

e-Government and ICT in Kurdistan Regional Government



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Abstract

The strategic and coordinated use of information and communication technologies (ICT) in political decision-making and public administration is referred to as "e-Government." It is anticipated that it will result in enhanced institutional efficiency, enhanced public services, increased political participation, and increased transparency. However, speedy results could barely be expected in the areas with a solid institutional foundation and current technical and infrastructure facilities. E-Government will likely individual be implemented in industrialized and more advanced developing nations in the near future especially in Kurdistan Region of Iraq (KRG). However, opportunities for use are also opening up for less developed nations. Political blockades frequently outweigh financial and infrastructure challenges as the primary barriers to reform. e-Government can be used by development cooperation to assist partner nations develop and implement political and administrative reforms and enhance market-oriented frameworks. E-Government should be viewed as a tool for promoting good governance and strengthening reform-oriented actors in politics and civil society in addition to the immediate benefits of the new technologies. This brief report attempts to illiterate the number of subjects that is related to e-Government and ICT in KRG's organisations.

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Abstract	II
Acknowledgments	III
Table of Contents	IV
List of Figures	IV
List of Abbreviations	IV

Table of Contents

1. Introduction.....	1
2. Network Structure	3
2.1 Server Topologies	3
2.2 Hardware.....	4
2.3 Software and Programs.....	4
3. Management and Administration.....	5
3.1 Roles and Privileges.....	5
3.2 Managing employees	5
3.3 Sulaimaniyah governorate management hierarchy.....	6
4. Current Management Problems	7
4.1 Time Problems	7
4.2 Cost.....	7
4.3 Customer satisfaction.....	8
4.4 Link between Organizations.....	8
4.5 Open Data	8
4.6 Lost data.....	8
4.7 Searching	9
5. Critical Review and Conclusion.....	10
References	11

List of Figures

Figure 1-1: Types of E-Government	3
Figure 2-1: Server and Client illustrations	3
Figure 3-1: Sulaimaniyah Governorate management hierachy	6

List of Abbreviations

E-Government: Electronic Government

ICT: Information and communication technology

ERP: Enterprise Resource Planning

KRG: Kurdistan Regional Government

Chapter One

1. Introduction

e-Government is the set of all electronic public administration services available to everyone in the country. It is also a substitute for a modern and innovative property, in which quality, trust and quickness play a central role [1]. Besides of that, it is utilised of information and communication technologies (ICTs) to improve activates of an organisations. Public authorities use technologies such as the Internet or mobile services to obtain into contact with citizens and businesses. They also use these technologies to carry out internal work processes [2]. In other words, overcoming the physical limitations of traditional paper and physical-based systems through the use of information technology to allow for the free movement of information. Technology's use to make it easier for citizens, business partners, and employees to access and receive government services [3]. In addition, e-Government refers to the automation or computerization of current paper-based procedures, which will lead to new leadership styles, new ways of debating and deciding strategies, new ways of conducting business, new ways of listening to citizens and communities, and new ways of organizing and delivering information. This is a common theme among these definitions. In the end, the goal of e-Government is to make it easier for citizens to access and receive government services. More importantly, it wants to support the government's push for better governance and more open government in order to better manage a country's social and economic resources for development [4][5][6].

The key to forwarded electronic government is establishing a long-term, organization-wide strategy to continuously improve operations with the aim of meeting citizens' needs by transforming internal operations like staffing, technology, processes, and work flow management.

As a result, citizens, businesses, government employees, and agencies should receive goods and services quickly and effectively through e-Government. e-Government would mean streamlining the approval process and simplifying procedures for citizens and businesses. To government workers and organizations, it would mean the assistance of cross-organization coordination and cooperation to guarantee suitable and opportune navigation [7].

Fundamentally, Models for delivering e-Government can be summed up as [8], the types of E-Government could be demonstrated in the figure 1-1.

- G2B: Government to Businesses
- G2E: Government to Employees
- G2G: Government to Governments
- C2G: Citizens to Governments

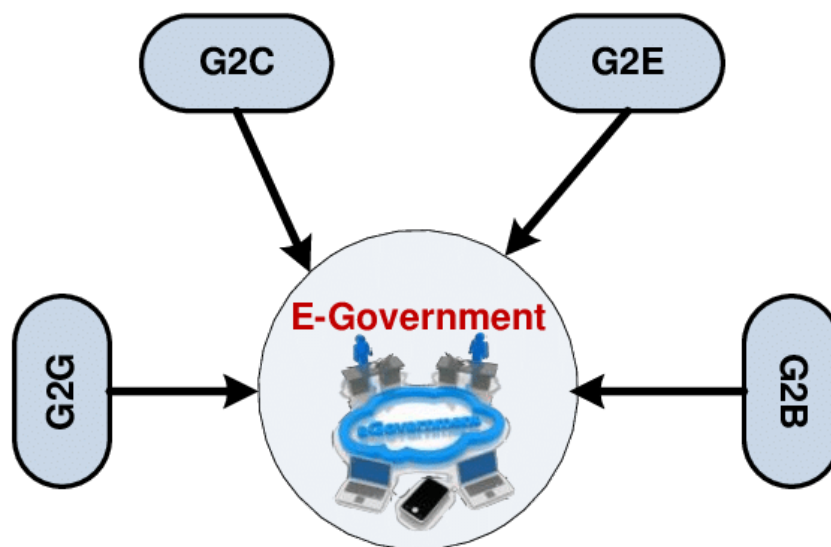


Figure 1-1: Types of E-Government

Chapter Two

2. Network Structure

Organisations can be structured in different ways, and the structure of an organisation can determine the modes in which it operates and performs. Regarding the network structure of KRG organisations can be seen the newer type of organisational structure. This structure may create when an organisations contracts work to outside sources and requires a system of coordination and communication.

2.1 Server Topologies

A server is a system that is consists of software and suitable computer hardware. Many of organisations in KRG are using server side to manage their systems. It might be most of departments in organizations are connecting to servers. Regarding the locations of servers, servers should have an appropriate cold place. All computer clients should connect the servers via hubs or switches. In some situations, servers can provide several services and have several servers running.

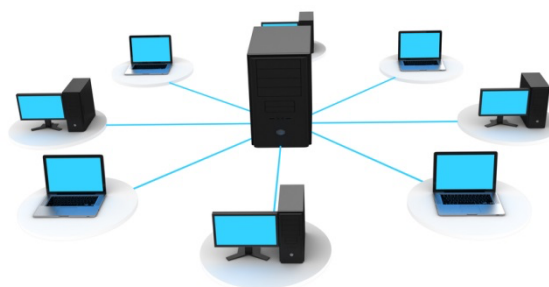


Figure 2-1: Server and clients illustrations

2.2 Hardware

In regards of computer hardware is a collection of physical elements that constitutes a computer system. It refers to the physical parts or components of a computer such as monitor, mouse, keyboard, and computer data storages, hard drive disk (HDD). All physical objects can be touched. Nowadays, other hardware such as iPhone, iPad might be used instead of computers in KRG organizations [9].

2.3 Software and Programs

Software is a collection of programs that allow the hardware to carry out a particular function. It runs on the computer machine. In generally, there are three possible types of software programs:

- Software System
- Application Software
- Program Software

However, computer program is included a set of instructions that utilize them to create a software program by using a programming language. In most of KRG's governmental organizations have use licenses and creaked software in regards of creating Enterprise Resource Planning (ERP) systems and Databases.

Chapter Three

3. Management and Administration

It is generally accepted that most of IT departments in an organisations in KRG could take the responsibilities in managing IT for other departments. IT department is usually manage by an IT manager. In regards of managing software system that is provided for organisations, in addition of supporting IT troubleshooting, managing system automations in organisations is an additional task for IT employees.

3.1 Roles and Privileges

Different users have a different level of privileges, according to the system's permissions to their users. Most of the systems have followed the roles and privileges of users. In some cases, managers desire to know about their employees' activities. Besides of that, auditing employees throughout the system is one of crucial tasks that most of the managers will want and they might need to obtain the privileges to specific users. For instance, consider this scenario. A role is assigned to a user account that does not include access to view some documents. However, the user is also assigned a role that does include access to access in documents. The user receives the privilege, even though it was excluded from one of the assigned roles.

3.2 Managing employees

In regards of managing employees, office automations will assist administration departments to make easier of managing employees. This section is more likely to support Human Resources sectors. There are a number of perspective tasks which most of organisations will face in KRG. For examples, storing employees' profile, updating attendance recording, employee's permissions and etc.

3.3 Sulaimanyah governorate management hierarchy as a case study

Figure 3-1, shows the hierarchy of Sulaimanyah Governorate. IT department is highlighted in the bottom right of the figure. Information Technology department is one of the KRG's originations that utilise e-Government and ICT to carry out in some of their tasks such as data collections, cars tracking system and etc.

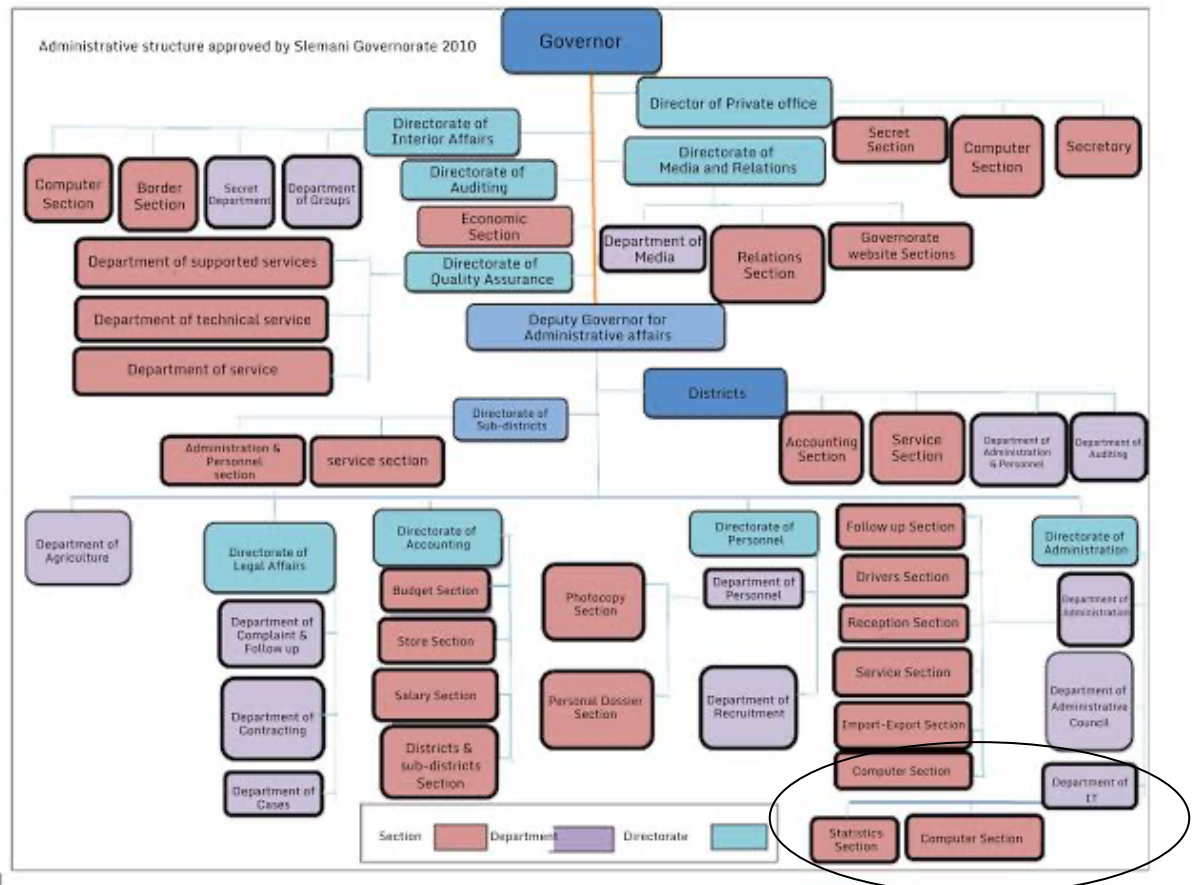


Figure 3-1: Sulaimanyah Governorate management hierarchy [10]

Chapter Four

4. Current Management Issues

In terms of e-Government, the main problem faced by KRG organizations is a lack of equality in public access to the internet, the reliability of online information, and government groups' hidden agendas that could sway public opinion.

Disintermediation between the government and its citizens, as well as effects on economic, social, and political factors, are just a few of the many considerations and potential implications of implementing and designing e-government.

4.1 Time Problems

When a customer visits an organisation in Kurdistan, he/she spends a lot of time to pursue his/her request as there is not office automation software application to fasten the steps of a customer's request.

4.2 Cost

Basically, IT in government follows essentially a budget driven approach and is by most means facing demands of a much faster pay-back time than the private sector. Government will often have to finance its spending on IT on current accounts and not be able to argue that investment in IT will lead to reductions in transaction costs etc. on the longer term.

In other words, financial problems in public sectors generally exist in KRG organisation to spend budget in order to obtain even small software for an organisations.

4.3 Customer Satisfactions

Users are not likely to use e-Government provided services unless they have trust in the systems, except they feel that their privacy and security are not at risk and if they feel that there is some compelling reason for them so to do or because they have to because other means of service delivery are withdrawn.

4.4 Links between organisations

KRG's organisations are not connected together via an office automation application. Rather, sending documents via a slow post among them is still the most usual method for the connection between them. Hence, office automation is a preferred way to fasten and make a secure connection among the KRG's organisations.

4.5 Open Data

Data should be freely available in the KRG's organisations for people, journalists, and sometimes the organisations need to share data between each other. In that sense, Open data can be used in order for data to be freely available to everyone to use and republish as they wish, without restrictions from copyright, patents or other mechanisms of control. This could be done via using office automation application.

4.6 Lost Data

Data in any system should be audit and saved in an appropriate place, it might be data be lost that is caused by an error condition in information systems can cause data to be lost when storage, transmission, or processing errors destroy information. In order to restore lost data or prevent data loss, information systems implement backup and disaster recovery processes and equipment. As it said earlier, data loss can be classified by some types:

- **Intentional Action**

- Intentional deletion of a program or file

- **Unintentional Action**

- Accidental deletion of a program or file
- Loss of CDs or memory sticks
- Errors in administration
- Unable to read unknown file formats

- **Failure**

- Power failure that prevents data in volatile memory from being saved to permanent memory
 - Hardware failure, like a hard disk head crash.
 - A software freeze or crash that prevents data from being saved.
 - Bugs in the software or poor usability, such as failing to confirm a command to delete a file.
 - Data corruption, such as corruption in databases or file systems.

- **Disaster**

- Natural disasters like earthquakes, floods, tornadoes, and others
- Fire

- **Crime**

- Theft, sabotage, hacking, etc.
- A malicious act, such as the theft of physical media or a worm, virus, or hacker.

4.7 Searching

Searching has crucial roles in any electronic system. Unfortunately, there is lack of using this function in most of KRG's organizations. There are a number of key questions might be asked during the using of automations systems.

What are the users' information discovery needs?

- What information will users be looking for?
- What documents will users expect and what search terms will they use?

What is the scope of the search engine?

- Should the search engine be able to search the whole system?
- Should the user be able to determine whether the search engine looks at all or part of the system?

Chapter five

5. Critical Review and Conclusion

In this report, five chapters are presented. The first chapter is about introduction about e-Government. Chapter two describes network structure, server topologies with hardware. Chapter three gives an overview of the managing and administrations. Chapter four discusses a number of current management issues in KRG's organisations in office automations. Thereafter, chapter five includes a critical review and conclusions of the project. Kurdistan Regional Government has not partly automated yet because of the lack of the described current management issues. Nevertheless, office automation, as a part of automating government, has been applied in some organisations of Kurdistan Regional Government. Office automation is a need, but it should be compatible with managerial and administrative polies of KRG as well as in terms of language interface, user friendly, and cost.

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