contracts</td>
<td>costly - not recommended</td>
<td>need experience in QA</td>
</tr>
<tr>
<td>matrix OS</td>
<td>positive - if they are efficient</td>
<td>positive - participated in IT groups - helps in new ideas</td>
<td>positive - if they are efficient</td>
<td>very important to execute strategic plans</td>
<td>positive- good idea</td>
</tr>
<tr>
<td>Dedicated OS</td>
<td>cannot trust the productivity</td>
<td>good idea - positive</td>
<td>not good idea- depend on project</td>
<td>not good idea</td>
<td>not acceptable</td>
</tr>
<tr>
<td>satisfaction toward the current PM style</td>
<td>Not satisfied - no risk plans</td>
<td>Not satisfied - no risk plans</td>
<td>Not satisfied - no risk plans</td>
<td>quite satisfy need improvement</td>
<td>good</td>
</tr>
<tr>
<td>Willingness to participate in Matrix OS for another dept.</td>
<td>positive</td>
<td>weak -shortage of recourses</td>
<td>positive - understand the benefits</td>
<td>positive - initiative</td>
<td>positive</td>
</tr>
<tr>
<td>their experience in project management</td>
<td>lack in pm</td>
<td>lack in pm</td>
<td>good experience</td>
<td>excellent experience</td>
<td>lack in PM</td>
</tr>
<tr>
<td>confidence in IT department</td>
<td>no - IT need to be monitored</td>
<td>no - IT need to be monitored</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appendix 13 Interviewees’ summarized answers (Layer C)
<table>
<thead>
<tr>
<th></th>
<th>Int11</th>
<th>Int12</th>
<th>Int13</th>
<th>Int14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Could you please tell me about the current E-government projects in Ministry of Education</td>
<td>focus on his project</td>
<td>focus on his project</td>
<td>negative</td>
<td>focus on his project</td>
</tr>
<tr>
<td>When do you think that we will release E-gov project? In which maturity level we are now in E-gov?</td>
<td>negative</td>
<td>negative</td>
<td>negative</td>
<td>negative</td>
</tr>
<tr>
<td>How can IT department’s members deal with organisation’s units demands?</td>
<td>positive-team member</td>
<td>positive</td>
<td>traditional communication</td>
<td></td>
</tr>
<tr>
<td>Which Information System methodology do you usually use in implementing IT projects?</td>
<td>don’t know - external company</td>
<td>don’t know - external company</td>
<td>don’t know - external company</td>
<td>don’t know - external company</td>
</tr>
<tr>
<td>Could you please tell me about E-government scope in Ministry of Education?</td>
<td>positive</td>
<td>positive</td>
<td>negative</td>
<td>negative</td>
</tr>
<tr>
<td>How could you avoid the duplication in some IT projects?</td>
<td>internal PMO - self management</td>
<td>internal PMO - self management</td>
<td>internal PMO - self management</td>
<td>internal PMO - self management</td>
</tr>
<tr>
<td>How do you communicate with the project stakeholders?</td>
<td>team members - meeting</td>
<td>team members - meeting</td>
<td>team members - meeting</td>
<td>team members - meeting</td>
</tr>
<tr>
<td>Do you think you are limited by governmental restrictions? Do you need more authority and power?</td>
<td>positive - aware</td>
<td>positive - aware</td>
<td>negative</td>
<td>negative answer- supported by IT CEO</td>
</tr>
<tr>
<td>Do you think that you need to a third party to organise the non-technical issues? Why? How?</td>
<td>positive - yes need general PMO</td>
<td>positive - yes need general PMO</td>
<td>negative</td>
<td>no - happy with the current situation</td>
</tr>
<tr>
<td>Do you think assigning IT projects to external suppliers will be helpful for E-government?</td>
<td>Positive- but need modification</td>
<td>positive - aware</td>
<td>negative</td>
<td>not enough - software need some modifications</td>
</tr>
<tr>
<td>All ideas and all projects now are techno-based projects, how can you prioritize them?</td>
<td>positive - has priorities</td>
<td>positive - has priorities</td>
<td>positive - has priorities</td>
<td>positive - has priorities</td>
</tr>
<tr>
<td>Do you work simultaneously with (Saudi E-gov) Yesser programme’s specifications? How?</td>
<td>negative -don't have idea about E-gov standardisation</td>
<td>positive - aware</td>
<td>negative - work with internal projects</td>
<td>negative -don't have idea about E-gov standardisation</td>
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<td>Task Mode</td>
<td>Task Name</td>
<td>Duration</td>
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<td>Finish</td>
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<td>Search for references</td>
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<td>Tue 14/02/12</td>
<td>Wed 20/02/12</td>
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<td>Reading</td>
<td>10 days</td>
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<td>Wed 07/03/12</td>
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<td>Tue 27/03/12</td>
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<td>Supervisor meeting</td>
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<td>Mon 07/05/12</td>
<td>Mon 07/05/12</td>
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<td>Mon 07/05/12</td>
<td>Tue 15/05/12</td>
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<td>Reading about Methodology</td>
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<td>Wed 16/05/12</td>
<td>Tue 29/05/12</td>
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<td>Supervisor meeting</td>
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<td>Tue 29/05/12</td>
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<td>preparing for interviews</td>
<td>15 days</td>
<td>Wed 30/05/12</td>
<td>Tue 19/06/12</td>
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<td>Conducting interviews</td>
<td>24 days</td>
<td>Wed 20/08/12</td>
<td>Mon 23/07/12</td>
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<td>Supervisor meeting</td>
<td>0 days</td>
<td>Mon 23/07/12</td>
<td>Mon 23/07/12</td>
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<tr>
<td></td>
<td>Analysing data and results</td>
<td>5 days</td>
<td>Tue 24/07/12</td>
<td>Mon 30/07/12</td>
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<td>Writing discussion and conclusion</td>
<td>4 days</td>
<td>Tue 31/07/12</td>
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<td>Supervisor meeting First draft</td>
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<td>Proof reading and revision</td>
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<td>Fri 10/08/12</td>
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<td>Submit dissertation</td>
<td>0 days</td>
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**Figure 13 research plan Gann Chart**
## Risk Register

<table>
<thead>
<tr>
<th>Risk ID</th>
<th>Risk Description</th>
<th>Probability</th>
<th>Impact</th>
<th>Detectability</th>
<th>RPN</th>
<th>Impact Area</th>
<th>How to be solved</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Embassy refused the interviews trip</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>24</td>
<td>Interview</td>
<td>Do online interviews or by mobile</td>
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<td>2</td>
<td>Top managers refuse interview</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>34</td>
<td>Methodology</td>
<td>Send it to them formally or tell the vice minister if they persist</td>
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<tr>
<td>3</td>
<td>The given information are not true</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>60</td>
<td>The results and timing</td>
<td>Revises it or do more interviews - triangulation</td>
</tr>
<tr>
<td>4</td>
<td>Ramadan fasting period</td>
<td>5</td>
<td>2</td>
<td>5</td>
<td>50</td>
<td>The timing</td>
<td>Try finish earlier and work at night up to the morning.</td>
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<td>5</td>
<td>Employees on vacations in July and August or Ramadan month</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>48</td>
<td>The timing and methodology</td>
<td>Try to do the interviews prior to Ramadan month</td>
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<td>6</td>
<td>No enough information on the governments websites</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>64</td>
<td>The methodology</td>
<td>Send emails the organisation and ask for some info.</td>
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<tr>
<td>7</td>
<td>Interviews number not enough</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>36</td>
<td>The results reliability</td>
<td>Arrange appointments with people more than the number that we need</td>
</tr>
</tbody>
</table>

Appendix 15 Risk register

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Glossary of terms

1. MOE ....................... Ministry of Education in Saudi Arabia
2. Prince2 ...................... Project in Controlled Environment
3. Os .......................... Organisations
4. OsS .......................... Organisation structure
5. MCS .......................... Ministry of Civil Services in Saudi Arabia
6. MOC .......................... Ministry of Commerce in Saudi Arabia
7. Yesser .......................... E-government programme in Saudi Arabia
8. E-gov .......................... Electronic government
9. PMO .......................... Project Management Office