The progress of e-Government in Iran

e-Government Program
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1. Abstract

This thesis intends to examine the progress of e-government in Iran and its plans towards practices in the field of e-government as well as comparing related developments with some other developing countries. A literature review has been performed for the purpose of this study, which has involved a review and synthesis results from scientific publications.

The obtained results show that the necessity of utilizing the new electronic, information, and communication technologies, the movement toward implementation of e-government in Iran has recently received the attention of the authorities and policy makers. The premise of the work is set around the fact that the e-government is a momentous opportunity for developing countries like Iran to improve and streamline their government’s operations, provide breakthrough performance, and reduce their existing gaps with developed countries. ¹

The chosen method was a qualitative case study method which was achieved by conducting of telephone interview (with a senior official)² who is namely involved in e-government projects in Iran and a systematic survey of relevant literature using the electronics databases such as Elin@Blekinge and other valuable information on the Internet by using the search tool Google as the major source of data.

The paper follows a literature study approach for developing the concept of excellent e-government in Iran. It first theoretically differentiates between e-government in Iran and some other developing countries and describes the status of e-government in developing countries which describes by case studies. It then differentiates between the two approaches to e-governance and e-government.

² Ashrafologhalaeia A, Deputy for Economic Affairs and Coordination of Plan and Budget, Management and Planning Organization (MPO)
Keywords

e-government, e-services, e-democracy, e-administrations, Iran, development, Africa, Jordan, ICT

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2. Background

Until while ago the concept of e-government was a whole unknown phenomena in Iran, which it may still be for a large group of citizens (regardless of recent achievements). This became a reason for me to base my paper on a wide research about existing and the progress of e-government in my home country. After the first primary research and examining the available and relevant information, I became more anxious and persuaded to go on with this paper and learn about the establishment and progress of e-government in Iran.

During the year of 1382 (21 march 2003 to march 2004) the Iranian Parliament approved the allowance of a budget equivalent to 100 million USD for the purpose of implementing and developing of information and communication technologies in the public administration of Iran. From this time forth, the cabinet authorized a comprehensive program for implementing several national information and communication projects. This program incorporated projects such as e-government, e-commerce, e-banking, e-learning and e-health. 3

3. Aim

The main purpose of this study is to examine the progress of e-government in Iran and its plans towards practices in the field of e-government as well as comparing related developments with some developed and developing countries.

The common aim of this examination paper however reviews the concepts of e-government in Iran and analyses its related progresses which resides on studying, presentation as well as preparing some significant and relevant material which can define the movement of e-government in Iran. It is also

the intention of this paper to examine and distinguish between the process of e-government in Iran and other developing countries.

4. Method

I started out with the going through the instructions given by my supervisor. This went through after some e-meetings via Skype and Marratech, during which we went through some vital details about choosing the subject and structures to be used. The next step was to write a primary sketch of the thesis. After leaving the first sketch, I went through more details and research and left my second version of the paper.

To be able to get adequate and reliable information, a qualitative method was used. Qualitative methods are an essential complement to both quantitative and participatory methods in any impact assessment. Qualitative methods are usually understood to do case studies for combining different methods to compile a holistic understanding of individuals, communities or institutions.\(^4\) In my case the qualitative method was based mostly on systematic survey of relevant literature using the electronic databases such as Elin@Blekinge and other sources available on the Internet through search engines such as Google.

The literature search period was from December 2006 to May 2007. To accomplish this thesis, seeking and searching in some relevant literature sources has been performed for the purpose of this study, which also has involved a review and synthesis of results from scientific publications available on the Webb, mostly published by Iranian authors. To get the theoretic connection I have also studied other literature in the subject field. I have therefore tried to gather and declare some relevant facts which relates to the essentials of this thesis. To access more actual Iranian data, telephone contacts were made with one of the authors in

Iran. It was however not too easy in the beginning to find enough studies which can fulfil my needs.

My second step was studying the gathered documents. The first document which I came across was the one published by the Planning Organization (MPO) of Iran, authored by Mr Ashrafologhalaeia’, Deputy for Economic Affairs and Coordination of Plan and Budget. This paper which was under the title of ‘e-Governance: e-State in Iran’, explains both terms (e-governance & e-government) which are related to my subject.

The third step was to I wrote a paragraph in which I declared a summary of the results which I had gained during this study.

The final step was first analyzing each chapter and at last the whole essay.

5. e-Government Definition

e-government is a common term used for the concepts like e-services, e-democracy and above all e-administration. It pursues processes of changes that are taking place in the public sector. The change aims to integrate activities and technology development with citizens’ perspective in the center.\(^5\) It is the deliverance of government services and information to the public using electronic means. In other words, it is the use of information and communication technology (ICT) to advance more efficient government by allowing better access to information and making government more accountable to citizen.\(^6\)

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\(^5\) Arenan för e-government, http://www.bth.se/egov

It is a connection between the government authorities, the private sector and the citizens. Above all, it aims to advance the government’s resources in the direction of an effective control to increase the country’s social, political and economic resources for development.

The main goals of e-government are:

- Offering effective delivery of public goods and services to citizens via quick response government
- Building up good governance mainly promoting a transparent and accountable government
- Expansion of public involvement
- Improving the productivity and efficiency to cut red tape and minimise the expenses
- Promote priority economic sectors

On the other hand and from the perspective of interactions of different sectors of a country with each other, e-government may be divided into three major functional elements

- Government to government communication (G-to-G), including agencies intercommunication, and interactions between the different government organizations. The government electronic administration or in term G-to-G, has the purpose guiding the government and following it in the process of policy making through implementing of information and communication technology.

- (G-to-C) or Government agencies’ communication with citizens, consists of government communication (including all its associated agencies), with service consumer users in non-commercial (public) sector.\(^7\)

\(^7\) Sharifi, H., Zarei, B. (2004)
• Government agencies’ communication with business sector or namely (G-to-B), consists of government communication with private business sectors.8

Achievement in employing e-government demands close deliberation of the cultural background of the society and its social aspects.

E-government can be divided into at least three kinds of processes.9

5.1. e-Administration

e-administration is about politicians and employees and how different business systems and agencies can be integrated and combine in order to facilitate and to render activities more effective and easy to approach. E-administration is a way to meet the citizens’ increased requirements on service and it acts about modernisation of external and internal ICT aids in order to create better integration average different systems. Essentially, it acts about changing methods and systems and to create access to information, democracy and services on simplest ways - therefore not only through computer. It focuses on the intern relationship within and between different governmental organizations.10

Moving towards an electronic administration will therefore require skilled human resources. The accessible capacity of some countries in this regard is insufficient and thereby there are needs for careful attention and actions by the authorities.11

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11 Ashrafologhalaei, A. (2005)
5.2. e-Services

E-services focuses on citizens, the business community and aims to make interaction with citizens, businesses, government employees, government agencies and other governments more convenient, friendly, transparent, inexpensive and effective. It means that the individuals are able to initiate a request for a particular government service and then receive that government service through the Internet or some computerized mechanism and can reach the services and the information through these electronic channels. Obviously, the effectiveness of public organizations and their interaction with the private sector and civil society depends fundamentally on “people”. An efficient e-service management system is thus required, as it can lead to improved motivation, effectiveness and hence, better services to the private businesses and the public in particular.\(^\text{12}\)

5.3. e-Democracy

E-democracy refers to the use of information technology (ICT) in meeting places, questions and also dialog between the citizens and the politicians. From a democratic point of view the (IT) gives better possibilities to the individuals to have access to a part of laws and legislations (electronic) as well as giving them, informations. Through this the citizens can easily make contact with the politicians, government authorities and any public sector at any time, even after the office hours. \(^\text{13}\)


6. About Iran

6.1. Introduction

In this part of my paper and before continuing the discussion about the progress of e-government in Iran, I believe that it is wise to introduce this country for the reader of this paper. During the following discussion such matters like the history of this country, political as well as economical aspects will be commented. Beside these also the Internet in Iran will be discussed.

Iran, (Persia) or officially the Islamic republic of Iran (as it is called today) is a large Western Asian country located in the Middle East, Central Asia and the Caucasus. Its area equals the size of the United Kingdom, France, Spain and Germany combined. Iran borders Armenia, Azerbaijan and Turkmenistan to the north, Afghanistan and Pakistan to the east, and Iraq and Turkey to the west. In addition, it borders the Persian Gulf, across which lie Kuwait, Iraq, Saudi Arabia, Bahrain, Oman, Qatar and the United Arab Emirates. Shiá Islam is the official state religion and Persian the official language. The people within present –day Iran are the
descendants of many of the world’s oldest known civilizations. The history of people in Iran covers over six thousand years, and throughout history, Iran has been of great geostrategic importance because of its central location in Eurasia. Iran is the founding member of the United Nations, NAM, OIC, OPEC and ECO. Iran is significant in international politics on accounts of its large supply of petroleum and regional influence. The name of Iran is a cognate of Aryan and literary means “land of Aryans”. 

6.2. People of Iran

Iran is a pluralistic (different cultural, traditions and ethnical groups) society. Persians are the largest predominant ethnic and cultural group in this country, though many are actually of mixed ancestry. The country has important Turkic elements (e.g. Azeri) and Arabs predominate in the south west. In addition, Iranian citizens include, Kurds, Balochi, Bakhtyari, Lurs, and other smaller minorities, such as Armenians, Assyrians, Jews, and Brahuis (or Brohi).

6.3. History of Iran

The ancient nation of Iran, historically known to the West as Persia and once a major empire in its own right, has been overrun frequently and has had its territory altered throughout the centuries. Invaded by Arabs, Seljuk Turks, Mongols, and others--and often caught up in the affairs of

15 Background note: Iran (2006), [http://www.state.gov/r/pa/ei/bgn/5314.htm#history](http://www.state.gov/r/pa/ei/bgn/5314.htm#history)
16 Background note: Iran (2006), [http://www.state.gov/r/pa/ei/bgn/5314.htm#history](http://www.state.gov/r/pa/ei/bgn/5314.htm#history)
larger powers--Iran has always reasserted its national identity and has developed as a distinct political and cultural entity.

Archaeological findings indicate human activity in Iran during the middle paleolithic era, about 100,000 years ago. The sixth millennium B.C. saw a fairly sophisticated agricultural society and proto-urban population centers. Many dynasties have ruled Iran, starting with the Achaemenid (559-330 B.C.) founded by Cyrus the Great. After the conquest of Persia by Alexander the Great and the Hellenistic period (300-250 B.C.) came the Parthian (250 B.C.-226 A.D.) and the Sassanian (226-651) dynasties.

The seventh century Arab-Muslim conquest of Iran was followed with invasions by the Seljuk Turks and the Mongols. Iran underwent something of a revival under the Safavid dynasty (1502-1736), the most prominent figure of which was Shah Abbas.

**6.3.1. Modern Iran´s history**\(^{17}\)

Modern Iranian history began with a nationalist uprising against the Shah in 1905 and the establishment of a limited constitutional monarchy in 1906. The discovery of oil in 1908 would later become a key factor in Iranian history and development.

![Reza Khan](image.png)

In 1921, Reza Khan, an Iranian officer of the Persian Cossack Brigade, seized control of the government. In 1925, having ousted the Qajar dynasty, he made himself Shah and established the Pahlavi dynasty, ruling as Reza Shah for almost 16 years.

\(^{17}\)Background note: Iran (2006), [http://www.state.gov/r/pa/ei/bgn/5314.htm#history](http://www.state.gov/r/pa/ei/bgn/5314.htm#history)
Under Reza Shah’s reign, Iran began to modernize and to secularize, and the central government reasserted its authority over the tribes and provinces. During World War Two the Allies feared the monarch close relations with Nazi Germany. In September 1941, following the occupation of western Iran by the Soviet Union and the United Kingdom, Reza Shah was forced to abdicate. His son, Mohammad Reza Pahlavi, became Shah and would rule until 1979.

During the World War Two, Iran had been a vital link in the Allied supply line for lend-lease supplies to the Soviet Union. After the war, Soviet troops stationed in north western Iran not only refused to withdraw but backed revolts that established short-lived, pro-Soviet separatist regimes in the northern regions of Azerbaijan and Kurdistan. These ended in 1946. The Azerbaijani revolt crumbled after U.S. and United Nations (UN) pressure forced a Soviet withdrawal. Iranian forces also suppressed the Kurdish uprising.

In 1951, the government of the nationalist Prime Minister Mohammed Mossadeq (sometimes spelled Mossadegh) nationalized the British-owned Anglo-Iranian Oil Company (AIOC). The Shah fled to Rome from Iran before the U.S.-backed coup against Mossadeq in August 1953, during which pro-Shah army forces arrested the Prime Minister. The Shah returned soon thereafter. A few years later, AIOC was renamed British Petroleum, better known today as BP.
From 1941 Mohammad Reza Shah, a young man of 22 years began his reign over the Iranian nation. Naturally he had to maintain a pro-Western foreign policy and an internal policy of economic and social development with Western aid and compatible with Western tastes and trends. Mohammad Reza Shah ruled Iran for over 38 years, until the victory of the Islamic Revolution.

In 1961, Iran initiated a series of economic, social, and administrative reforms that became known as the Shah’s White Revolution. The core of this program was land reform. Modernization and economic growth proceeded at an unprecedented rate, fueled by Iran's vast petroleum reserves, the third-largest in the world. However, his autocratic method of rule and pro-Western policies alienated large sectors of the population, including the Shiá clergy.

6.3.2. Iran’s 1978 revolution ¹⁸

In 1978, domestic turmoil swept the country as a result of religious and political opposition to the Shah's rule, including abuses committed by SAVAK, the hated internal security and intelligence service. In January 1979, the Shah left Iran; he died abroad several years after.

On February 1, 1979, exiled religious leader Ayatollah Ruhollah Khomeini returned from France, to assume control of the revolution and established

¹⁸ Background note: Iran (2006), http://www.state.gov/r/pa/ei/bgn/5314.htm#history
himself as Supreme Leader of a new, theocratic republic guided by Islamic principles. Following Khomeini’s death on June 3, 1989, the Assembly of Experts chose the outgoing president of the republic, Ali Khamenei, to be his successor as Supreme Leader in what proved to be a smooth transition.

In August 1989, Akbar Hashemi-Rafsanjani, the speaker of the Majles, was elected President by an overwhelming majority. He was re-elected June 1993, with a more modest majority. Some Western observers attributed the reduced voter turnout to disenchantment with the deteriorating economy. An overwhelming majority of Iranians elected Mohammad Khatami-Ardakani as President in August 1997, hoping he would usher in a new era of freedom and reform. Khatami had modest successes in broadening the participation of Iranians in government and politics through initiating popular elections for local government councils and encouraging the development of civil society. However, many liberal-minded Iranians were disappointed that Khatami did not support student protesters in 1999, but he was nevertheless re-elected in June 2001.

In February 2004 flawed elections were held for the Seventh Majles in which many reformists were prohibited from contesting their seats, meaning that a much more conservative group of parliamentarians would easily retake control of the Majles in May 2004.

6.4. Government of Iran

The December 1979 Iranian constitution defines the political, economic, and social order of the Islamic republic. The document establishes Shiá Islam of the Twelver (Jaafari) sect as Iran's official religion. Zoroastrianism, Judaism and Christianity are the only other recognized, legal minority religions. The country is governed by secular and religious leaders through governing bodies, whose duties often overlap.

The Supreme Leader holds power for life unless removed by the Assembly of Experts. Members of the Assembly are elected by popular vote for eight years and must be evaluated by the Council of Guardians whom itself is controlled by the Leader. The constitution stipulates that the Assembly of Experts, which currently consists of the eighty-six popularly-elected clerics, chooses the Supreme Leader based on jurisprudent qualifications and commitment to the principles of the revolution. The Assembly of Experts reviews his performance periodically and has the power to depose and replace him. The Supreme Leader is commander-in-chief of the armed forces.

The Council of Guardians consists of 12 persons. The Supreme Leader appoints the six religious members of the Council of Guardians while the Iranian parliament, the Majles, selects the six lay members from candidates recommended by the Judiciary, which is in turn selected by the Supreme Leader. The latter group plays a role only in determining

19 Background note: Iran (2006), http://www.state.gov/r/pa/ei/bgn/5314.htm#history
whether legislation before the Majles conforms to Iran’s constitution. The religious members, on the other hand, take part in all deliberations, considering all bills for conformity to Islamic principles. The Council of Guardians can veto any law. This body also certifies the competence of candidates for the presidency, local government councils, the Assembly of Experts and the Majles.

After the Islamic revolution in Iran the politics and governing of the country took place in a framework of a republic with an Islamic ideology. This meant that Islam is not only a religion but also a political system. As results the country has ever since governed by both religious and political authorities.

After the Leader of the Iran, the President has the maximum official State authority that is responsible for the performance of the Constitution and, as the head Executive, for the implementing of the administrative powers, with the exception of those matters which directly relate to the Leader21.

The president of the Islamic Republic of Iran is elected by universal suffrage to a four-year term. If no candidate receives a simply majority during elections, the top two vote-getters compete in a run-off. Voter turn-out was quite low, but Mahmud Ahmadi-Nejad won 62% in the elections in 2005, while former president Akbar Hashemi Rafsanjani received only 36% of the vote. The president supervises the affairs of the executive branch, appointing and supervising the Council of Ministers (members of the cabinet), coordinating government decisions, and selecting government policies to be placed before the National Assembly.

21 The President of Iran, http://www.president.ir/fa/
Figure 1: The governmental system of Iran

6.4.1. Judicial authorities

Is constitutionally vested in the Supreme Court and the four-member High Council of the Judiciary; these are two separate groups with overlapping responsibilities and one head. Together, they are responsible for supervising the enforcement of all laws and for establishing judicial and legal policies.

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Background note: Iran (2006), http://www.state.gov/r/pa/ei/bgn/5314.htm#history
6.4.2. (Majles) Parliament of Iran

The Majles, or National Assembly, consists of 290 members elected to four-year terms. The members are elected by direct and secret ballot from among the candidates approved by the Council of Guardians.

In 1988, Ayatollah Khomeini established the Council for Expediency, which resolves legislative issues on which the Majles and the Council of Guardians (comprises twelve jurists including six appointed by the Supreme Leader. The others are elected by the Parliament from among the jurists nominated by the Head of the Judiciary. The Council interprets the constitution and may veto Parliament. If a law is deemed incompatible with the constitution or Sharia (Islamic law), it is referred back to Parliament for revision. In a controversial exercise of its authority, the Council has drawn upon a narrow interpretation of Iran's constitution to veto parliamentary candidates fail to reach an agreement. Since 1989, it has been used to advise the national religious leader on matters of national policy as well. It is composed of the heads of the three branches of government, the clerical members of the Council of Guardians, and members appointed by the Supreme Leader for three-year terms. Cabinet members and Majles committee chairs also serve as temporary members when issues under their jurisdictions are considered. In 2005, it was announced that the Expediency Council would have responsibility for

Background note: Iran (2006), http://www.state.gov/r/pa/ei/bgn/5314.htm#history
general supervision of the system, though that has not resulted in any noticeable change in this institution's day-to-day authority or operations.

6.4.3. Iran’s political conditions

Iran's post-revolution difficulties have included an eight-year war with Iraq, internal political struggles and unrest, and economic disorder. The early days of the regime were characterized by severe human rights violations and political turmoil, including the seizure of the U.S. Embassy compound and its occupants on 4 November 1979, by Iranian student militants. Iranian authorities released the 52 hostages only after 444 days of captivity.

By mid-1982, the clergy had won a succession of post-Revolution power struggles that eliminated first the center of the political spectrum and then the leftists, including the communist Tudeh party. Assassinations, throwing acid in the faces of women who refused to wear the veil, and other acts of violence punctuated this period. There has been some moderation of excesses since the early days of the revolution, and the country experienced a partial "thaw" in terms of political and social freedoms during the tenure of former president Khatami, but serious problems remain. These include human rights violations, worsening constraints on press freedom and civil liberties, and, internationally, Iran remains a major state sponsor of terrorism.

The Islamic Republican Party (IRP) was Iran's sole political party until its dissolution in 1987. Iran now has a variety of groups engaged in political activity; some are oriented along ideological lines or based on an identity

group, others are more akin to professional political parties seeking members and recommending candidates for office. Some are active participants in the Revolution’s political life while others reject the state. Conservatives consistently thwarted the efforts of reformists during the Khatami era and have consolidated their control on power since the flawed elections for the seventh Majles in 2004 and president Ahmadinejad victory in 2005.

6.5. Economy of Iran

Pre-revolutionary Iran's economic development was rapid. Traditionally an agricultural society, by the 1970s Iran had achieved significant industrialization and economic modernization. However, the pace of growth had slowed dramatically by 1978, just before the Islamic revolution. Since the fall of the shah, economic recovery has proven elusive thanks to a combination of factors, including fluctuations in the global energy market. Economic activity was severely disrupted additionally by years of upheaval and uncertainty surrounding the revolution and the introduction of statist economic policies. These conditions were worsened by the war with Iraq and the decline in world oil prices beginning in late 1985. After the war with Iraq ended, the

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25 Background note: Iran (2006), http://www.state.gov/r/pa/ei/bgn/5314.htm#history
situation began to improve: Iran's GDP grew for two years running, partly from an oil windfall in 1990, and there was a substantial increase in imports. However, Iran had suffered a brain drain throughout the previous decade and wartime policies had resulted in a demographic explosion.

A decrease in oil revenues in 1991 and growing external debt dampened optimism for recovery. In March 1989, the government instituted a new five-year plan for economic development, which loosened state control and allowed Iran to seek greater latitude in accessing foreign capital.

Today, Iran's economy is a mixture of central planning, state ownership of oil and other large enterprises, village agriculture, and small-scale private trading and service ventures. Former President Khatami followed the market reform plans of his predecessor, President Rafsanjani, and indicated that he would pursue diversification of Iran's oil-reliant economy, although he made little progress toward that goal. High inflation and expansive public transfer programs, as well as powerful economic-political vested interests created obstacles for rapid reform.

Unemployment was estimated to be 11.2% for 2004. Unemployment, a major problem even before the revolution, has many causes, including population growth, high minimum wage level and other restrictive labour policies. The government has made progress on rural development, including electrification and road building, but Iran still faces inefficiencies related to agricultural land usage which are politically difficult to reconcile. Agriculture also has suffered from shortages of capital, raw materials, and equipment, as well as from the war with Iraq.

The government guarantees the right to private ownership, banks and some industries including the petroleum, transportation, utilities, and mining sectors.
Starting under President Rafsanjani, Iran has pursued some privatization through its growing equities markets.

Increases in the price of oil starting in 2003 have increased state revenue enormously and permitted a much larger degree of spending on social programs than previously anticipated. However, this has not eased economic hardships such as high unemployment and inflation. The proportion of the economy devoted to the development of weapons of mass destruction and military spending overall remains a contentious issue with leading Western nations.  

6.5.1. Recent Economic Developments

GDP growth is projected to reach 5.9 percent this year, compared to 4.8 percent in 2005/06, but still lower than during previous two years of high growth (6.7 percent in 2003/04 and 7.4 percent in 2002/03). Iran's non-oil exports reached $8.1 billion in the first 10 months of 2005/06 (30% increase in nominal USD compared to the same period a year ago. Iran also remains the least indebted country of the MENA (Middle East and North Africa) region. However, unemployment remains high at 11.5 percent overall and 23.2 percent among youth. Inflation remains high at more than 12 percent despite having fallen by about 2 percentage points. Expansionary fiscal and accommodating monetary policy increase inflationary risks.

6.6. Technical Infrastructure

A study in Iran shows that over seventy percent of intra and intercity trips made by the people is for the purpose of obtaining information and

26 Background note: Iran (2006), http://www.state.gov/r/pa/ei/bgn/5314.htm#history
27 The Iran brief, http://www.iran.org/tib/tib_index.htm 1999
28 Iran ; infrastructure, http://milnet.com/pentagon/centcom/iran/iraninf.htm
Regardless of how many private cars or other public transportation means exists, Iran and especially Tehran is facing a huge problem concerning public transportation. The number of existing city buses, taxis and underground trains are not sufficient for the population which will travel within the city. Besides the government has had some restrictions concerning traffic regulations according which, the private owner cars are not authorised to enter a limited area, mainly the center of the city within certain hours. The dilemma of traffic, the lack of adequate public transportation and existing of unlimited private cars has caused a huge traffic jams which slows down the public transportation.

Therefore, developing different means of an e-government and digitally deliverance of information and services will surely cut many kinds of unnecessary expenses and save time and energy to a great level.

6.6.1. Roads

Major national highways are the northern A1 highway (2100 km), which runs from Basargan on the Turkish border to the Afghanistan border, and the southern A2 highway (2500 km), which links the Iraqi border with Mir Javeh on the Pakistan border.

Most of the roads in Iran do not normally have the adequate capacity for the amount cars travelling on them. Despite enormous improvements and investments for building new roads nearly millions of passengers of public transport and drivers have to wait to hours in traffic jams to get to their destinations.

The key to successful prevention of this tragedy lies in the devotion of all appropriate sectors both public and private such as transport

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departments, educational establishments, finance and police authorities, legislators and media. There are however different means of transportations for intra or inter trips such as underground trains, city buses, taxis and private cars, nevertheless they can not counter the needs of millions of passengers. This issue is still more complicated in case of small cities and villages. There are still some villages which neither have a decent road nor transportation. The larger issue is the centralization of all important public and private authorities in big cities and specially in Tehran which is the capital city. Therefore most people have to travel hours or some time days to be able to contact a public administration for getting service or information. This will cause even more difficulty for the traffic of Iran.  

6.6.2. Railroads

Iran has a total of 4,852 km of railway, most of which is single tracked. The major north-south line is the Trans-Iranian railway which runs for approx. 1400 km from Bandar Turkmen on the Caspian Sea in the north down through Tehran and on southwards to Bandar Imam Khomeini on the Persian Gulf. The major east-west link will be the Qom-Zahedan Line which, when completed, will link Europe and Turkey with India via Iran. 1000 km of the line is completed, linking Qom to Kerman.

6.6.3. Waterways

The principle navigable river in Iran is the Karun River which flows south through the oil fields into the Shatt al Arab waterway which empties into the Persian Gulf near Abadan. The river is usually navigable by maritime traffic for about 130 km.

6.6.4. Ports

Iran's main oil terminal is Kharg Island. Her busiest commercial port is Bandar Shahid Rajai which handles 75% of the cargo passing through

Iran's Persian Gulf ports. Khorramshahr, Iran's largest capacity port, has been repaired after being largely destroyed in fighting during 1980-88 Iran-Iraq war and has been in limited operation since November 1992.

6.6.5. Airports

Iran has 80 hard-surface runways, 17 of which are over 3700 m long. Iran's major international airports are located in Tehran and Abadan. Three other major international airports are under construction at Tabas, Ardebil and Ilam.

6.6.6. Internet in Iran

Internet use in Iran was first promoted by the government to provide an alternative means of scientific and technological advancement during the troubled economic period that followed the Iran-Iraq War (1980-89). Contrary to expectations at the time, the Islamic Republic originally welcomed the Internet by allowing commercial and educational sectors to access it without interference. Whereas in China the technology was largely developed by the state in the form of an intra-governmental communications network, Iran’s first experience with the Internet occurred within the university system. Likewise, to this day most of Iran’s domestic Internet connections are still based in academia, in the form of the national academic network (IRANET.IPM). Nevertheless, additional outside links were established by the Iranian Post, Telephone and Telegraph (PTT), which provides service to both commercial agencies and governmental organizations. Despite reductions in the growth of information technology in the early half of the 1990s as a result of tensions between the Iranet IPM and the High Council of Information (HCI), a state branch mostly responsible for the expansion of information technology, Iran has so far been successful in developing a dynamic

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The telecommunications (or telecom) industry sector, relatively independent of state control. For most of its short history in Iran, the Internet has been free of control and regulation. Unlike other Middle Eastern states, such as Saudi Arabia and the United Arab Emirates, Iran has encouraged the expansion of the Internet, and the state has actively participated in its development.

The Internet infrastructure expanded very rapidly in Iran. People welcomed it because it was a place for them to escape from the constraints of a closed society. During the last 10 years, people used the Internet for garnering information and also expressing their ideas and thoughts (lifestyles) which were considered unacceptable by the government. The government has however had a dual policy respecting the Internet. On the one hand it has tried to promote the use of the Internet by the development of required infrastructure, but on the other hand has sought to control it through continuous censorship of websites on news, human rights, religion, women, and as well as web logs. This policy has been opposed by both the civil society and the Internet users. The enthusiastic Internet users, however, have never stopped trying to outmanoeuvre the government in its filtration techniques. Also, because of the system of filtering in the media in Iran, people usually prefer to get the information and news from the Web.

But the basic problem about the Internet in Iran is that the Government and responsible authorities cannot provide the adequate technical necessities such as a reliable bandwidth for home users.  

The facts claimed in the above thesis about the Internet in Iran may be true. However there are some other issues and aspects of the Internet which should to be discussed and come to consideration such as political, technical and social issues. Having studied the other sources I came across some other reports concerning the Internet in Iran. How ever it is

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http://asia.cnet.com/reviews/blog/digitalpersia/0,39066793,62006136,00.htm
not for me to appreciate how reliable the accuracy of the contents of these documents can be. It is just upon my knowledge and previous experiences about the Internet in Iran which I trust the contents of these documents and that is why bringing up the subject.

6.7. Social Infrastructure

6.7.1. Education in Iran

Having the world's youngest population, Iran bears the responsibility of educating more than 18 million students at segregated schools. General education is free and parents are obliged to enrol their six years old children at schools. It comprises 5 years of primary, 3 years of lower secondary, 3 years of upper secondary and one year of pre-university education. The language of instruction is Farsi. The first day of school year is 22 September (1st Mehr), which is annually celebrated joyfully.

Primary education in Iran is compulsory under the Iranian constitution. As a general rule, primary, secondary and higher education is free, although private schools and universities do exist and are permitted to charge tuition fees. According to government figures, over 95% of Iranian children currently receive primary and secondary education. All schools are single-sex. It is estimated that there are almost 1 million teachers within the education system.

In the past two decades, the education system and curricula have been reformed several times. The new system of secondary education is the result of several reforms made according to the changes in society, job market and the needs of youth. This new system is oriented toward vocational training and has provided young people with many options to select desirable fields of study, jobs and careers. In the past five years the

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34The Iranian educational system (2007)
http://www.iranchamber.com/education/articles/educational_system.php
The number of technical-vocational schools has increased noticeably and efforts have been made to lead more female students to technical-vocational education.

Since education is considered a top priority in the development plans of the country, the authorities have endeavoured to increase the primary education enrolment rate.

More than 50% of the country’s 66m population is under the age of 25, which creates huge demand within the education system. In particular, admissions to post-secondary courses are highly competitive and university places are won through the National Entrance Examination (Konkur). There are currently well over 1 million students pursuing courses in Iranian universities, over half of these at private universities. Iran has 52 state universities and 28 medical universities, as well as a significant number of government research institutes. There are 25 private universities, including the Islamic Azad University, which has branches all over the country.

The academic year runs for 10 months (200 active days) from September to June. There are three terms: September–December, January-March and April-June.

The school education in Iran is divided into the following cycles:

- **Pre-school education**: This is non-compulsory and children proceed automatically to primary education at the age of 6.

- **Primary education**: Children begin primary education aged 6 and are given a broad-ranging general education. There is a national exam at the end of the 5 years, which students have to pass to enter into the Guidance cycle.
- Middle/Guidance cycle: This three-year phase also provides students with general education, and encourages them to think about the options for secondary education. Students must sit a regional exam at the end of the Guidance cycle in order to proceed to secondary education level.

- Secondary education: Secondary education is divided into two branches: ‘theoretical’ studies and technical & vocational studies. The academic or ‘theoretical’ branch comprises four subject areas: literature & culture, socio-economic studies, maths & physics, experimental sciences. The technical branch is more vocational in structure and is divided into the following three sectors: technical, business & vocational, agriculture. National exams are conducted at the end of each academic year during this secondary cycle. Students complete a number of units during their three years of secondary education, and must obtain 96 units within this time in order to be awarded the High School diploma.

- Pre-University education: Students wishing to enter Higher Education must take a one-year pre-university course, at the end of which they may obtain a ‘Pre-University Certificate’. This certificate then qualifies students to sit for the highly competitive National Entrance Exam (Konkur), success in which is imperative in order to gain a place at university.

There are other technical and vocational paths into further education. Non-formal training comes under the auspices of the Ministry of Labour and Social Affairs.
Permission to state universities is based on successful placing in the competitive National Entrance Exam (Konkur). (There is a separate Konkur for entry into the private university system). The total number of students enrolled in higher education in 1998-9 was 1,308,150 including 47.6% at state institutions and 52.4% at private institutions. 92% of these students were studying at undergraduate level and 8% were taking postgraduate courses.

Universities and higher education institutes are governed by a board of trustees. Newly founded and smaller higher education institutes are governed by a joint regional board of trustees. The number of state universities has grown from 22 in 1978 to 98 in 2000. Presently, 54 universities and institutes of higher education are active under the Ministry of Science, research and Technology. In addition, the comprehensive Applied Sciences University was established in order to strengthen technical and vocational education and train skillfull manpower needed for industry, agriculture and service sectors.

Islamic Azad University; as the first private university, Azad University benefited from educational facilities including buildings, equipment and laboratories offered by local officials and generous people. The university is presently active in over 110 cities in Iran with more than half a million students.

Iran is one of the few developing countries with great success in girls' education. At present, girls comprise 49% of the total student population in the country. Attempts are being made to remove the obstacles in the way of girls' education and to provide equal educational opportunities for them. In 2000 the net intake rate was 97.8% at primary, 90.3% at lower secondary, and 69.1% at upper secondary levels.

Application of modern educational equipment and technologies such as
information and communication technologies is developing considerably and the number of schools enjoying computer use is rapidly rising. Some schools in Tehran and other large cities are linked to the Internet. A project has recently been launched for linking some high schools via a national electronic network (Intranet). Teaching methods and approaches are constantly being reviewed and updated. Although traditional methods and teacher-based approaches are still widely used, efforts are being made to provide teachers with in-service training aiming at updating their knowledge on new teaching methods and classroom control so that cooperative and student-based approaches replace the traditional ones.

Decentralization of education and attracting community participation as well as vesting more authority in provinces and schools for decision making and selection of curricula geared to local needs are among the plans on which emphasis has been placed in the past few years. In academic year 1997-98 a total of 246,437 students graduated from universities and higher education institutes, including 36.41% graduates from public and 63.59 graduates from private universities.

It should be noted that there are discrepancies between the standard of education provided in urban and rural areas, as well between the different regions of the country. There has been a shortage of teachers in rural areas; to ease this problem the Ministry of Education established specific Rural Teacher Training Centers, as well as conscripting teachers to be sent to non-urban areas.

A Literacy Movement, affiliated to the MoE, has been very successful in reducing illiteracy amongst the Iranian population over the last 25 years.

6.7.2. Family economy

A survey in Iran shows that almost one third of all children and about 43% of male children between the ages of 10 to 14 are economically

35Aghajanian, A. (1979)
active in rural Iran. This report summarizes macro level findings in order to point out the economic utility of children, its causes and differentials. This means that family economy in Iran “among the working society” affects the education of the children of these families and only 43% of the male children have the possibility of getting a proper education.

The rates of activity reported for children are actually underestimations of their involvement in the agricultural sector. Underestimation is due to the fact that the survey counted only off-season contribution and labour participation, as well as the fact that only children within the ten to fourteen-year old age group were considered. The report asserts that a large number of children below age ten are actively employed in economic production, and the activity rates during the period between May and September is much more than the rates reported in census data. The study further finds that female children are basically employed in household industries, while males are employed directly in agriculture. Employment of both sexes takes on the form of unpaid family work. Almost 70 percent of employed children work as unpaid family workers. The report concludes that household-level data are needed for a more complete understanding of the nature of the economic activity of children, its differentials and consequences.

6.7.3. Social protections

Iran has a comprehensive social protection system with some 28 social insurance, social assistance, and disaster relief programs benefiting large segments of the population. These programs include training and job-search assistance, health and unemployment insurance, disability, old-age and survivorship pensions, and in kind- or in-kind transfers including subsidies (e.g., housing, food, energy), rehabilitation and other social services (e.g., long-term care services for the elderly), and even marriage and burial assistance. Despite significant achievements in human development and poverty reduction, serious challenges to growth call for

36The Iran brief, http://www.iran.org/tib/tib_index.htm
reform. While labour-market pressures continue to increase because of demographic dynamics and increased participation of women in the labour force, Iran’s economy is still unable to generate enough needed jobs to absorb the new flows into the labour market and at the same time reduce unemployment extensively.

To overcome the unemployment problem, fueled by a labour supply growth of about 4 percent, the challenge is to ensure high and sustainable economic growth with strong employment creation, driven by a broader participation of the private sector in the economy, particularly in non-oil and export sectors. Furthermore, the current shift of structure of the supply of labour toward higher female participation and higher skill composition requires a shift in the demand side, implying a qualitative change in the growth structure toward the knowledge economy, a direction endorsed by the Fourth Five-Year Development Plan. This envisages upgrading the quality of the educational system at all levels, and improving its effectiveness in terms of a better alignment with the needs of the economy and the labour market. It also envisages reforming education curricula, and developing appropriate programs of vocational training, a continuation of the trend towards labour market.

6.8. Bureaucracy in Iran (My personal experience)

6.8.1. Introduction

The purpose of writing the following part is to demonstrate a personal experience which I gained regarding the problems of bureaucracy in Iran. My intention however is not criticizing the system, but analyzing the weaknesses and problems which exists. This may hopefully be guidance for me as the writer of this essay to find ways to help the authorities expectantly by implementing e-government in a right way.

For about two years ago I was on vacation in Iran. During this period my father (who was an eighty year old man) asked me for a favour. He had
decided to rent out his shop and in this matter needed my good deed and support to accomplish this decision. He had already found a customer and both had already agreed on rental conditions. Now it was up to my old and weak father to prepare all the necessary means for accomplishing this assignment.

There are certain persidures which one has to follow and certain approvals to be made by some government authorities before one is allowed to sign any contract of this nature.

There are namely three different government authorities that have to authorize this persidures.

- Municipality
- Government tax office
- Social insurance office

Municipality controls if applicant has already paid all his annual fees regarding the property he is going to sell or rent. Besides they check if the owner has made any construction changes or renovation of any nature since the beginning without letting them know. The same goes for the other authorities. The tax office controls if all taxes are paid and if delayed be paid plus extra charges. All these sound like a normal persidures, but it can take days, weeks or in some cases months before every step is done. All these delays and obstacles are because of a traditional system of bureaucracy in Iran.

6.8.2. Background

Our story however began when my father and I paid a visit to social insurance office to get their approval. After receiving enquiries from
reception on the first floor, I left my father in the waiting room and referred to the responsible division on the third floor. There was a lot of staff working in this section. After questioning the others, I found the right person. I discussed with him about my wish and informed him about the nature of my enquiry. He asked me for some documents which proves that the property in question is the right one. His job at this phase was to control if my father has paid full insurance for his staff. Requiring the property documents was completely irrelevant in this regard. The social insurance office should have records of all payments (regarding employees) done by companies. According to my later research, leaving further information or any other documents in this regard was completely unnecessary. It took days or better say, weeks before they realized that they have been mistaking and in the meanwhile they send us to other departments to get what they asked for. But any time we referred to one of these offices, we got the same answer and that was they are mistaking.

At last after insisting from our side they found their answer in their own files. Now it was time to issue the permission so that we can go further. A day long took for us to get this permission. First it was issued by the responsible staff. It then should be registered in another section. After registration the document should be typed and stamped. And after all these persidures it should be signed by the staff himself, the head of the insurance and approved by his deputy. The story did not end here, and as one may wonder, it continued when we referred to other authorities to get their approval.

6.8.3. Reflections

There are three major organizational weaknesses which both our private and public administrations are faced with. First is the problem with structure of administrative functions and processes. Secondly is the lack of communication and coordination between different sections and departments in an organization. And thirdly is the existence of unnecessary obstacles and regulations between different public
organizations which causes coordination’s problem between them. As a result is the customer who suffers and has to pay fine.

6.9. Analysis

The overall purpose of this present analysis is to concentrate on the background factors which I discussed before like history, government, politics, education, economics and technical infrastructure in Iran, and what kind of role do they play in the developing of e-government in Iran.

Iran is country with lots of potentials and resources. A large number of the population is the youth population which is mostly very intellectual (academic and thinker) and intelligent. The country may still be in lack of some new technologies in comparison with the West, but it matches a lot of progresses in the developed countries.

Considering the facts mentioned in my previous survey regarding some background factors like, history, politics, government, social and technical infrastructure in Iran shows that implementing of e-government projects can rather be complicated and difficult because of the vast size and bureaucratic nature of a government of Iran, unless some serious changes be done by authorities such as providing the adequate technical necessities.

Specifically, three major basic challenges should be faced by authorities to implement e-government.

(1) Guiding principles and problems of restructuring administrative functions and processes (2) Requirements of coordination and cooperation within the public administration (3) The need to organize monitoring of performance in terms of e-government

7. Concepts and Perspectives of e-Government in Iran

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The progress toward implementation of e-government in Iran has recently received the interest of the authorities and policy makers. The requirement for an adaptive approach in its development, and relevance as a recommended loom is realized. Providing an obvious explanation for e-government in Iran to cover its cultural, social, and political characteristics, and also its actual and prospective position considering access to science and technology, will be an important measure in ensuring its success.

From a theoretical point of view, e-government in Iran is perceived as a major view in the phase of rising to a new performance level, including reducing the operations cycle time; responding to intolerant and challenging citizens in receiving quality, cheap, and immediate services; and also fulfilling the government staff, whom bear the shortcomings of the systems.

As argued before, the use of new information and networking/communication technologies in inefficient agencies and organizations cannot be measured as e-government since the outcome in reverse effects by increasing their consequence and creating new and more problems for them.

From among the three main elements of the e-government, it is considered that the (G-to-G) system to be the most important in Iran. In this aspect, having the liability of implementing and applying the information and communications technology to the government’s organization, would provide adequate support and capabilities for managers and executive officials in making decisions, assists the progress of the structure and performance of executive agencies of the country, and improves the productivity and performance quality of the government as a whole. The main objective of G-to-G system is to digitize the internal
operations and communications of government organizations and staff. G-to-G activities to improve government performance quality through the elimination of agencies’ physical boundaries, sharing of information, strengthening the organizations, reducing costs and expenses, and improving the effectiveness of management systems. G-to-G systems may include independent organizations and information flows and also foreign government and international organizations.

8. The Progress of e-Government in Iran

The concept of e-government is relatively new in the literature of Iranian administration nevertheless the movement toward implementation of e-government has recently received the attention of the authorities and policy makers. 39

The first important matter in implementing an e-government is to prove ICT advantages through substantial examples so that all people might be confident to cooperate and most importantly to involve themselves. The principle of the work is set around the fact that the e-government is a significant opportunity for developing countries like Iran to improve and restructure their government’s operations, provide breakthrough performance, and reduce their existing gaps with developed countries.

The movement to e-government, at its core, is about changing the way people and businesses interact with government. It only makes sense to find out what they want, expect, don't want, and worry about. The efforts vary considerably in the methods and in the range and reliability of their results. The nature the traditional model of government bureaucracy, large size of government and the nature of government, highlight the importance of investigation of e-government development in Iran, an Islamic country and one of the most ancient and richest bureaucratic systems in the world.

Most Iranian ministries and state organizations have designed their websites in recent years to render services electronically as part of nationwide efforts to develop e-government. Many of them are eager to have an English-language site as well.\textsuperscript{40}

A study in Iran estimates that over 70 percent of intra- and inter-city trips made by the people is for the purpose of obtaining information, not services. Therefore, developing an e-government and distance delivery of services will assuredly cut many kinds of expenses and save time and energy to an unbelievable extent. Iranian \textsuperscript{41}

The Management and Planning Organization (MPO) of Iran has recently prepared an action plan for accomplishing the e-government project to be fulfilled by different organizations. The e-government action plan was approved by the Supreme Administrative Council in May 2002. Five categories of the plan include.

1. Automation of general procedures like office automation, paperless environment, human resources management systems such as personnel and financial systems, etc.

2. Application of ICT to re-engineer agency-specific procedures across the nation for a total of ten procedures a year

3. A mandate for all government agencies to connect their LAN to Internet and to create their websites by early 2003

\textsuperscript{40} Meh dizadeh, M. (2005) \textsuperscript{41} Ashrafologhalaei, A. (2005)
\texttt{http://www.iran-daily.com/1384/2359/html/focus.htm}
4. Creation of a citizen portal by 2004 through which governmental agencies’ information and services could be accessed

5. Selection of ICT courses to be held for those employees required attending such courses.⁴²

8.1. Concrete Examples of a Working e-Government in Iran

Among those authorities and government/private sectors (agencies) which are active in the field of e-government in Iran are:

The banks which already are full of e-services, as one might go through them and find the links through Central Bank of Iran.

http://www.cbi.ir/page/links_fa.aspx

These services include:

8.1.1. Payments system

The modern payment instruments can be traced back to early 1990s where commercial bank of Sepah Bank launched its Aber (cash dispenser) Bank Debit Card. Since then almost all Iranian banks have provided their customers with the card payment services focusing on cards with debit function and ATM services to tackle the problem of heavy branch traffics.

The Interbank card switch (SHETAB) was introduced in 2002 and now all card issuing banks in Iran are connected to the center; building up a uniform card payment network where all issued cards is accepted in all acquiring terminals.

8.1.2. Research and studies

The Payment Systems Department has also established a research body whose function is to provide the latest developments and hot issues of Payment and Settlement Systems in local and international outlooks with close collaboration of the experts of the banking system.

8.1.3. Data and statistics

This section is the central bank’s information gateway to Payment and Settlement Systems in Iran including quantitative data, various charts, comparative tables, reviews and trend studies to draw a clear picture of the payment instruments and settlement volume in the past and the present.43

“The Central Bank of the Islamic Republic of Iran has stressed the urgent necessity of reform in Payment and Settlement Systems in Iranian banking system to provide quality services for customers exploiting the latest ICT related technologies. In pursuing such an ambition CBI had restructured the so called Interbank Information Exchange Department to form a new organizational unit of the Payment Systems Department. The new structure preserves the basic functions of clearing and settlement of the legacy structure; and it established a specialized center for regulating the Payment System and setting industry-wide standards. It also formed a forum for the whole banking system to share the ideas, agree upon the methods and minimum services and also coordinate in operations and technologies so the benefits of Cooperation and Competition are best sensed by the whole banks as well as their customers and the public”.44

- Tehran Municipality has e-services, www.tehran.ir, through which the taxes can be paid.

- University entrance exam, other foreign exams such as TOEFL can be registered through http://www.sanjesh.org/

- Through Iran Telecommunications site, may one also sit at home and apply for fixed and mobile phones: http://www.tct.ir/

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43 Central Bank of Islamic Republic of Iran http://www.cbi.ir/  
• Through the Presidential site which individuals can be in touch with the president directly (to write), www.president.ir

• Also the sites belonging to other ministries and organization. (A representative of e-democracy in Iran). 45

8.2. Analysis of the Status of e-Government in Iran

E-government may be a new phenomenon in the country, but with a little effort from the authorities and responsible sources and help from experts, this technique is going to accelerate as much as other existing technologies. It is significant here to mention that regardless of all historical and political concerns which Iran has experienced in the last decades, the people have showed their innovation and ability for improvement. That is one of the basic reasons for implementing of e-government in this country. E-government is going to effect on every social, technical as well as the political aspects. It improves the level of the education, public relations with the authorities and private sectors and eases the daily administrative job for a single Iranian.

Studies show that the real goal pursued by e-government in Iran is to make use of information technology to enable the administrative body to improve accountability and productivity. However one of the most important expectations of the Iranian citizens from successive e-government is an improvement in services at state organizations.46

Development of an e-government is a complicated task both technically and politically.

The quality of an e-government depends on many factors, critical among these are the government’s information policy, the number of users and their educational level, and motivation. Up to now, no country has successfully met all the requirements necessary for an ideal form of e-government. Based on this viewpoint, a customized approach to the development and implementation of e-government is needed to satisfy the prerequisites for its success in Iran.47

**9. e-Government in Developing Countries**

**9.1. Introduction**

The overall purpose of this chapter is to investigate and examine the progress of e-government in some developing countries and their plans towards practices in the field of e-government. The text is designed as a four-part study. Study part one concentrates namely on the background which is performed as a literature analysis based on an article published by Subhjit Basu, Queen’s university Belfast, June 2004. Study part two emphasizes on the problems and benefits as well as the social benefits regarding e-government in these courtiers. The third study is based on the implications of e-government in developing countries. The final study reviews the fundamental difference between e-government and e-governance.

A review has therefore been performed for the purpose of this study, which has involved an evaluation and combination results from some scientific publications.

**9.2. Background**

Over the last two decades, much of the developed world has been transformed by what are now termed information and communication technologies (ICTs). These technologies exert an impact on most aspects

of our lives - in economic activities, education, entertainment, communication, travel, etc. They have also been inextricably linked with economic prosperity and power. There seems to be a general belief that the process of government can be improved by drawing upon the ability of ICT to store, process and communicate large amounts of data. Generally this may be defined in terms of using the power of ICT to help transform the accessibility, quality and cost-effectiveness of public services and to help to revitalize the relationship between citizens and government through improved consultation and participation in governance.

The development of government online should be seen as an evolutionary process. The rate of evolution depends on complex factors including perceived incompatibilities between cultures and technologies, an idealistic preference for self-reliance, and simple lack of economic or human resources to acquire and utilise the technology. Notwithstanding these causes, effective use of ICTs is biased by race, gender and location. However the technologies have, to a large extent, been developed in, and for the cultural and social norms of, a small number of developed countries. Although there are global flows of knowledge, skills and artefacts from the epicentres of e-government in the industrialised world to transitional and developing economies however these flows more uni-directional transfers than bi-directional exchanges.48

Government departments in many developing countries publish information on web sites as a first step towards e-government. Many of these sites are poorly designed and the departments do not update or monitor the quality information. Initially the publishing of information online was targeted at attracting foreign investments, but as Internet penetration grew in urban areas, many sites began to focus on delivering information and services

to citizens and businesses. A large number of developing countries from Asia and Latin America have implemented transaction–oriented e-government applications on a pilot basis. However only a few of these pilots have been replicated on a wider scale. 49

A major goal of e-government projects in developing countries is to enhance productivity. The phenomena of e-government seems to have attracted developing countries. There has therefore started some substantial achievements concerning the beneficial distinctions that e-government has made in the implementing of services, condition of information and domestic administration of the public sector in these countries.

Several of the developing countries that somehow have succeeded to make considerable changes in implementing ICT applications believe that they can acquire benefit of the new electronic channels that are offered for implementing of government services. Every developing country has therefore its own reason for investing in e-government. According to Subhash Bhatnagar “A country’s ICT infrastructure and its openness to public sector reform play an important role in determining the types applications and kind of goals for which e-government is implemented”. 50 Those countries that have access to an advanced ICT infrastructure provide e-government because they are encountered with citizens that looks forward and expects “government to provide services at the same rate of efficiency and speed that is offered by the private sector”. 51

- Inputs: In a number of countries, the public sector is seen to require unsustainably large and/or unsustainably increasing public expenditure; with a looming threat or reality of heavy public debt

Processes: There is concern about examples of waste, delay, mismanagement and corruption within the public sector, all of which contribute to inefficiency in the conversion of public expenditure into public services.

Outputs: Concerns are widespread in a number of countries that the public sector is not delivering what it should, from adequate defence and policing through support for agriculture and industry to education, housing, health, social welfare and a hundred other responsibilities. This, in turn, undermines the wider social outcomes of public sector activity.\textsuperscript{52}

E-government in developing countries is a necessity which can facilitate change and create both new and more effective administrative processes. E-government will not however solve all problems of corruption and inefficiency, nor will it overcome all barriers to civic engagement. Moreover, e-government does not happen just because a government prepares additional computers or organizes new websites. Despite the facts that online service deliverance can be more efficient and more economy than other possible channels, cost savings and service improvements are not automatic. E-government is a process that requires planning, continued dedication of resources and political will. But it is now clear around the world that the operation of ICT has caused some possibilities of progression the way people cooperate with their government and each other.\textsuperscript{53}

\textbf{9.3. Benefits}

The past few years has seen significant growth in the number of government services available over the Internet. The potentials for the

\textsuperscript{52}Heeks, R. (2002)

\textsuperscript{53} E-Government handbook, \url{http://www.cdt.org/egov/handbook/}
Internet to significantly enhance the way that individuals and organizations conduct business with Government is now more evident than ever before. The challenge for Government is to continually embrace the opportunities that the online world provides and ensure that community needs and expectations are met, while at the same time ensuring program and cost effectiveness for Government.\textsuperscript{54}

Among some of the most important benefits of e-government in developing countries as well as the developed countries the following can be named.

\textbf{9.3.1. Social benefits} \textsuperscript{55}

- Better service to the citizens, decreased transaction costs, and opportunity for streamlining old-fashioned office operations.\textsuperscript{56}
- 24-hour service delivery – people are able to seek information outside of business hours.
- Greater capacity to handle routine inquiries - People can access information directly from the Internet without having to visit the agency, thus improving service levels significantly.
- More self-service – people can now access information on a self-serve basis, making the information available at the right time for decision making. This delivers a strong benefit expressed in terms of greater knowledge and enhanced decision-making capacity.
- Improved ability to find information – for some people, the ability to find information has been the greatest benefit. It has enabled them to understand more about their government and to find the support program that meets their specific needs.
- Wider reach of information to the community – people are generally demanding increased access to electronically published

\textsuperscript{54} e-Government benefits study, \url{http://www.agimo.gov.au/government/benefits_study}

\textsuperscript{55} e-Government benefits study, \url{http://www.agimo.gov.au/government/benefits_study}

\textsuperscript{56} Ciborra, C.(2005)
information, supported by email and electronic transactions. The penetration of information and transaction-based capability is increasing the reach of government to citizens and business and from the community to government.

- Better communication with rural and remote communities – in past years people from rural and remote communities were relatively, with regard to access, disadvantaged in comparison to their metropolitan counterparts. Broadband infrastructure improves the possibility for regional and rural communities to have the same levels of access to information and government transactions, and their service expectations are aligned with the enhanced capability of the technology.

### 9.4. Increased Transparency and Reduced Corruption

Organizational corruption, bribery and extortion in some developing countries results to deficiency of the effectiveness of e-government and at the same time opens the government to be used by unlawful elements associated to public officials and politicians, and as a result dishonour the public service. 57

A survey by Transparency International (TI) has tried to estimate the degree of corruption in different countries by categorizing government departments where corruption seems to be most extensive, and establish some reasons why it seems to grow. 58

There are two main issues that donate to the growth of corruption, the low probability of discovery and perceived immunity against prosecution. Confidentiality in government limitations on access to information for the members of the society as well as the media, compound and extreme.


rules and regulations, measures and policy can all lead to low chance of discovery.  

There are however only a small amount of applications which verifies that e-government can serve as one of the key tools to fight against corruption by opening up government process and enabling greater public access to information.

One of the major problems in developing countries like Iran is the government’s bureaucracy and the government’s monopoly and control. In the most studies done, authors have classified e-Government problems in a range of ways based on their purpose of study upon developing countries. According to these studies and analyses there are six major fields that should be considered to examine the problems of e-Government in developing countries.

- Organizational barriers
- Political barriers
- Cultural barriers
- Legislative and regulatory barriers
- Resources barriers and Technological barriers

The problems which hinder the wide-spread use of e-government in Iran include:

- ICT illiteracy among the majority of the government employees
- ICT illiteracy among the majority of the people. This happens also for the university graduates
- Although the government web sites are in Farsi Language, those who are not familiar with the English language do not dare to approach computers

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o Inadequate communication infrastructure to support the need for contacts
o Lack of clear, well-thought of, coordinated, and citizen-centered e-government strategies
o Lack of laws and legal frameworks for use of ICT, including the digital signature law, digital copyright law, information dissemination law and the like
o Out-dated work procedures and strong inertia opposing reengineering of the procedures, due to lack of ICT knowledge 61

E-government systems can however lead to greater intelligibility, resulting in reduced administrative corruption. If the right procedures are in place, e-government can make financial or administrative transactions traceable and open to challenge by citizenry. Several case studies of e-government applications from developing countries report some impact on reducing corruptions. Many Governments have chosen to go online in departments such as customs, income tax, sales and property tax, which have a large interface with citizens or businesses and are perceived to be more corrupt. 62

Oddly enough, in spite of the worldwide diffusion of e-government initiatives, getting the claimed benefits of e-governance has not been easy for various technological as well as organizational reasons. This is true of both industrialized as well as developing countries. 63

9.5. Implications of e-Government in Developing Countries 64

Implications of e-government are somewhat different for developing countries comparing the developed countries. In most developing

64 Saxena, K.B.C. (2005)
countries the public sector reforms were externally driven, through the World Bank and other donor institutions. In some countries such as Turkey, there were no pressures to accept these reforms. Consequently, in spite of economic restructuring in many developing countries, public administration in developing countries still continued to remain highly bureaucratized and extremely centralized.  

Another difference between e-government in industrialized and developing countries is in the availability of ICT infrastructure. The e-government movement in industrialized countries was largely triggered by the availability of internet technology, through which it became possible to access government agencies remotely and inexpensively. But, for their internal operations, government organizations were already using ICT-based systems. However, in the case of developing countries, ICT use in the public sector was very small, and therefore they had poor ICT infrastructure, if any. Consequently for developing countries, e-government’s first stage was the computerization of internal operations and services. Thus, for many government departments, “e-government” was a significant, expensive, infrastructural change, as they had to plan switching from totally paper-based systems and services to totally computer- and internet-based systems and services.

But e-government is not a shortcut to economic development, budget savings or clean, efficient government. Instead, e-governance is an evolutionary process and often a struggle that presents costs and risks, both financial and political. These risks can be significant. Therefore, if e-government initiatives are not well conceived and implemented, they can waste resources, fail in their promise to deliver useful services, and thus increase public frustration with government. Moreover, e-government in developing countries must accommodate certain conditions, needs and

obstacles\textsuperscript{67}. For instance, developing countries may have poor infrastructure, corruption, weak educational systems, and unequal access to technology.

“There is no argument that “e-government” is regularly entering the domain of public administration concepts and strategies in developing countries. All developed and developing countries are now implementing a general policy to make available government information electronically to the public”. \textsuperscript{68}

9.6. e-Governance and e-Government

“There is an important distinction to be made between “government” and “governance”.
Government is the institution itself, whereas governance is a broader concept describing forms of governing which are not necessarily in the hands of the formal government. Corporate governance, for example, refers to how the private sector structures its internal mechanisms to provide for accountability to its stakeholders, while government may be involved in this through company law; there are aspects which it does not control.” \textsuperscript{69}

E-governance is more than just the government website on the Internet. The intentional goal of e-governance is to support and simplify governance for all groups such as government, members of the society (citizens), public sectors and businesses. The use of ICT connects all three parties and supports processes and activities. The e-governance progress in developing countries is basically the accessibility of internet technology, through which it becomes possible to access government agencies remotely. In other words, in e-governance the electronic means

\textsuperscript{67} Heeks, R.(2002).
\textsuperscript{69} Saxena, K.B.C. (2005)
bear and encourage good governance. Therefore, the objectives of e-governance are similar to the objectives of good governance. Good governance can be seen as an exercise of economic, political, and administrative authority to better manage affairs of a country at all levels.

The fundamental element of all these definitions is “the use of ICT tools to reinvent the public sector by transforming its internal and external way of doing things and its interrelationships with customers and the business community. The analysis of these definitions allows us to individuate the main issues and components that characterize an e-government framework, such as:

• Transformation areas (internal, external, relational);
• Users, customers, actors and their interrelationships (citizens, businesses, government organizations, employees);
• E-government application domains (e-services, e-democracy, e-administration).

9.7. Conclusions

The trajectory of e-government in developing countries cannot be identified and understood by looking at the technological features only, or the dynamics of the local public administration in isolation, or development as a separate issue. Rather, it needs to be “reconstructed”, bottom up, by observing the interplay between the various actors involved in the automation initiative. In the case of the Kingdom of Jordan (for example), they are the various international agencies, foreign governments, consulting firms, software and hardware vendors, and so on.

In case of Africa has e-government contributed to the following changes.

• Cutting process costs: improving the input :output ratio by cutting financial costs and/or time costs.

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70 Basu (2004)
Managing process performance: planning, monitoring and controlling the performance of process resources (human, financial and other).

Making strategic connections in government: connecting arms, agencies, levels and data stores of government to strengthen capacity to investigate, develop and implement the strategy and policy that guides government processes.

Creating empowerment: transferring power, authority and resources for processes from their existing locus to new locations.

Working better with business: improving the interaction between government and business. This includes digitising procurement from and services to business to improve their quality, convenience and cost.

Developing communities: building the social and economic capacities and capital of local communities.

Building partnerships: strengthening institutional relationships. This has two parts. First, building government partnerships: strengthening relations between government and other institutions. Second, building civil society partnerships: strengthening relations between the institutions of civil society.\textsuperscript{72}

10. Distinctions and Resemblances between e-Government in Iran & Some Other Developing Countries

10.1. Introduction

Comparing the differences and similarities between the phenomena of e-government in Iran and some other developing countries is slight but however of a great nature. It was a hard task for me to choose any country for case of study in the first place and examine the differences or similarities between implementation of e-government in those and my own country, Iran. There are however some vital aspects of e-government

\textsuperscript{72} Heeks, R.(2002)
which are of great importance, no matter how delicate they can be, yet should be discussed.

To study the differences or similarities however requests a lot of resource searching, reliable data and up-to-dated available information which partly is possible and partly very difficult. To reach some precise information requires a closer study, research and interviews to be able to get accurate results. It would have been valuable to conduct more research and interviews but now I have to rely on the information available on the Internet and literature studies.

To be able to achieve a fair judgment, we should therefore examine all the different fields of e-government in those countries and further on analyze the differences

10.2. Case Study 1: e-Government Progresses in Iran

The movement toward implementation of e-government in Iran has recently received the attention of the authorities and policy makers. The necessity of taking an adaptive approach in its definition, development, and application as an experienced and recommended approach is realized. Providing a clear definition for e-government in Iran to encompass its specific cultural, social, and political characteristics, and also its actual and potential position with regard to access to science and technology, will be an important measure in ensuring its success.

The first and foremost issue in implementing an e-government (in Iran) is to prove IT advantages through tangible examples so that all people might be encouraged to cooperate and most importantly to involve themselves. Another significant effort to make people, public
organizations and private sector familiar with e-government is to hold national and international exhibitions.  

Expectations from government physical network would not be achieved without defining and providing its content. Based on some criteria, such as operations speed, level and volume of accessible information, security of information, and distribution of information to and from top executives to other layers is divided into four groups.

1. The agencies’ web pages aimed at making their information available to others.

2. Basic software, such as mailer, aimed at enabling the agencies to start using the network and establishing communication and interaction.

3. The decision support systems, aimed at processing and analyzing the generated information and providing reports to decision makers. Systems such as ICT readiness of agencies, core processes analysis, and control room system for senior level decision makers are being developed.

4. Integration systems and efforts, including providing systems architectural design and integration standards.

To achieve a successful development in the field of e-government in such countries (Iran) the following contributions should as well be added.

The network’s content in the future: This includes a wide range of considerations, which begin with standards, integration, and interactions among different applications and extend to issues such as the method of

73 Ashrafologhalaei, A. (2005) e-governance, e-state in Iran
providing information security, financial resources for new applications, updating existing applications, and ensuring full utilization of the information considering the gigantic variety of users at different levels of capabilities, from very high to very low.\textsuperscript{76}

The other issue to be taken in mind for analyzing the case is the citizen’s role, technical role and experiences of e-government, as well as role of the states in any developing country, considering matters like possibilities, problems, risks and opportunities in this regard.

Iran as a developing country has understood that making a reform in civil service management is necessary to have a comprehensive and sustainable development. For achieving this aim, several programs are drowned and I attempt to describe these plans. The Main 7 programs in Iran for that vision are:

- Rightsizing the government
- Change in structures
- Change in managerial systems
- Change in human resources management
- Education and training
- Process improvement
- Citizen orientation plan\textsuperscript{77}

The effectiveness of public organizations and their interaction with the private sector and civil society depends fundamentally on “people”. An efficient civil service management system is thus required, as it can lead to improved motivation, effectiveness and hence, better services to the private businesses, the public and the poor in particular. Nonetheless, there are several change factors around the world that are driving the public sector reform agenda in many countries. Globalization, technology

\textsuperscript{76} Sharifi, H., Zarei, B. (2004)

\textsuperscript{77} Kargar Shouroki, H. (2006). EROPA Seminar held in Brunei Darussalam
innovations, the quest for more efficient resource management and alternative, cost-effective service delivery as well as new perceptions on work-life policies oblige governments to seek more flexible systems to manage their personnel. Focus is now more on mobility, employability and skill acquisition and development. There is however no single solution; more than any other reform process, political, economic, social and cultural conditions shape the way civil service reform is implemented in a given country. 78

In case of Iran introduction of digital governance ensures that citizens can participate in and influence decision-making processes that affect them closely. Citizens no longer remain passive recipients of governance services provided to them, but can proactively decide the types and standards of governance services they want and the governance structures that can best deliver them79

Technical role however implies to “automation of repetitive governance tasks and thereby improving efficiency of governance processes such as automated filing of tax forms, e-voting, periodic information reporting, etc”. It refers to use of ICT to complete existing efforts and processes to improve governance such as use of the Internet to catalyse existing efforts towards transparency in government information and functioning, or embedding use of emails in connecting decision-makers with their constituencies. 80

10.3. Case Study 2: e-Government Progresses in Jordan

The kingdom of Jordan which is my second case of study is well known for its vision to “become the Singapore in the Middle East in the adoption of

new information and communication technologies”\textsuperscript{81}. This country in it’s effort to pursue some of the most excellent practices specified by global agencies, from the World Bank to the UN, and the donors of various leading Western and Far East countries, joint with the promises expressed by the head of the State establishes a new way of thinking and practice on how to initiate ICT in enabling some rapid social and economic progress.\textsuperscript{82}

Like many other eastern countries today, the public sector has a vital role in representing the country’s economy, technique and education. This issue causes a need for ICT, not only in this country but also in every other developing country. That is why the e-government basis is important for a number of reasons.

The public administration in Jordan is still the largest employer which represents a very significant economic organization. Secondly, in this field one can discover several performer who also are in attendance in the other projects like donors; public and private partnerships; foreign governments, are willing to provide assistance. Thirdly, there exists the prospect of studying the use of a new infrastructure inside a large, multifaceted government with the perspective of improving its efficiency, but also to support the growth of the nation.\textsuperscript{83} As concrete examples in this matter is that the government of Jordan intends to implement and use e-government towards new technologies to assist all its inter and intra agency communication and coordination as well as providing its citizens with reliable and effective information and services.\textsuperscript{84} This program is depended on four different fazes.\textsuperscript{85}

1. Introduction of e-services
2. Infrastructure development

\textsuperscript{81}Ciborra, C. (2005)
\textsuperscript{82}Ciborra, C. (2005)
\textsuperscript{83}Ciborra, C. (2005)
\textsuperscript{84} Ciborra, C. (2005)
\textsuperscript{85}Ciborra, C. (2005)
3. Education and training
4. Legal changes

The following goals are therefore going to be achieved.**86**

- Increasing of information accessibility
- Improving administrational performance and affectivity
- Reducing costs
- Ensuring transparency and visibility

**10.4. Case Study 3: e-Government Progresses in Africa** **87**

The concept of IT (information technology) have been used among different African governments for more than forty years and long before it was called e-government. The phenomenon of e-government in these countries should therefore be observed as evolutionary and not revolutionary. One can make a simple distinction between:

- The old model: information technology automating the internal workings of government by processing data.
- The new model: information and communication technologies (ICTs) supporting and transforming

The public administration (in many African countries) is seen to need untenably large and/or indefensibly increasing public expenses; with a ominous threat or actuality of heavy public debt. The e-government projects in Africa are faced mainly with improving the global running of the public sector. Such projects in Principe are dealing with the association between government and citizens.

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**86** Ciborra, C. (2005)
**87** Heeks, R. (2002)
E-government should therefore be considered to cover all ICTs in all activities of the public sector, but the core improvement lies in computer networks such as internet which makes the digital connections possible.\(^{88}\)

In my point of view Africa like many other developing countries has its own way of interpreting an implementing of e-government and this relies on every nations historical, cultural and political situation. This will obviously creates a difference between implementing of e-government in developing countries and the developed countries.

**10.5. Conclusions**

“Concerns are widespread in a number of countries that the public sector is not delivering what it should, from adequate defence and policing through support for agriculture and industry to education, housing, health, social welfare and a hundred other responsibilities. This, in turn, undermines the wider social outcomes of public sector activity. The perception of difficulties covers both what the African public sector is doing (the public sector’s role) and also how it is doing it (public sector organization and management)”. \(^{89}\)

Improving public administration and civil service system is one of the most difficult challenges in developing countries, because of the complexity of the process and the political, social and economic implications. On the base of our experience, civil service reform in developing countries requires continued commitment from the government and the community as the process takes time and resources to achieve. Much will depend on the successful development of local capacities for public sector management and policy development. Despite the need for technical expertise, the political, social, economic and cultural dimensions of the reforms should not be underestimated.

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\(^{88}\) Heeks, R.(2002)  
\(^{89}\) Heeks, R.(2002)
Similar administrative reform projects in other developing countries may use these lessons learned but these political, social and cultural contexts of the reforms should be considered.\textsuperscript{90}

Another issue to be taken in mind is the concept of e-governance and good governance. “Essentials of good governance rest on a foundation of good government structures, processes and citizen interfaces”.\textsuperscript{91} In the case of good governance, information is acquired and used both publicly and strategically for good purposes. Digitalization of this entire set of knowledge (good governance) within a network, opens up possibilities for all to access and use this knowledge.\textsuperscript{92}

“Another difference between e-governance and good governance is the available ICT infrastructure. The e-governance movement in developing countries is largely triggered by the availability of internet technology, through which it becomes possible to access government agencies remotely and inexpensively” \textsuperscript{93}

11. Summary

After doing a relative profound survey which occurred during studying of all the different papers about the concept of e-government in Iran and some other developing countries, the following results have occurred.

According to Ashrafologhalaeia which has written an article under the subject of (A progress of E-government in Iran) the concept of E-government defines as follow.

(1) offering effective delivery of public goods and services to citizens via

\textsuperscript{90} Kargar Shouroki, H. (2006), EROPA Seminar held in Brunei Darussalam

\textsuperscript{91} Global information infrastructure commission

\url{http://www.giic.org/events/indiaconference/}

\textsuperscript{92} Ashrafologhalaei, A. (2005)

\url{http://www.engagingcommunities2005.org/abstracts/Ashrafologhalaei-Ahmadreza-final.pdf/}

\textsuperscript{93} Saxena, K.B.C (2005)
quick response government; (2) strengthening good governance mainly promoting a transparent and accountable government; (3) broadening public participation; (4) improving the productivity and efficiency to cut red tape and minimise the expenses.\textsuperscript{94}

The primary issue in implementing an e-government is to prove IT advantages through substantial examples so that all people might be encouraged to cooperate and most importantly to involve themselves.\textsuperscript{95} This means involving and integrating the members of the society in the development process and contents of web services

But the real purpose pursued by e-government in Iran is to make use of information technology to enable the executive body to improve accountability and productivity. However, such a huge project cannot be implemented adequately if the necessary ICT infrastructure is not established.\textsuperscript{96} One of the most important initiatives that have to be taken prior to the full establishment of e-government include the computerization of executive systems, setting up websites and establishing online interaction with the people.\textsuperscript{97}

In my second case of study about the concepts of e-government in Iran, I came across another argument, namely under the title of “An adaptive approach for implementing e-government in Iran” written by Mr. Sharifi and Mr. Zarei, B. which unanimously gave the following results.

“The premise of the work is set around the fact that the e-government is a momentous opportunity for developing countries like Iran to improve

\textsuperscript{95} Ashrafologhalaei, A. (2005) \url{http://www.engagingcommunities2005.org/abstracts/S111-ashrafologhalaei-a.html}
\textsuperscript{96} Mehdizadeh (2005) \url{http://www.iran-daily.com/1384/2359/html/focus.htm}
\textsuperscript{97} Mehdizadeh (2005) \url{http://www.iran-daily.com/1384/2359/html/focus.htm}
and streamline their government’s operations, provide breakthrough performance, and reduce their existing gaps with developed countries”\textsuperscript{98}

These authors however go further in their analysis about the theory of e-government in Iran and cover more aspects in this relation. The authors later on continue “Expectations from government physical network would not be achieved without providing its content based on some criteria, such as operations speed, level and volume of accessible information, security of information, and distribution of information to and from top executives”. \textsuperscript{99} This means that the government should improve the structure of public web services as well as developing more adequate means of technical necessities and support. The public web sites should be more service aimed rather than informative. The members of the society on the other hand should have access to more reliable, stable, effective and advanced means of data transfer such as high speed broadband with secure lined possibilities which guarantees data transferring.

In the third case of study (E-government development, visible and invisible barriers by Mohammad Lagzian and Trevor Wood Harper, May 2006)\textsuperscript{100} which was related to e-government barriers in Iran the authors in their thesis about e-government barriers in Iran have come to the following result.

“The research results concerning e-Government barriers in Iran have been categorized into six categories — Organisational barriers, Political barriers, Cultural barriers, Resources barriers, Legal and regulatory barriers and Technological barriers. Organisational barriers: Based on research evidence, major organisational findings challenges of e-Government development in research context are placed into two general

groups — the perceived challenges related to traditional model of government bureaucracy, which affects e-Government development transformation; and the perceived in-progress (underway) barriers of e-Government related to transformation and implementation stages". In this case study the authors have classified e-government’s obstacles in range of ways upon the purpose of study which systematically defines the existing complications which block the progress of e-government in one way or another.

In another case study (written by Saxena) which I used for definition of e-government in developing countries and their distinctions with each other and Iran I came across the following result.

“In spite of the promises of e-government, many of the e-government initiatives in many countries have not been able to deliver them. Often this is because the implementation of e-government applications suffers from the common drawback of treating it as a Techno-centric project and losing track of the “governance” (or excellence) focus.”

E-government should not be treated as a pure technical phenomenon rather en service aimed tool, a possibility which gives the citizens more freedom. With the aid of this new phenomenon, the individual has more self control over published public or private homepages if they already use this technology. This is the basis thought behind a realistic e-government. Therefore because of lack of common knowledge about this fact some governments have lost their way of controlling and implementing a realistic e-government.


103 Saxena, K.B.C. (2005)
Richard Heeks (2002) final resolution concerning e-government in Africa as a developing continent was as follows. “This view can also imply the marginalisation of Africa in e-government debates, and the arrogant assumption that e-government experience, knowledge and ideas are a one-way traffic from the West to Africa. Ethically this should not be so. Pragmatically, e-government in Africa is a valuable global experience base, for example in use of e-government to reach out to poor communities and to address social exclusion. Intellectually, as shown, e-government cases in Africa provide a ‘stretch’ between the contexts of design and implementation much greater than typically found in the West. This can supply insights into e-government that are harder to find in Western cases. Thus, in discussing and conceptualising e-government in Africa, we must take care to steer between the stereotypes of similarity and differences”

12. Final Analysis

The main conclusions of the literature studies show that despite all the efforts and promises done for implementing of e-government in Iran or some of the developing countries, there are still complexities in the structure of this phenomenon. In my view of different studies, the fundamentals and the theory of e-government may be identical in both developed and developing countries, but the ways of implementing it, differs among these countries. During this research I have come across only some case studies regarding a few developing countries, but I have learned that every single country has its own ways, traditions, regulations, possibilities and problems for implementing e-government in its own country depending on its social needs, cultural and political situation. I have brought up subjects like distinctions between e-government in developing countries and even compared them with my own country, but the issue is that all these countries do not stand at the

\[104\text{Heeks, R. (2002)}\]
same level and do not even have equal possibilities, so that one can do a fair and equal comparison. I do not even believe that the case should be a matter of competition between these countries. If Europe today is ahead of all the developing countries is because of existing the knowledge and technological possibilities which exists in European countries. What I believe and learned so far is that the values and thoughts behind implementing e-government in developing countries are far more precious for both governments and people of the developing countries because sooner or later its benefits are going to affect every individual in these countries.

The principle of the work is set around the fact that the e-government is a significant opportunity for developing countries like Iran to improve and restructure their government’s operations, provide breakthrough performance, and reduce their existing gaps with developed countries.

“"But there is still plenty of room and work to be done on supporting and pushing for the expansion of these efforts and there is plenty of refinement and focusing of efforts to be done to provide truly useful e-government access. As more people and governments become aware of the benefits and profits of today's computer and internet technology and as the infrastructure for its use has expanded to many corners of the world the means and opportunities to share one's ideas on government functioning or policies and the means and opportunities for a government to provide more efficiently its services and resources to its citizens and others have also greatly increased” 105

The principle of the work is set around the fact that the e-government is a significant opportunity for developing countries like Iran to improve and restructure their government’s operations, provide breakthrough performance, and reduce their existing gaps with developed countries.

105 Promoting e-government and e-society for an e-efficient world
http://www.erepublic.org/abouterepublicorg.html
The present policies for the development of e-government do not seem to have occupied the responsible authorities for educating and training required human resources in this area. Higher education authorities, universities, and institutions have not yet suggested convincing and coherent plans for bridging this gap, as they have for meeting the need for a skilled workforce in other areas of endeavour in the country.

In case of a country like Iran the concept of e-government refers to the employing the ICT for voting, live meeting between individuals with politicians (members of parliament) and even the president. However there are some issues which should be considered in the application of ICT in developing countries before actually using it for the above named purposes. The lack of proper infrastructure, low information literacy rate and the low penetration ratio and skilled people are among some of the issues which affect the concept of e-democracy and its application in developing countries such as Iran.

E-government strategies in developing countries (like Iran) should first target the improvement of their operations and processes and also the level of government’s ability to cooperate.

12.1. Problems

According to the study there are six major categories that should be considered to examine the barriers of e-government development.¹⁰⁶

12.1.1. Organizational barriers

Organizational barriers are those barriers that are inherent in organizations’ structures and inter and intra relationships to hinder the transition of e-Government. The lack of a reasonable coordination, communication and partnership by means of ICT between different

government and private sectors weakens the efficiency of both government administration and essentials of a reliable e-government.\textsuperscript{107}

12.1.2. Political barriers
Political barriers are those barriers where someone or some group of political leaders has to make the decisions and have the will to carry them out. \textsuperscript{108}

12.1.3. Resources barriers
Resources barriers are the ones where e-government implementation may get hampered due to short of resources such as skilled manpower, funds and other resources. \textsuperscript{109}

12.1.4. Technological barriers
Technological barriers are those barriers that are related to lack of technologies as a major bottleneck to the implementation and maintenance of e-government.

One of the main issues which e-government and ICT is facing is foremost the lack of a reasonable technology which is very important. The necessary means of equipments used are mostly on the edge or out of date. Technology used is generally unreliable regardless of the possibility of upgrading and expansion. Means of communication networks and technology to facilitate fast data communication such as broadband and fiber optics which are among the essentialities of a working system seems to be neglected. \textsuperscript{110}

The other existing problem in this relationship which e-government is facing in Iran is the structure of the published websites which are mostly inadequately designed and therefore can not satisfy all means of using the technology and ideas behind it. The issue is that most of the portals, websites and even blogg are more informative rather than being practice. By the latter I mean that no user can actually for example download a document or share his ideas with others in a blogg. One of the reasons behind this can be the lack of knowledge of those who are responsible for designing these sites. These designers have probably a reliable knowledge in their own field of specialty but they are not explicitly aware about the knowledge of e-government itself. However having illiteracy about this familiarity has obviously caused serious difficulties, which relatively grounded inadequacy in implementing of e-government, among the private and the public administrations. Existing some legal and traditional restrictions and inadequate access to means of technical communications (such as a reliable broadband) are among other problems which affects this process. Insufficient technical infrastructure to support all these is another problem which should be discussed.

12.1.5. Cultural and educational barriers

Cultural barriers are those barriers where traditional culture factors such as attitudes, beliefs, values and behaviours learned by individuals themselves, or passed on to them by members of the society which influences the implementation of e-government. One of the particularities of the Iranian society is its religious ruling system which implies certain needs and certain measures in the adopted policies for determining the conditions for implementing of the e-government aspects. ICT illiteracy among the majority of the government employees and the majority of the people as well as the university graduates is another issue facing e-governments implementation in Iran. Although the government web sites are in Farsi Language, those who are not familiar with the English language do not dare to approach computers. 111

12.1.6. Legislative and regulatory barriers
Legislative and regulatory barriers are those issues that concerns about privacy protection and security of personal data as a high priority to e-government implementation. Of the existing issues are lack of laws and legal frameworks for use of ICT, including the digital signature law, digital copyright law and information distribution law.\textsuperscript{112}

12.1.7. Lack of competency
Lack of a common knowledge in the field of ICT among government, public and private sectors employees and members of the society is another inefficiency which affects the existing e-governments process.

Out-dated work procedures and strong inertia contrasting reengineering of the procedures, due to lack of ICT knowledge as well as lack of clear, well thought, coordinated, and citizen centered e-government strategies are among other existing problems. \textsuperscript{113}

12.2. Proposals
To achieve an effective e-government requires broad combination of functions, coordination and activities concerning intense planning and control. The grounds for establishing such process should be provided by the government sectors which have the control of a central management system.

Public information requires a regulated cooperation between state/ public administration and citizens in aim to create those technical and administrative conditions that are required in order to work in ICT networks, eternally. This means that the state information technology can contribute to access and service ability. This accessibility aims towards the citizens to increase the effectiveness and the quality in public activity and improvement of service to citizens and companies. This means a


regeneration of the public administration with the support of ICT. Through this, the authorities will also be able to link together, without any need of organizations to be changed. The government can with that cooperation save the State resources building up databases to improve the quality in stored information.

Both public and business sectors should be well organized and prepare to cooperate for joining this progress, otherwise the essentials of e-government will be on no assessment to them or the state.

One way to achieve a working e-government is to develop e-services by involving and integrating the members of the society in the development process and contents of web services. An important device is that the public websites will be formulated so that they do not eliminate groups of citizens, rather to be available for everyone and give access to the same and equivalent information. In order to that citizens can familiarize themselves among public administration; one should create human electronic services in the society. From citizens point of view it is important to take control of own privileges, obligations, participation and influence. This will contribute to increased equality, solidity, commitments and participation.

Developments process in the citizens’ direct participation and acting in system development means a scientific expansion in relation to system and in other words governing the process.

Citizens’ delegation however requires competence in order to can implement all activities within the process. The substance acts about individuals and their role in the development process, meaning how the members integrate with the system in order to implement the work. This means that citizens should actively and directly be involved and informed during the entire process. The other important criteria in this context is the users computer ability. As claimed above the citizens participation in
the system development process can be all for an effective systems in activity.

One of the major solutions for implementing e-government is also issuing some laws and legislations for executing an adequate legal structure for use of ICT, including the digital signature law, digital information and copyright law and ICT security law.

12.2.1. Technological solutions
Choosing the right level of reasonable technology is also very important. The engaged necessary equipments should not be out of date. Technology used should be highly reliable and include the possibility of upgrading and further development. Applying communication networks and technology to facilitate fast data communication is also one of the essentialities.

In parallel to this, and to resolve the consideration related to the security of the information a separate communication infrastructure for the use of the state organizations should be developed. How to bridge between the government and private network and the public accessible network, is also a major condition to utilize the e-government. 114

12.2.2. Cultural solutions
Success in utilizing e-government demands furthermore close consideration of the cultural background of the society and its social aspects. Understanding social and cultural barriers that determine the society’s readiness for accepting changes in systems is among such issues. There is an apparent conflict between the existing policies of the government for the development of the e-government, which are mainly based on open world views and plans and also embracing the global approach to the expansion of the information domains and public reach,

and some of the unresolved political/cultural issues stemming from the ruling system. 115

12.2.3. Educational solutions
Transferring to an electronic administration will require educated human resources. The existing capacity of the Iran in this regard is insufficient and needs rapid and accurate attention and actions by the authorities. The existing policies for the e-government development do not seem to have engaged the responsible bodies for educating and training required human resources in this area. Higher education authorities, universities, and institutions have not yet suggested convincing and coherent plans for bridging this gap, as they have for meeting the need for a skilled workforce in other areas of endeavour in the country.116

12.2.4. Organizational solutions 117
A well-organized and coordinated organization model is needed to manage the implementation of e-government. There is need for some responsible bodies over the control of the project, leading to a breakage in the continuity of the e-government development process.

The implementation of the e-government system will encompass completion of various projects in various areas. Managing these projects is a part of e-government technology. Providing the required legislation, human resources, expertise, funds, and control mechanisms for this purpose need the immediate attention of the authorities.

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12.2.5. Planning

Implementation of the e-government includes various complex and interrelated activities, which will succeed only through the coordination of these activities provided by the numerous organizations and individuals involved. This, in practice, means management of a vast and complicated network, which needs extensive measures in planning. The impact of many factors, such as size, security, geographical spread, human resources, and cultural barriers, on the complexity of GEA make the planning in this particular project yet more complicated. For instance, inappropriate planning with regard to procuring the required hardware technology for the project led to a situation in which ordering the second phase of some equipment created technical problems and also cost the project considerably more.

Providing financial resources for timely implementation of this plan is a vital issue in the way of its success. Despite significant budgets allocated to this project by the government, the realization of the funds, and release of them, has been a problem that is partly related to the shortcomings in the state’s general financial management systems.

E-government is being developed to respond to a number of essential needs of the country. These needs, if not fulfilled within an acceptable time period, may lose their justification and validity and become outdated. The e-governments project, which has been positively affected by the recent reforms in the country and the positive approach of the government towards social development and democracy, might as well receive reverse impacts from possible instability inherent in the developing world countries’ movements and any probable changes in the political arena of the country. This, in fact, ties the direction and consistency of the project with the life of the
existing government and the time it has to its end. Recent evidence shows a slow down in the rate of the project’s progress, reducing the country’s readiness for e-government implementation to a level far below the intended plans and way behind comparable countries.\textsuperscript{118}

13. Final Words

Iran’s progress towards achieving e-government regardless of existing problems seems to develop successfully, and the evolution is becoming more dynamic and planned. The answer to a successful implementation of this process lies in the commitment of all appropriate authorities and decisions makers both public and private such as administrative departments, educational establishments, finance and political authorities, legislators and media. Moving toward a successful implementation of e-government and computerization of existing systems needs fundamental arrangements in order to use the existing possibilities and resources Achieving this process needs the government organizations effort to benefit citizens, business partners, public and private sectors.

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