CHALLENGES AND PROSPECTS IN IMPLEMENTING E-GOVERNMENT IN KAZAKHSTAN: INCREASING COMPUTER LITERACY

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ABSTRACT

This project examines the challenges and prospects in implementing E-Government in Kazakhstan and increasing computer literacy among citizens.

Main problem of the project is to investigate the level of computer literacy among citizens and seeking the effective methods for increasing computer literacy among citizens.

For data collection the survey methods as interviewing, questioning, observation and document analysis have been used. The survey results have a dominant role to find out the reasons of low increasing computer literacy among citizens and to consider possible solution of this problem. Also, the purpose of the project is to find out the influence of digital divide on E-Government development. According to the E-Readiness rankings 2008 (Economist Intelligence Unit) and United Nations E-Government Survey 2008 Report the E-Government readiness of Kazakhstan have been studied. By investigating the "National E-Government Development Programme 2008-2010" the realized E-Government services and plans have been analyzed.

During implementing E-Government in Kazakhstan the experiences of such countries as Singapore, Malaysia and South Korea have been used, so this project includes studying these countries experiences. Also this study was carried out to determine the difficulties, risks and problems which can arise during implementing E-Government in Kazakhstan.

ABSTRAK

Projek ini mengkaji cabaran dan prospek yang terdapat dalam melaksanakan E-Kerajaan di Kazakhstan serta peningkatan celik computer di kalangan rakyat negara itu. Masalah utama projek ini adalah untuk menyelidik tahap kecelikan komputer di kalangan rakyatnya dan kaedah yang berkesan untuk meningkatkan tahap celik komputer mereka. Kaedah yang digunakan untuk mengutip data adalah melalui temuramah, soal-selidik, pemerhatian, dan analisis dokumen. Hasil soal-selidik bertujuan untuk mencari punca utama terhadap tahap literasi komputer yang rendah di kalangan rakyat dan seterusnya mencari penyelesaian yang munasabah untuk mengatasinya. Pada masa yang sama, tujuan projek juga adalah untuk mencari pengaruh jurang digital ke atas pembangunan E-Kerajaan. Kajian mengenai kesediaan Negara Kazakhstan untuk e-Kerajaan telah dikaji melalui dokumen *"E-Readiness rankings 2008 (Economist Intelligence Unit)"* dan *"United Nations E-Government Survey 2008 Report"*. Perkhidmatan dan perancangan e-Kerajaan telah dianalisis menggunakan dokumen *"National E-Government Development Programme 2008-2010"*. Projek ini juga mengambilkira pengalaman pelaksanaan E-Kerajaan daripada negara-negara Singapura, Malaysia dan Korea Selatan sebagai kajian kes. Kajian ini juga dilakukan untuk menentukan kesukaran, risiko dan masalah yang boleh timbul dalam melaksanakan e-Kerajaan di Kazakhstan.

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ABBREVIATIONS		MEANING
ICT	-	Information and Communication Technology
IT	-	Information Technology
USSR	-	Union of Soviet Socialist Republics
CIS	-	Commonwealth of Independent States
WAP	-	Wireless Application Protocol
NIS	-	National Identification System
AIC	-	Agency for Informatization and Communication
MSC	-	Multimedia Super Corridor
UN	-	United Nations
EU8	-	European Union 8
PIT	-	Park of Information Technology
Akimat	-	Governance office of city (translated from Kazakh language)

APPENDICES

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter is an overview of this project. It discusses about the background of the study. It presents the preview of the whole written project. It also contains the objective of the research and main questions for the project.

1.2 Background of the problem

The president of Kazakhstan delivers an ambitious mission of preparing the republic to be among the 50 most competitive countries in the world. This mission is conceivable through realization of powerful steps towards digital economy and information society, and formation of an information infrastructure of the electronic government.

In 2004, the E-Government Development Programme 2005-2007 according to the President's strategy “To competitive Kazakhstan, competitive economy, and the competitive nation!” has been accepted. It is one of the first serious steps on the way towards development of a hi-tech country.

For achievement of a maximum level of the advantages for the citizens it is necessary to realize the basic principle that the government should be accessible for everyone, anywhere and any time. E-Government should provide to citizens interaction with the state and access to the state services 24 hours a day, seven days a week, irrespective of geographical arrangement and season.

At present time information delivery to citizens is rather passive, irregular and especially is limited through mass-media. People learn about new laws and decrees of the government from newspapers, on the TV etc.

For example, when a person uses the services of the Passport Office, first of all, they face a problem of information search in rendering services (forms, and services). By far not always this information can be found on a bulletin board, and citizens have to address for consultation to the employees.

Due to Kazakhstan E-Government Development Programme many stages in realization of the electronic government have been done. Despite Kazakhstan’s low e-readiness rankings, the country has done a big way towards realization of the electronic government and even today it is possible to see some results.

1.3 Statement of the problem

During the past few years a lot of works have been carried out in implementing E-Government in Kazakhstan and the first E-Government initiative in Kazakhstan started in the end of 2006 (www.e.gov.kz). It is now 2 years away. Nowadays the

various regions of the country have started of their own regional government portals for their inhabitants.

To date about 95% of the governmental bodies have their own Web-sites and provide information to citizens. These results show that the Internet infrastructure is already formulated.

Thirty-two (32) out of thirty four web-sites are governmental web-sites. At present time the legal framework already is ready. The number of Internet users increased from 6% to 8% since the beginning of the year. This index must be increased up to 20% in the next few years.

But for the realization of electronic government it is not enough just to develop the program of its implementation. It is also necessary to train people to be familiar with the ICT and interact with the electronic government from any geographical point of the country.

The first step of formation of an information society is towards decreasing of the information inequality. To overcome this problem, the Agency of Informatization and Communication (AIC) develops the “Digital Divide Decreasing Programme” for 2007-2009.

The program is directed for solving of the problems on decreasing of the country’s information inequality characterized by different level of computer literacy of the population and unequal opportunities of access to modern communication technologies.

Number of the computer and Internet in Kazakhstan is very low. It shows that the computer literacy in the country is very weak. There are a lot of reasons. An information inequality can be a disincentive for using E-Government.

For implementation of the effective electronic government the qualified personnel potential is required. The IT experts in regulatory bodies are also necessary.

The professional qualities for developing of electronic government concern not only a technical aspect as the general management assumes also possession of skills of wider profile that allows participating actively at decision-making. Necessary professionalism should include as base technical competence (literacy in the field of an

information technology), and understanding of problems of a new information society. Therefore the regulatory bodies should take steps, allowing to define a level of qualification and to ensure its presence with a view of increase of efficiency of the electronic government.

Finally, it is necessary to remember the fact that the new technologies make the governments to be especially attentive to such category as time. Against other areas which are in sight of the government, the technologies evolve and obsolescence very fast. The decisions accepted by administrative bodies today are considered for the future which promptly varies and is not always accurately looked through.

Mistakes cost much in financial plan, but especially guard because of possible blasting of trust of citizens and business sphere.

For all countries transition to the electronic government gives the chance to politicians to show the abilities of adaptation in new conditions. At the same time the traditional government slowly gets over the Internet revolution, considering it as one of plural calls which is necessary to face.

To accept right decisions and to avoid destructive consequences, the governments should formulate and solve essential problems of a transition period when the traditional and electronic governments co-exist. Without concentrating exclusively on introduction of ICT, the governments need to make also a certain choice, to direct and supervise process of transformation of the usual government into electronic.

This radical change in forms and traditional methods of the government is possible only on the basis of adjustment of real cooperation between the governmental structures of various levels and a civil society.

1.4 Purpose of the research

In this research, the researcher analyzes the E-Government development programme of Kazakhstan, studies the experience of the different countries like Singapore, Malaysia and South Korea. Also, the researcher investigates and analyses Kazakhstan's E-Government readiness by comparing with other countries, as well as seeks the effective methods for solving the problem related to the digital divide.

1.5 Objectives of the research

The objectives of the study are:

1. To investigate the influence of computer literacy among citizens on the E-Government development;
2. To determine the issues pertaining to the challenges facing E-Government of Kazakhstan;
3. To conduct a study on the perception of Kazakhstan on the citizen's initiative;
4. Seeking the effective methods for increasing computer literacy among citizens.

1.6 Research questions

This research aims to answer the following research questions:

1. How can be reflected a level of the computer illiteracy on E-Government demands?
2. How to make people interested and have their attention to the E-Government's opportunities?
3. What kind of benefits will the E-Government provide?
4. What problems and risks we should expect from digital divide?

1.7 Significance of the research

The government of Kazakhstan has made a conscious decision to embark upon a journey to make its public services more efficient, effective, and accessible.

First of all, the given research will allow to develop methods and ways of solving problems during implementing E-Government Development Programme which can improve civil service performance, empowerment, improve government finances, reduce administrative corruption, increasing transparency and other goals in the future. This research includes the examples and comparisons of the country's digital inequality.

1.8 Scope of the research

Such theme as Challenges and prospects in implementing E-Government in Kazakhstan: increasing computer literacy is very extensive in studying. In this work the researcher has paid attention on analyzing and investigating the E-Government readiness for the Kazakhstan's National E-Government Development Programmes.

1.9 Chapter summary

This chapter discusses about the background and problem of the research. It also determines the objectives, research questions and describes the purposes and scope of the research.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Development of the information and communication technologies is capable to become a powerful economic resource. It is well known that in information societies the information is also an item of mass consumption. Development of ICT directly influences on science and technologies, on efficiency of a government, and even on political system - access to resources and democracy development.

This chapter introduces the brief history of Kazakhstan and its development programmes and strategies. It also contains the paragraphs which explain about what E-Government for Kazakhstan is and how to evaluate it. The E-Government readiness index of the country is the primary key for starting and realization of E-Government. It investigates the rankings of e-readiness and compares with other countries. This chapter studies a current situation of computer illiteracy in the Kazakhstan and defines the main reasons.

It also studies the experiences of implementing E-Government Singapore, Malaysia and South Korea.

2.2 Young Kazakhstan's development missions

In the first years after collapse of the Soviet Union and achieving independence Kazakhstan did not aim to solve the problems of developing IT Infrastructure. Kazakhstan with the area of 2,717,300 sq. km (the ninth largest country in the world) and with the population of about 16 million has passed into new economic development way (Figure 2.2).

After collapse of superpower Soviet Union, the country has undergone the woeful epoch in its stories. There were changes in a national economy.

Therefore, first of all, Kazakhstan solved the following problems: to leave an economic crisis, creation of the new and reliable government, national currency creation, the decision the territorial questions with all neighboring states and etc.

Figure 2.2: A map of Kazakhstan

The second stage has been connected with restarting of the suspended productions, reorganizations of industrial structures, training of new experts (during a

transition period after collapse of the USSR Kazakhstan has lost a great number of the qualified experts of working specialties), solution of a problem with primary and agrarian industry, creation the new enterprises.

Therefore these years there was not any task in view about development of IT infrastructure of the country. All productions worked on the Soviet technologies or purchased from abroad. But, in spite of all of these problems, Republic of Kazakhstan is the country with fast-growth, stable economics in the Commonwealth of Independent States (CIS).

In the first few years after independence, Kazakhstan successfully rid itself of the fourth largest nuclear arsenal in the world and closed the world's largest nuclear test site at Semipalatinsk, an unwanted legacy from the USSR, and continues to be a model for the global community.

During the first 6-7 years of independence, the Government has made strong strides toward stability and the institution of free market democratic processes. Kazakhstan's macroeconomic picture is positive with a stabilized and fast growing economy, low inflation, strong banking institutions and low unemployment.

In March 2002, Kazakhstan became the first country in the Commonwealth of Independent States to be granted market economy status by the United States. The same status was given to Kazakhstan by the European Union in 2000.

Private enterprises in Kazakhstan employ almost 6 million people, more than 77 percent of total employment. Almost a half million small and medium sized businesses employ about one million people, a situation a world away from the command economy of Soviet times.

In 1997 the president of Kazakhstan has approved the programme of development of the country more than for 30 years forward. The strategy "Kazakhstan-2030" included seven basic priorities of the long-term programme of reforming - national security, internal political stability and company consolidation, economic growth, health, formation and well-being of citizens, power resources, an infrastructure

and professional state. One of the national programmes of this strategy is Kazakhstan's E-Government programme.

According to president of Kazakhstan Nursultan Nazarbaev (2005), "Today we are on the threshold of great opportunities. Many of you know that some of the poorest countries in Asia extricated themselves of poverty within some thirty years to turn into prosperous industrial states. Korea, Taiwan and Singapore were pioneers, so say, followed by Malaysia, Indonesia and Thailand. Our great neighbor, China, demonstrates amazing rates of growth. Likewise manifesting their power and abilities are India and Brazil.

Forty years ago when Singapore gained its independence, it was one of the poorest countries in the world with an annual per capita income less than $200. Today the per capita income of Singaporeans exceeds $20,000. Malaysia, a country similar to ours with respect to the population, ethnic composition and many other parameters, gained a 10-fold rise in living standards of its citizens within less than twenty years. Such staggering achievements made these countries world famous assigning them the name of Asian Tigers. Are there any obstacles which might prevent Kazakhstan availing of fine opportunities from scoring the same success? I am sure that by the year of 2030 Kazakhstan would have become a Central-Asian Snow Leopard and would serve a fine example to be followed by other developing countries".

Economic successes of Kazakhstan are objectively evaluated by foreign institutes and experts. By estimations of the World Bank, Kazakhstan is the leader among all CIS countries in realization of reforms. In March, 2002 the Ministry of Trade of the USA has pirated to this Central-Asian state the status "the countries with market economy". Kazakhstan - the unique country of Commonwealth which in 2003 has restored the level of industrial production which had been available till crisis 1991. The republic is distinguished by high rates of economic growth within all last ten years. The head of rating agency Moody's John Rezerford in June, 2004 established: "Progress in Kazakhstan really impressing. Kazakhstan has created very dynamical economy with many progressive attributes...".

In March 2006, President Nazarbaev unveiled a new strategy of making Kazakhstan one of the world's 50 most competitive nations.

2.3 Understanding E-Government

In developed countries which have implemented system or separate elements of electronic government, “E-Government” is use of the information and communication technologies in the state administrative bodies in a combination to organizational changes and new methods for improvement of services of public sector and democratic processes.

Modern ICT ensure creation possibility of the electronic government, facilitate work of government officials, reduce costs on the state contents, accelerate interaction of public authorities and with one another, and with citizens. One of the most important arguments in advantage of E-Government is increasing of "transparency" of the governance.

According to the United Nations, now from 191 countries, entering into this organization, those or other elements of the electronic government are used in 173 states. Most intensively process goes in Europe. The leaders (2002), where growth of state services represented through the Internet has exceeded 75 percent, are Sweden, Ireland and Denmark.

A process of implementing of electronic government can have different methods. But the stages can be similar.

According to Figure 2.3(a), the electronic government's applications can have four stages: the first stage is included by the publication of the data, the information and other materials on Web sites for citizens. This information will be useful during realization of the various online services. The second stage is interactive. Clients can download applications, forms, the demand and other files. The third stage is online document circulation. The fourth stage is a stage of electronic delivery of services. In this stage the departments receive requests and send answers to users.

Also the next 2 years the electronic government will be available on mobile phones. As Kuanyshbek Esekeev argues in interview, chairman of the Agency on information and communication of Kazakhstan (2007), "as it is known, now the market of consumers of mobile phones constitutes 11 million people in Kazakhstan (total population is 16 million people). Therefore our Agency is now busy developing WAP-version of e-Government and we plan to launch it this year. This project will allow a more real access to e-Government for all mobile phone users. Citizens will be able to apply to state bodies and get answers. In the project of new programme, one chapter is dedicated to m-Government. When working at it, we analyzed the importance of this step from the point of view of facilitating access to e-Government services for our citizens".

According day-to-day life, a user of a mobile telephone fast learns how to use mobile phone functions, than the computers. This factor also can be as positive affect in increasing levels of use of services of the electronic government.

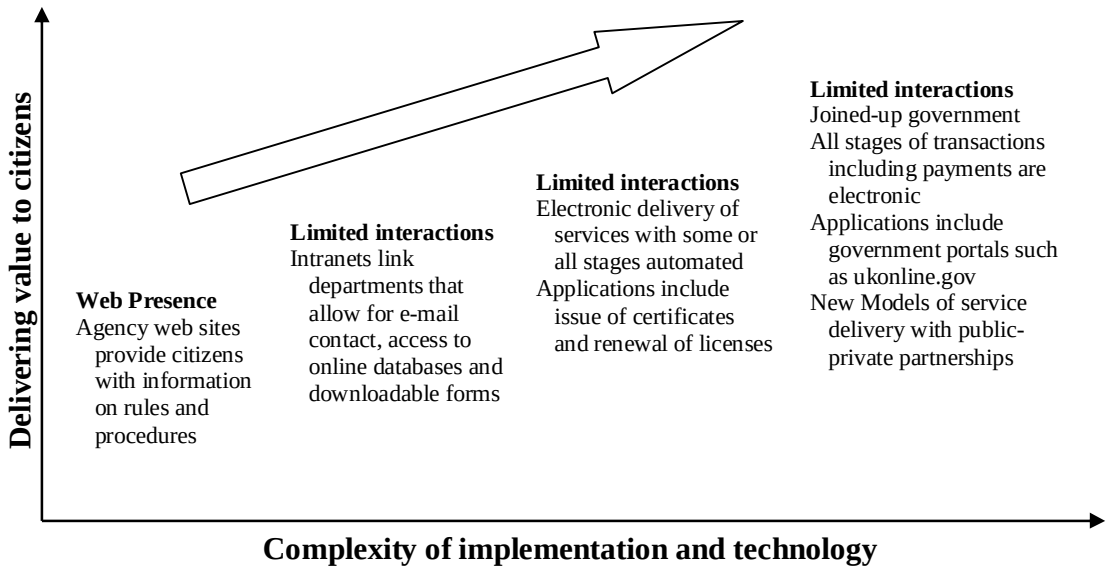


Figure 2.3(a): E-Government Evaluation: Four Critical Stages (Aikens, 2004)

2.3.1 E-Government in Kazakhstan

The president of Kazakhstan delivers an ambitious mission of entry of republic in the most 50 competitive countries of the world.

It is clear that this mission is inconceivable without realization of powerful steps towards digital economy and information society, without formation of an information infrastructure of E-Government.

In 2004 the E-Government Development Programme 2005-2008 according to the President's strategy “To competitive Kazakhstan, competitive economy, and the competitive nation!” has been accepted. It is one of the first serious steps on a way of development of the hi-tech state.

In the Republic Kazakhstan serious work on formation of information society is carried out. Some strategies and programs as the “Strategy of an industrially-innovative inequality” till 2015, the “E-Government development programme for 2005-2007”, the “Program of decrease in an information inequality for 2007-2009” are accepted and realized.

Creation of the electronic government in Kazakhstan has long-term prospect, and its realization can be carried out only in some stages.

The government program on formation of E-Government basically is focused on formation of a base infrastructure of the e-government.

Concept realization of the electronic government requires availability, at least, following starting conditions:

- corresponding level of a computerization of state structures;
- a certain level of development of the market of information-communication technologies in the country;
- necessity in IT professionals for state bodies, at suppliers of the goods and services capable to realize tasks in view;
- comprehensible regulatory and legal framework;
- sufficient level of financing;
- political will not only at the head of the state, but also at all participants of this process.

Within the limits of implementing the electronic government the automation of activity of state structures is carried out.

The main thing here is creation of such information systems of state bodies which will provide citizens by electronic services.

Maintenance of citizens with fast and qualitative access to electronic services of state structures - this is a main idea of the implementing the electronic government in Kazakhstan.

During development of the program there were studied the experiences of some countries where in the last few years considerable progress has been made towards that goal: Korea, Singapore, Malaysia, Hong-Kong and others. Taking into account world experience of implementing the electronic government in Republic Kazakhstan is carried out in four stages (see Figure 2.3(b)).

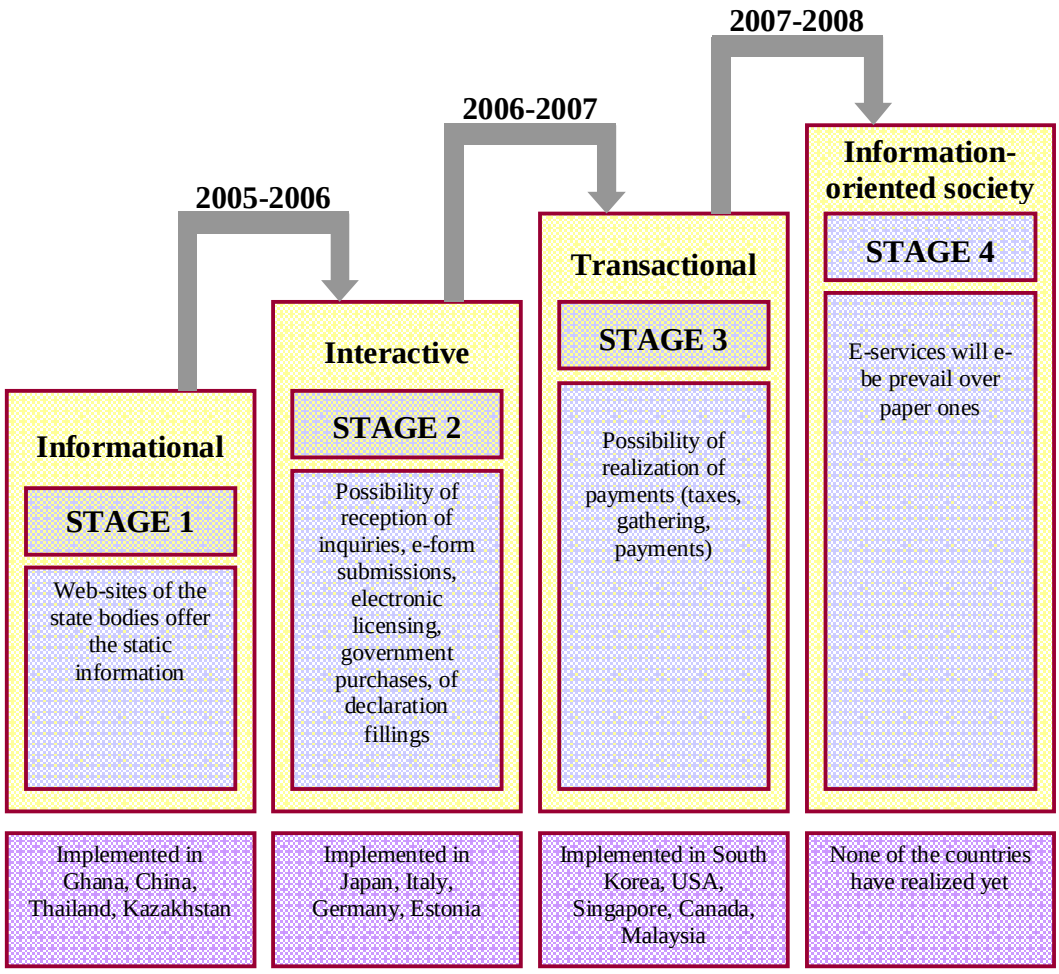


Figure 2.3(b): E-Government development strategies of Kazakhstan

The first stage – is informational (2005-2006). Its realization is already finished: the web portal – www.e.gov.kz is installed. 95 % of all state structures have own web sites. Work on creation of backbone databases is conducted; realization of the pilot project on creation of the uniform transport environment of state bodies in Astana comes to the end. Creation of a kernel of an infrastructure of the electronic government in 2006 is almost finished.

The second stage – is interactive (2006-2007). It is connected with the beginning of realization of the integration period in 2006 from start of pilot projects on e-licensing, automation of activity of the Center of service of the population and three e-akimats. In 2007 the National certifying centre was started. And other systems as E-Licensing, E-Akimat, E-Customs, E-Taxes, the E-Statistics, E-State-Purchase are also started.

The third stage – is transactional (2007-2008). It assumes creation of a payment sluice. With its help citizens can spend independent opening of the electronic account, transfer of money resources from serving banks and to carry out the mutual exchanges with the budget online. At this stage electronic passports of citizens will be entered. This action becomes a finishing result of creation of National Identification System (NIS).

The fourth stage (2010 and further) – is a formation of an information society at which electronic services will prevail over paper and cover all life cycle of the person.

2.3.2 Three basic components of E-Government

The component focused on citizens: Interaction between state structures and citizens - fast reception of services, simplicity of use, and easy access to the state services.

A component focused on a private sector: Interaction between state structures and a private sector - an exception of necessity of use of paper documents at interaction among themselves, acceleration of process of gathering and processing of the necessary information. Finally state structures with partners in the name of the commercial organizations can give the channels for creation of the integrated system of services. Decreasing of expenses of state structures at the expense of the best use of technologies, outsourcing decrease, the open and transparent control system of expenses operates.

A component focused on state bodies: Interaction between state structures which allows by means of ICT to establish internal and external relations between state structures and to carry out their interaction that will allow to reconstruct their activity and to provide integrated, instead of isolated services. It will allow to decrease expenses and to raise an overall performance, avoiding delays and raising motivation of work of workers; to spend reorganization of internal processes with application of the fulfilled and widely used techniques and tools.

2.3.3 The important factors at realization of E-Government

Openness and wide scope

The state services should be opened and to base on existing standards that services to be accessible to all citizens at any time, is not dependent on the social status and a geographical position.

Orientation to consumer needs

Public services in a greater degree should be guided by requirements of citizens.

Integration of the services

The processes of the state services should look as completely an integrated system and can not be limited of access providing to services of separate departments, and represent set of all state structures.

Partnership between the state and private sector

Many state structures lack of skilled employees in the field of ICT which could carry out examinations or supervise over projects within the limits of realization of large-scale projects on automation of the state organizations. It is necessary, that state bodies even more often entered partnership with a private sector for fast and effectively introducing such decisions.

2.3.4 The benefits of E-Government

For government:

- Revealing of the processes proceeding in the regulatory bodies and governance, revealing of weak ways of the given processes (duplication of functions, documents, inefficient document circulation), overall performance increase;
- Reduction of loading by the state employee at the expense of introduction of electronic document circulation;
- Revealing of additional points of interaction with the population, enterprises of region and other authorities. It will allow to structure and regulate activity of controls and the authorities, gives accurate differentiation of powers and saves time;
- Management of all kinds of the governmental information, which in itself is a strategic resource;
- Processing and administration of the data about public opinion;
- Possibility of fast and economic realization of the plans;
- Economical instrument of communication with the local governments and non-commercial organizations;
- Possibility to improve planning and management on macro and local level;
- Facilities of resolution of problems of the passive relation of the population to the government and its plans.
- Awareness, a transparency and a fight against corruption.

For public:

- Increase of level of knowledge and information literacy of the population; Increase of availability of the services rendered by the regulatory bodies and governance.

- Decrease in number of personal contacts to the population, enterprises and other services; Increase in functionality and throughput of the regulatory bodies and authorities;
- Improvement business climate of the country for attraction of foreign investments;
- Creation of the market of the information and knowledge as manufacture factors;
- Maintenance of information security of the person, a society, the state and creation of effective system of free and reception equal in rights, distributions and information uses as major condition of democratic development;
- Participation in acceptance of the governmental plans and projects;
- Possibility to extend the information and ideas, introducing the investment in achievement of concrete political results;
- Increase of degree of public control over government work;
- For the people living and working as abroad, there is a possibility to participate in businesses of the fatherland and to feel the national identity;
- On bilateral communication channels it is possible to carry out set of free training programmes, increasing a population educational level.

2.4 How much it costs?

According to expert appraisals for implementing of the electronic government in Kazakhstan on planned actions and calculations for accounts information systems in public sector the total amount of financial resources will constitute: from means of the republican budget – $432,5 million (including expenses for creation of the uniform transport environment of state structures in volume of $99 million), including for 2005 – $37,5 million, for 2006 – $210,8 million, for 2007 – $184,1 million; from means of local

budgets – $3 million per year; the cost of the KazSat-1 satellite – $65 million; and also private investments, grants of the international and domestic financial organizations.

Table 2.4: E-Government project investment

Country	Project	Total cost ($)
USA	the first step to the opened/E-Government of the USA(www.firstgov.gov)	43 billion
Singapore	E-Government Action Plan	1,5 billion
Malaysia	E-Government project (one of the seven flagship applications introduced in Multimedia Super Corridor)	Not available
India	Mandals online, Voice online delivery of services, Bhoomi online land title registration, Warana project, Gyandoot project	about 26 billion
Kazakhstan	E-Government Development Programme	about 1,03 billion

Estimation of cost of implementing of the electronic government and its dearness can be discussed for years if the result is pitiable. By itself an implementation of the electronic government is risky for the state. Many expenses can be spent on modernization of the information technologies, software purchasing, computerization of state structures, state schools and universities and for training of new experts and the inhabitants. In many developed countries implementing of the electronic government is not so expensively. These countries already had developed IT infrastructure before implementing of the electronic government. With powerful and developed IT infrastructure it is necessary for them to make expenses for creation program

maintenance. In our case as it was already told, Kazakhstan the new country, which else is not present and 20 years. Considering current situation of its IT infrastructure it is possible to say with confidence that program financing is conducted in the insufficient size that can be risky for the future of the E-Government Development Programme.

2.5 Country examples

According to investigations, in 2001 there were fixed fast development of national E-Government programmes in the United Nations countries. At those governments, whose presence at the Internet was limited before to one-two static pages, there were created the sites with different saturated contents, good design, and the main thing, orientation to satisfaction of requirements of citizens.

Nevertheless, the most countries' national programs of development of the E-Governments are only at the stage of formation. But different countries have different use of possibilities of the Internet for providing the high-quality information.

The greatest successes have reached those countries where the government considered that the information became same important and valuable public resource, as well as material assets, and is also a basis of the economy focused on knowledge.

The situation of the E-Government development in 190 countries of the United Nations is characterized by following figures:

- in 169 countries the government use the Internet;
- in 84 countries have the Web-sites of the national governments;
- in 36 countries have uniform portals which provide an access to the government's services via the Internet;
- in 84 countries have Web-sites of local government bodies;
- in 17 countries realized the possibilities of transactions with their government via Internet.

The barriers interfering development of the electronic government have today not only budgetary, but also legislative (standard), and also digital measurement.

For the purpose of the electronic services have found broad support, they should obtain the same recognition, as well as "paper" procedures corresponding to them. Besides, it is necessary to ensure confidentiality and safety before the online services can be successfully developed.

Kazakhstan’s specialists have studied the experience of Korea, Singapore, Malaysia, Italy, Germany and Estonia and not with the help of theory from guidance manuals but through live communication with representatives of these countries.

Nowadays the Kazakhstan’s government already has some statistics concerning the project implementation for comparing their experience and gains with equivalent projects of international scale.

For the first stage of project implementation, Kazakhstan followed the path of Ghana, China and Thailand. Peculiar feature of the stage is in presenting static information on web-sites of state bodies. The second stage (2006-2007) gave opportunity for getting information such as certificates, electronic form submitting, e-Licensing, government procurement, filling-in declarations. This way was used by countries as Japan, Italy, Germany, Estonia and in Kazakhstan as well. The third stage (2008-2010) was implemented in the Korea, USA, Singapore, Canada and Kazakhstan. It already provides opportunity for transactions: taxes, dues and fees and payments. None of the countries have come to the fourth stage where e-Services prevail over paper ones.

2.5.1 E-Government in Singapore

On a world map the Singapore looks as tiny point, but in the world of high technologies, including IT, this island state is one of the leaders. The government understands a role of IT in the country and led to creation of strategic programmes such as:

1. The program of a computerization of the state civil service (1981);
2. The national plan on an information technology (1986);
3. IT Plan 2000 (Intelligent Island, 1991).

In the listed programmes an information technology is advanced as a key direction of economic development of Singapore.

In October, 1999 the prime-minister Goh Chok Tong speaking about the initiative of construction of the high technology economy has noticed that it is necessary for active involving to Singapore's companies building their industry on using a creative approach and knowledge.

Today significant amount of the governmental services in Singapore are accessible through the online systems and some of them are available through the "Singapore ONE" programme. The government encourages access of citizens to services of the electronic government from their house or working computers any time.

One of main programmes of the electronic government is the "Electronic citizen" (e-Citizen) which provides a package of the integrated services. The basic priority of Singapore is integration of isolated ministerial systems into a uniform portal which provides governmental services.

The services earlier represented by various Ministries and departments of the government of Singapore are available now within the limits of the program “Electronic government” on the Web-site of the government (http://www.egov.gov.sg).

There are five main strategic missions of E-government develop in Singapore:

1. To reconstruct the Government in digital economy;

2. To deliver the integrated electronic services;

3. To be the predicted and responsive government;

4. To use information and communication technologies for opening of new possibilities;

5. To be the innovators by means of ICT.

2.5.2 E-Government in Malaysia

The initiative of the electronic government initiative had to head the country during an Information Era. It will improve how the government operates internally, as well as how it delivers services to the people of Malaysia.

After implementing these ideas the interactions with citizens and businesses will be convenience, accessibility and quality. It will improve information processes within government to improve the speed and quality of policy development, coordination and enforcement.

For realization this missions the Malaysian government had created Vision 2020 which had seven Flagship Applications.

These applications were used to start Multimedia Super Corridor (MSC) initiatives and create multimedia heaven for innovative of the multimedia technology’s producers and users (see Figure 2.5).

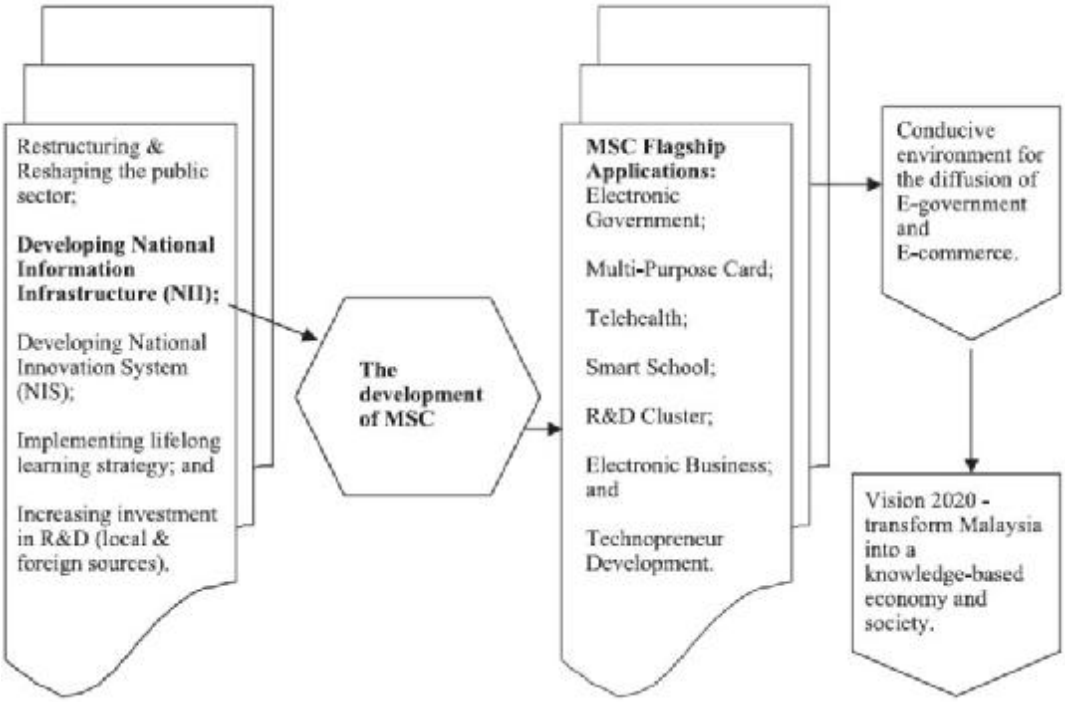


Figure 2.5: The Malaysian Model of E-government Development

The local and foreign companies work with the government agencies for increasing social and economic development of Malaysia.

The Flagship Application of the MCS are listed below:

1. Electronic Government
2. Multipurpose Card
3. Smart School
4. Telehealth
5. R&D Clusters
6. E-Business
7. Technopreneur Development

2.5.3 E-Government in South Korea

Universally connection to the Internet of schools, universities, libraries contributes to introduction of system of E-Education. There are such wide-banded applications as appendices, telework, telehealth. It is important to note that in 2001 Korea was ranked 45th on E-Government e-readiness in the world.

In November, 2002 the integrated portal the Korean E-Government (www.egov.go.kr) which combine two services, information service and e-service the "Government for citizens" has started (G4C). The portal consists about 400 interactive services for citizens and the information on four thousand categories.

Portal opening has deduced at once South Korea in group of world leaders in realization of the electronic government.

In 1997 the general plan "Informatization of the primary and secondary schools" was accepted. For the purpose of overcoming of digital split the computers were delivered in schools free of charge. The "Cyber Korea" programme (1999-2002) is executed these initiations.

The big efforts have been spent for rendering digital services for everyone, especially to socially vulnerable groups of the population: to housewives, pensioners, invalids, military men and prisoners. Each class in all initial and high schools is connected to the high-speed Internet.

2.6 E-Government Readiness of Kazakhstan

There are several benchmarking indices at the macro level: E-Readiness rankings 2008 (Economist Intelligence Unit) and UN E-Government Survey 2008 Report (United Nations).

These reports have the full analysis of readiness of the country for formation of the electronic government and also indicators of those countries which already have the electronic government. E-readiness is a measurement of quality of information and communication technologies and ability of consumers, businesses and the governments to use ICT for their benefit.

The e-readiness rankings published by the Economist Intelligence Unit shows that Kazakhstan is ranked 66th in the latest rankings below European Union 8 (EU8) countries (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia), below Pakistan and Vietnam among 70 countries (see Table 2.6(a)). According to e-readiness ranking, Kazakhstan's e-readiness rating has fallen to 2 points.

Table 2.6(a): Economist Intelligence Unit e-readiness rankings, 2008

2008 e-readiness rank (of 70)	2007 rank	Country	2008 e-readiness score (of 10)	2007 score
59	57	Russia	4.42	4.27
60	61	Sri Lanka	4.35	3.93
61	60	Ukraine	4.31	4.02
62	62	Nigeria	4.25	3.92
63	59	Ecuador	4.17	4.12
64	63	Pakistan	4.10	3.79
65	65	Vietnam	4.03	3.73
66	64	Kazakhstan	3.89	3.78
67	66	Algeria	3.61	3.63
68	67	Indonesia	3.59	3.39
69	68	Azerbaijan	3.29	3.26
70	69	Iran	3.18	3.08

According to another benchmarking exercise, the UN E-Government Survey 2008 Report, Kazakhstan ranked 87th among 192 countries.

The EU8 countries are clustered between 21st and 45th place, and the top ten countries – United States, Hong Kong, Sweden, Australia, Denmark, Singapore, Netherlands, United Kingdom, Switzerland and Austria - have been scoring consistently high across the board for years (see Table 2.6(b)).

Table 2.6(b): Top 10 countries in the 2008 e-Government Readiness Index

2008 e-readiness rank (of 70)	2007 rank	Country	2008 e-readiness score (of 10)	2007 score
1	2	United States	8.95	8.85
2	4	Hong Kong	8.91	8.72
3	2	Sweden	8.85	8.85
4	9	Australia	8.83	8.46
5	1	Denmark	8.83	8.88
6	6	Singapore	8.74	8.60
7	8	Netherlands	8.74	8.50
8	7	United Kingdom	8.68	8.59
9	5	Switzerland	8.67	8.61
10	11	Austria	8.63	8.39

According to UN E-Government Survey 2008 Report (Table 2.7) all countries of the Central Asia have lower E-Government readiness because they did not enhance their sites. But on comparison with other countries in the Central Asia, Kazakhstan continues to lead

Table 2.7: E-Government Readiness for Central Asia

Country	2008 Index	2005 Index	2008 Ranking	2005 Ranking
Kazakhstan	0.4743	0.4813	81	65
Kyrgyzstan	0.4195	0.4417	102	76
Uzbekistan	0.4057	0.4114	109	79
Turkmenistan	0.3262	...	128	...
Tajikistan	0.3150	0.3346	132	117
Region	0.3881	0.4173		
World	0.4514	0.4267		

The major reason why Kazakhstan lags behind EU8 and other countries is because of its weak telecommunication score. According to Figure 2.6, the Global E-Government Readiness Report (2005) shows that Kazakhstan's telecommunication score very low against other indexes as Web and Human Capital.

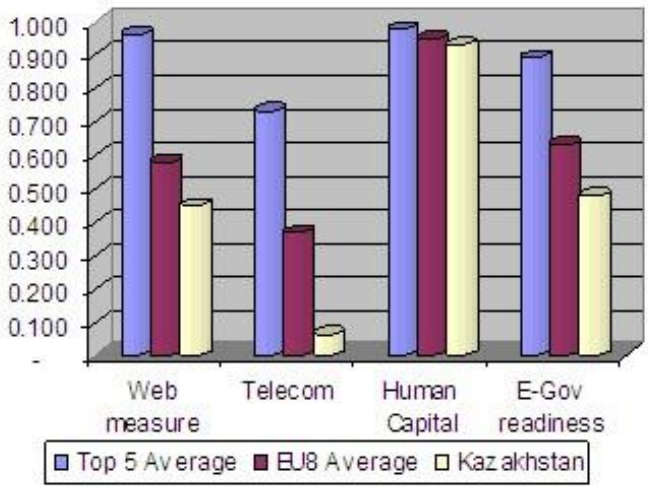


Figure 2.6: Comparison of telecommunication indexes

The main reason of such low telecommunications score also can be the small population of the country and its huge territory. For example, lining all territories by cable (fiber-optical) requires the big expenses. Therefore, the unique solution of

connection of all cities and towns in one telecommunication network is to launch a satellite.

The Kazakhstan's sector of an information technology (IT) is a dynamically growing market which especially involves investors in the light of world economic recession in sector of telecommunications. Despite the concerning small volume (nearby $220 million), in 2007 the Kazakhstan's IT market has grown on 30-35 %. In 2008 it expected to be increased up to US$350 million.

2.7 World Computer Literacy Level

One of the problems which the electronic government should solve is computer illiteracy. Its essence consists of following:

- low literacy and absence of skills of work with the information close access to an information society for the most part of the population;
- the demanded content can be inaccessible on the native language (75% of web-sites are written in Russian or English);
- existing systems of information search are focused on needs of the well-off;
- queries of rural and city needy levels of population are poorly presented to Networks;
- rural areas have weak channels of communications to information services;
- needy people have the limited mobile resources for access to the culture and science centers;
- hardware and software are still expensive for the population with low level of the income;

- the information on advantages of Internet-services is stated basically in the Network to which the most part of population does not address

It is obvious, that first of all only more well-founded social classes have access to the Internet. Even in the Great Britain about 60% of the houses which are connected to the Internet belong to well-founded citizens. .

The Figure 2.7(a) testifies that more than 80 % of a world's populations have no devices for connection to the Internet resources, and Figure 2.7(b) shows, that many citizens who already connected to the Internet face with a problem of language barrier, trying to use necessary resources. Overwhelming quantity of resources of the Internet is well understandable for the people who know English.

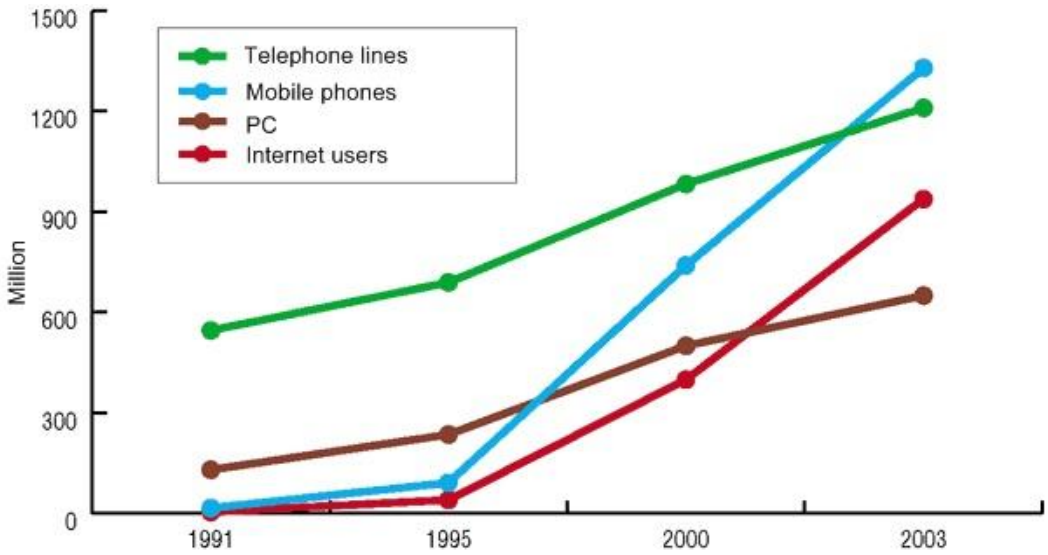


Figure 2.7(a): Population access to the various information-communication technologies in the world (Source - UN Global E-government Readiness Report 2005).

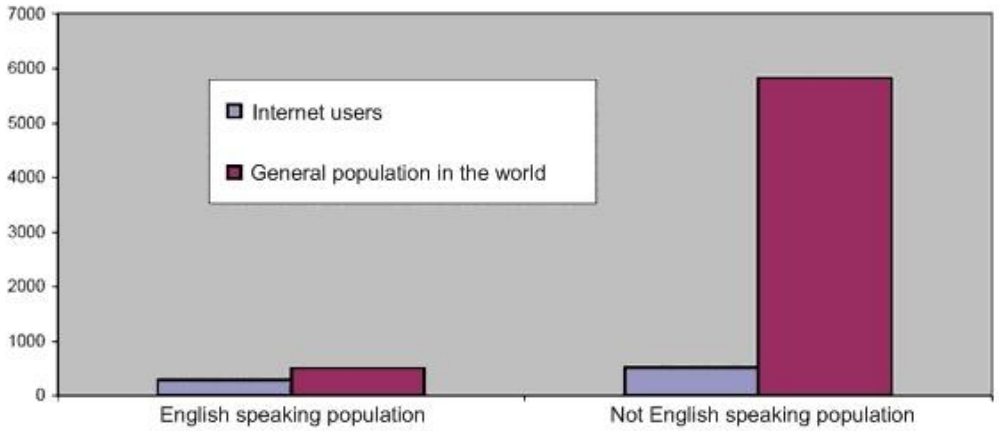


Figure 2.7(b): Ratio of the Internet users belonging to English-speaking and not English-speaking groups (UN Global E-government Readiness Report 2005)

The concept "e-inclusion" means:

- inclusion in an information society of all citizens;
- support of effective and transparent services for all citizens;
- the help to citizens on the basis of access to information services;
- efficient control the information and delivering it to the citizens;
- acquaintance of citizens with advantages of an information society;
- creation of social and cultural equality.

Different social classes have unequal access to the information that interferes with general electronic participation (Figure 2.7(c)).

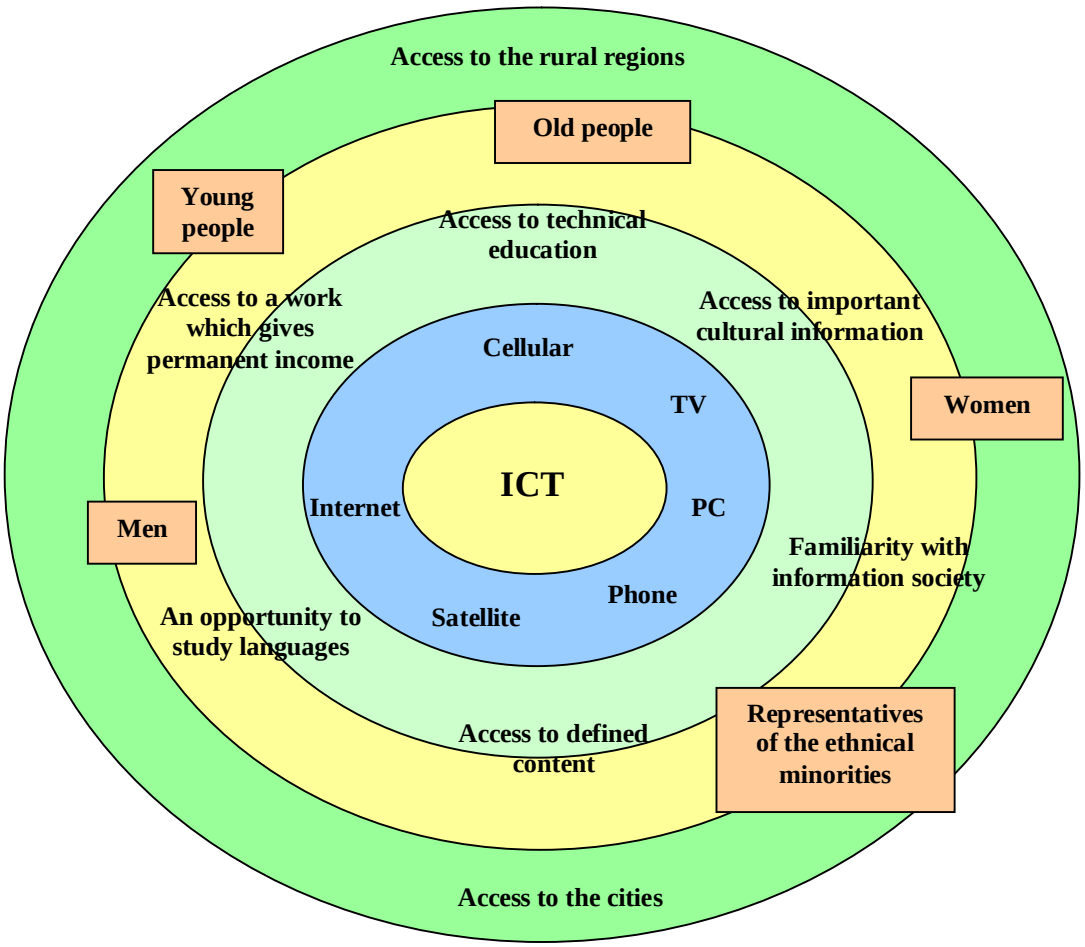


Figure 2.7(c): Access to the information for various levels of population (UN Global E-government Readiness Report 2005)

The digital divide is shown both at level of the separate countries, and in the world as a whole.

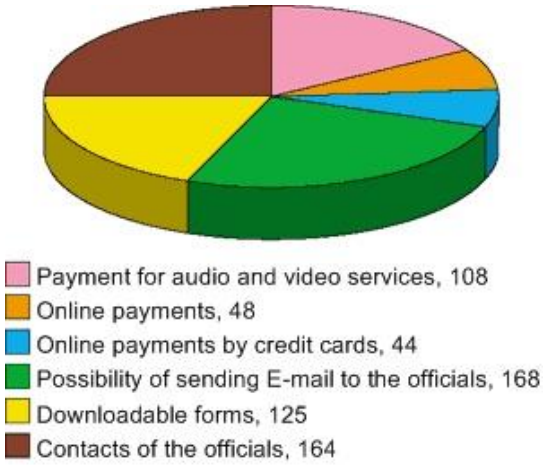


Figure 2.7(d): Number of countries with the provided E-Government services (UN Global E-government Readiness Report 2005)

The Figure 2.7(d) shows the countries where the different services of E-Government were realized. For example, on-line payment services of state bodies are accessible less than in 50 countries.

2.8 Implementation of E-Government

In the last ten years the governments in all parts of the world intensively use information-communication technologies for increase of efficiency and quality of the services. These initiatives even have received the special name – electronic government. Kazakhstan has started this problem by the end of 2004 with the E-Government Development Programme.

On the websites of the government agencies it is possible to get information about the activities of different level structures, details of their working schedule, the addresses and phone numbers of the departments, information about government

officials and to find normative legal documents. A large variety of the services, which the government agencies provide for citizens and business, are already accessible online in different countries around the world. For example, with the help of Internet and staying at home, it is possible to fill and submit an income declaration to a tax inspection, to register new business (enterprise) or to renew a driver license.

Monitoring of process of electronic governments' development and estimation of their efficiency are the special problems because the subject of research is dynamic, new and poorly studied.

2.8.1 E-Government potentials

Many researches directed on researching the E-Government potential, i.e. what can get the citizens, business and government agencies themselves from using of information and communication technologies at rendering services.

For example, there is a concept of *E-Government index* in the research which is carried out by the UN (Benchmarking E-government: A Global Perspective) and defined a value of this index for 169 member countries of the United Nations. The measurements were performed on three parameters: presence at the World Wide Web, development of a Telecommunication Infrastructure and development of the Human Capital. If a level of presence of the government in the Internet high then the telecommunication infrastructure in the country is developed. Also if an index of human development is high then the development index of E-Government has a good indicator, i.e., the development index of the electronic government reflects a potential of country *in use of online governmental services*, but not real use of these services.

In the research of the well known Accenture Company (E-Government Leadership – Realizing the Vision) the estimation of the E-Government readiness level was made on the level of service maturity and quality of the customer relationship

management. The experts of the Accenture visited the governmental web sites as simple users and estimated the parameters specified above.

The problem of common use of the governmental online services was investigated by Taylor Nelson Sofres (TNS) Company. In 2002 TNS has studied use of the electronic governments by adult inhabitants of the 31 countries (Government online - an International Perspective). Unlike mentioned above cases, TNS has addressed directly to clients of "the electronic governments". For information gathering the interview method has been used. The number of respondents in interview was 29000 people. This research has allowed to understand *how many people really used "the electronic governments"*.

For development of the electronic governments in Kazakhstan both measurements are considered:

1) **Potential of E-Government** – quantity of the services which are accessible online; interactivity level of these services; directivity on users and reliability.

2) **Real demand for the E-Government.** I.e., number of citizens and representatives of business which use the electronic government, and how they use these services.

The comparative analysis of the data below, published in the UN and TNS reports, illustrates efficiency of such approach. According to the UN report the X axis on the Figure 2.8(a) shows the index of development of E-Government. The Y axis shows a percentage of the people who, last years, use the E-Government services (TNS report). After dividing all field of the diagram into four quadrants, it is possible to analyze each of them.

The countries in the left bottom quadrant have rather low index of development of the electronic governments. Thus, the number the adult population who use electronic government services in these countries, are also below of average value. To this group of the countries Kazakhstan concerns too. Before these countries there is a problem of escalating of potential of the electronic governments and development of services. It is important to work in both directions, having made the big investments in development of the electronic government, not to appear in the face of low demand for its services.

The countries in the right bottom quadrant, which have rather high index of development of the electronic governments and low percentage of usage, are a "risk zone". At high potential of the electronic government the inhabitants do not use it actively. In particular, in this zone there is the Great Britain which is included confidently into number of leaders on a level of development of the electronic government.

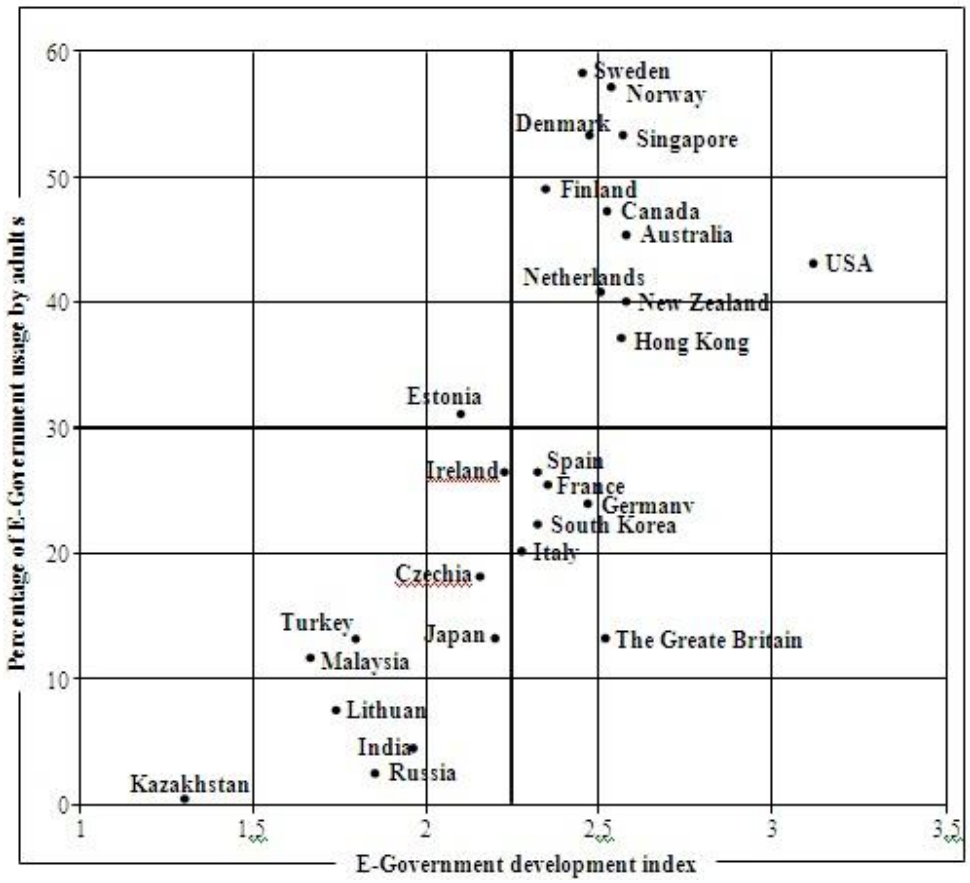


Figure 2.8(a): E-Government development analysis

The countries in the right top quadrant have high E-Government index and rather high percent of the adult inhabitants using the electronic government. For them improvement of quality of on-line services can be a priority problem.

On the left top quadrant there is only one Estonia represents special interest. It is characterized by a great demand on services and rather low potential of development of the electronic government. Here rate of growth of "sales" advances development of services. The countries which have appeared in this zone, have fine opportunity for reception of fast return on each innovation, as demand for existing services are already high. The phenomenon of Estonia requires the most steadfast consideration. Probably, what was possible to do for Estonia, can be as model for many other countries, including for Kazakhstan which uses the experience of this country.

Generalizing the results above, it is possible to offer a universal matrix for a development estimation of the electronic governments (Figure 2.8(b)).

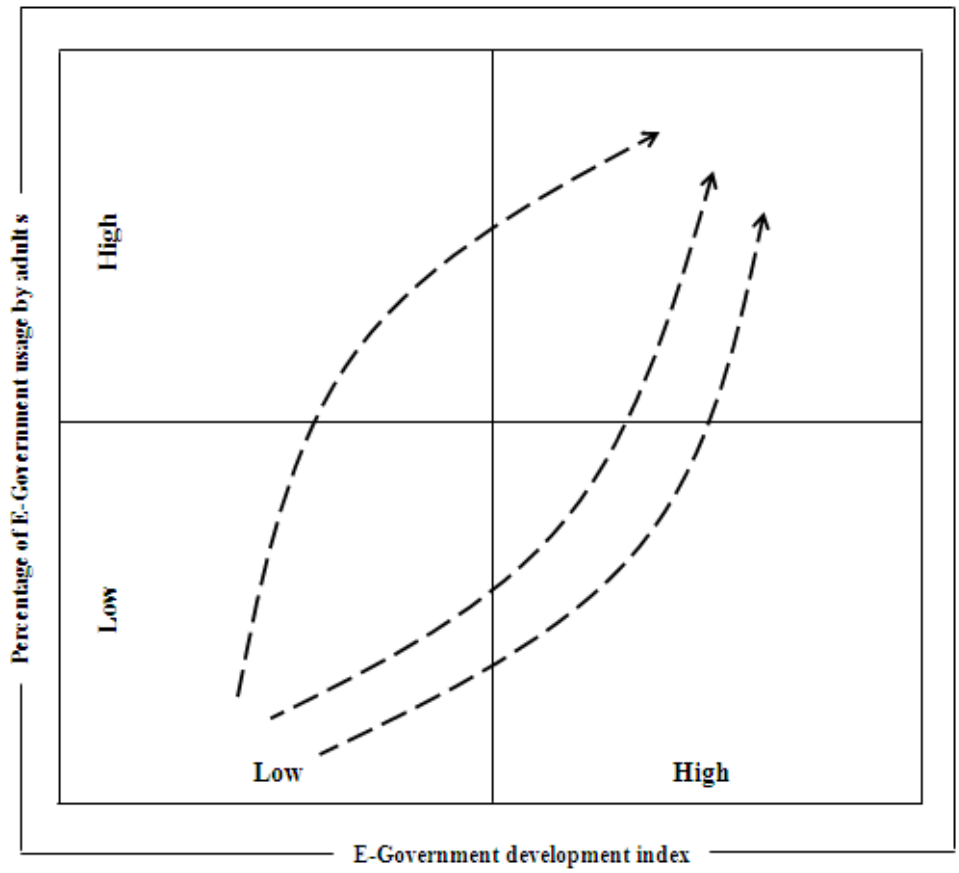


Figure 2.8(b): E-Government development matrix

By dashed lines there are shown the possible strategy of development of the electronic governments depending on rates of growth of demand for their services and rates of increase of potential of the electronic governments and development its services.

2.9 Level of computer literacy of the Kazakhstan's inhabitants

The key problem of the country where the process of implementing E-Government goes at full drive is a computer illiteracy of its inhabitants.

Today ability of using a computer is any more luxury, and dictated by a labour market and globalization necessity.

As argues Kuanishbek Esekeev (chairman, Agency for Informatization and Communications): "Today only 12% of the population in Kazakhstan has skills to use PCs. Only 8% of the populations are active Internet-users (Figure 2.9(a)). Among the most skilled users are students, managers, specialists and officials. Least skilled users are housewives and workers. There is a huge digital divide between urban and villagers".

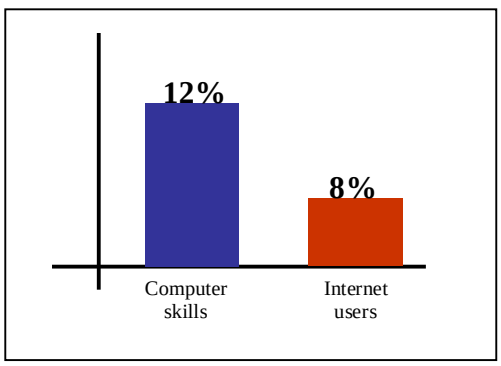


Figure 2.9(a): Percentage of computer users and Internet users before 2007

A Level of use of the Internet in Kazakhstan still low than in the countries of the European Union and the USA. However it grows all time and becoming powerful stimulus to increase in sales of the computer technologies. For the last years in the country fast growth of number of Internet providers and users is marked.

There are 39% of the Internet users often with the age of 25 years old. The 35 % - those to whom from 25 till 35 years, 26 % are people of 35 years old. In territorial distribution, the most quantity Internet users live in Almaty and Astana (ex-capital and current capital of the country). It's about 33,4 % of all Internet audience in Kazakhstan.

Unfortunately a level of computer literacy among elderly inhabitants (over 55 years old) is very weak.

The services of the electronic government for pensioners or people with the limited possibilities can become the irreplaceable instrument in their everyday life.

The young generation becomes familiar with computer technologies faster, than their senior generation. It is impossible to create the uniform program or a training methodology to computer literacy for pupils (students) and pensioners together.

This factor can become the next problem of solving the problems concerning an information inequality. It is necessary to undertake an effective and very easily mastered methodology of training.

This is not only our country's problem. For example, according to Euro-Stat Statistical Office's report 37 % of adult Europeans cannot cope with such elementary problems as starting of a browser or text editor. Such disappointing data has been received during questioning more than 120 thousand European families.

The highest level of computer literacy has been fixed in Denmark and Sweden where 90 % of the population at the age from 16 till 74 years are able to use the computer.

In Greece about 65% of adults are not able to work with the computer. The similar situation is observed in Italy (59 %), Hungary (57 %), Portugal (54 %) and Lithuania (53 %).

Only 4 % of the European students admitted that have no skills of using the computer.

In recent 2 years there have been noted certain growth of activity of users. Among regions the cities of Shymkent, Ust Kamenogorsk, Pavlodar, Atyrau and Karaganda are in the lead.

In an audience of Internet users employees and IT experts prevail. It's about 30% of all users. The share of students has increased three times (27,7 %), and they make now third on size social group of users. The share of businessmen and managers reaches 22,8 %. It is necessary to notice that the structure of a regular audience includes the most solvent groups of the population of the country.

The method of connection to the Internet via telephone using modem is frequently used (60.4%).

The way second of connection is the using of the allocated lines on home telephone numbers (15,9 %). Connection through satellite communication channels has not received a wide circulation because of high cost. It is usually used in remote areas (3,7 %). The quantity of the operations which are carried out by means of the TCP/IP-protocol has sharply increased.

If in 2000 about 69 % of all users of Internet-services in Kazakhstan were corporate, and on a share of private individuals had 31%, than in 2001 these indicators have made accordingly 53 and 47%.

According to the chairman of the Agency of Informatization and Communication Zhumagaliev, a level of computer literacy of the population will be reached up to 21% and the Internet users - 20,3% (Figure 2.9(b)). These tasks will be executed through creation of network of points for public access to the electronic services, supporting citizens by computer technologies and decreasing the Internet tariffs.

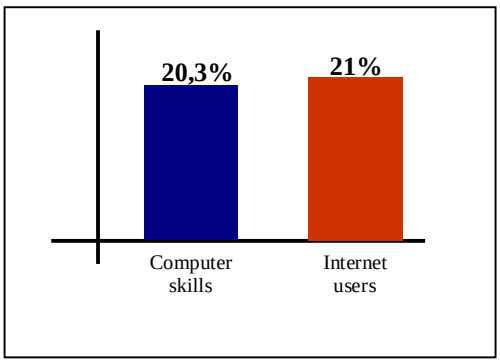


Figure 2.9(b): Percentage of computer users and Internet users after 2008

Computer illiteracy control in society and connection to the Internet of the Kazakhstan's schools are one of the major problems in the solving of problems connected with liquidation of the information inequality. Many organizations work in this direction.

Nowadays there are computer classes at each school. Efforts of educational bodies and public organizations lead courses of improvement of qualification of teachers, directors and deputy principals. The number of school Internet sites grows fast, create the methodical works the teachers. Now, it is given more attention to a subject as "Computer science".

The teachers of subjects as mathematics, physics, history, literature teach their subjects by using computer technologies.

A level of computer literacy influences not only on labor productivity, but also on structure of employment of the population. Shortage of qualified employees interferes with development of hi-tech fields of the Kazakhstan's economy which are under pressure from other roughly developing Asian countries.

The governments of the EU countries accept serious efforts under solving the problem of "digital divide" by financing a number of purpose-oriented programmes on liquidation of computer illiteracy among the citizens with secondary and primary education.

2.10 Chapter summary

The population of Astana (capital of Kazakhstan) has got access to electronic dialogue with state bodies via the system - "uniform window". Operators of the centers of service of the citizens have ceased "to reel up kilometers" on corridors of the ministries and departments. Now, they have access to the necessary information on places, make out inquiries and prepare documents online. The volume of paper work and long time spending on processing of one inquiry was considerably reduced. These services will be available in other cities very soon.

This chapter clearly describes the experiences of E-Governments in Singapore, Malaysia and the South Korea, investigates the E-Government readiness rankings and discusses the problem of computer illiteracy in Kazakhstan. It also describes four stages of Kazakhstan’s E-Government Development Programme. Well constructed E-Government brings good results and benefits. For the young country as Kazakhstan it is an indicative example.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

Since 2005 Kazakhstan's government realizes the set of programmes for implementing E-Government. Many applications of this programme are already available for the citizens.

Executed the programmes and strategies for ICT and its supporting and improving.

But, it is not enough just to realize a programme for implementation E-Government. It is necessary to investigate computer literacy situation of the citizens of Kazakhstan and to use the best efforts, to prepare people whom, possessing computer literacy and having access to ICT, could interact with the electronic government from any geographical point of the country.

The main task of the research is to investigate all possible methods of training of the population and to develop a convenient and effective method of training.

This chapter studies the experiences of the three countries as example for the Kazakhstan's E-Government development. There were investigated possible risks and problems which can be occurred during implementing E-Government in Kazakhstan. For investigating the implementing of the E-Government the researcher analyzed the Kazakhstan's E-Government readiness. Data for the research were collected through questionnaire, interview and observation.

3.2 Research Instruments

The E-Government is a hot theme today. And within the next 10-15 years we probably will not pay attention any more to this theme. The E-Government in the country works with the help of information and communication technologies. And as it is known the 21 century is a century of the accelerated development of the high technologies. Therefore it is easy to say that the E-Government also will grow worldwide in all countries. Studying and investigating of the E-Government is difficult and long process. There are set of variants which checked up by time of methodology of studying of this theme.

3.2.1 Project Plan

The study of the “Challenges and prospects in implementing E-Government in Kazakhstan: increasing computer literacy” project is carried out through 4 phases:

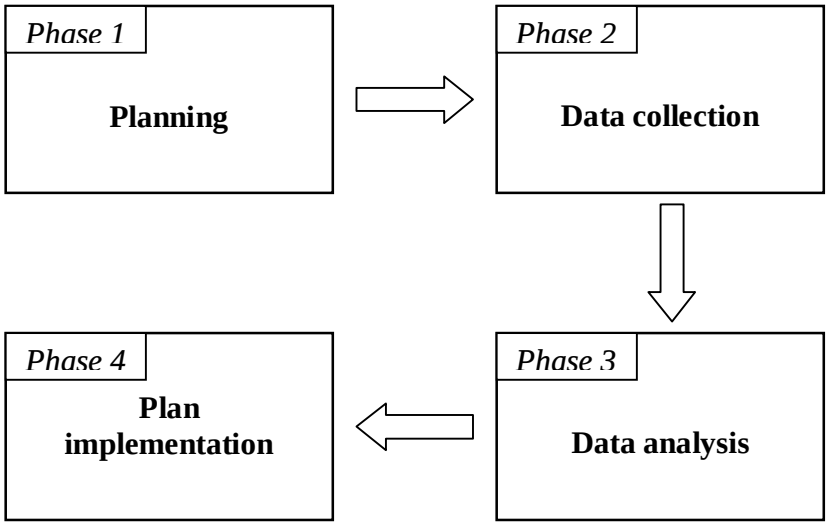


Figure 3.2: Project plan

Phase 1: Planning

Definition of the electronic government, its advantages and benefits for Kazakhstan and experiences of other countries are described in this phase. Studying the E-Government readiness rankings is also important element to find out the Kazakhstan’s e-readiness situation at current time. This phase includes an investigation of the different problems during implementing E-Government Development Progamme and its results. Researcher focuses on information inequality among citizens in Kazakhstan.

Phase 2: Data collection

The project's main task is to seek the effective methods in increasing computer literacy, first of all, it is necessary to collect data about situation of information inequality in the country. For collection of the data such methods as interviewing (individual, telephone interview), questionnaire, mail surveys, statistics observation, studying the Internet articles are used.

This research utilized both the quantitative and qualitative research methodology. The instruments used to collect the data were questionnaire and observation. A set of questionnaire containing 30 questions divided 3 sections. Different question types, such as ranking, yes-no, listing, category and open-ended were used in the questionnaire.

The different sections of the questionnaire were: i) readiness, realization and effectiveness of the E-Government development programme, ii) requirements for the implementation the programme, iii) problems and expectation during implementing the E-Government development programme.

The qualitative data for the research come from observation. Observation is used studying condition of the IT Infrastructure in the country, analyzing statistics, studying the level of the citizens' knowledge (familiarity with IT) and other aspects.

Phase 3: Data analysis

On this phase there is a process of intensive studying of all collected data for the analysis. The data analysis carries out through illustration of charts or diagrams, comparison the statistics, studying of the data by using the methods described on a phase 2.

For example, it is very important to find out as far as citizens informed about the E-Government programmes well, what barriers and difficulties they face in their way

during using the E-Government applications (online services), How many people familiar with IT or can use the Internet.

Phase 4: Plan implementation

After carrying out of data analysis there is a last phase which includes researches for seeking the effective methods in increasing computer literacy. A project can have some variants for decision of this problem.

3.3 Respondents of the study

During researching this research the questionnaires were sent to the respondents. The respondents are those people who had the indirect relation to this programme. Basically it is top government officials, regional administrative agencies and participants of realization of the E-Government development programme of the Kazakhstan. (At present time not all respondents answered to the questionnaires)

3.4 Research Procedure

Researches in the E-Government field differ from researches of base disciplines of computer sciences and sociology. Thus, researches in the field of the E-Government always are interdisciplinary. The computer science and information technology,

computer sciences and engineering, and also social studies are involved at it. These disciplines in different combinations and shifts ensure the base of researches in the field of the E-Government.

Before studying of development of the E-Government in Kazakhstan definitions of the E-Government have been studied. How do government and citizens imagine it? What is the economic, social condition in the country? Is the country ready for that and what kind of difficulties we should be waiting for? What is executed? As example the experiences of other countries such as Singapore, Malaysia and South Korea have been studied as example. Well-known, that it is better to study on others experiences than to go blindly and to do expenses of a government budget. What can give us the E-Government and how long to wait for its complete realization. Also, in researches were analyzed two governmental programmes on realizations of the E-Government and their possible risks. Opinions of governmental officials are also very important.

3.5 Chapter summary

This chapter was focusing on the methodology of the research. The research uses two quantitative and qualitative research methodologies. Also questionnaire and observation methods are used. The importance of the methodology of questionnaire is to collect and analyze the top governmental official's opinions about implementing E-Government in Kazakhstan. The figure 3.5 shows the all methods for researching this project. Many studies focused on measuring computer literacy skills of the Kazakhstan's inhabitants.

Table 3.5: Research methods

Research method	Amount of work
Document analysis	20%
Web content evaluation	15%
Questionnaire	15%
Interview	15%
Observation	10%
Reflection on project experience	10%
Literature review	10%
Other	5%

CHAPTER 4

DESIGN OF SURVEY

4.1 Introduction

This chapter is prepared to discuss the key considerations in conceptualizing, designing and implementing the intended survey to determine the level of computer literacy of the Kazakhstan's inhabitants for whom the government is implementing the electronic government. The issues of this research are necessary for making conclusions and seeking the effective method of increasing computer literacy among the citizens.

Data gathering is the important stage in the scientific research process. At this stage a researcher collects data on which basis he/she subsequently makes conclusions about communications between the phenomena and find out their essence.

In the project the survey method is used in as follow cases:

1) When the studied problem is insufficiently provided by documentary sources of the information or when such sources in general are absent.

2) When the object of research or its separate characteristics are inaccessible to supervision.

3) When as follow studying subject are elements of public or individual

consciousness: requirement, interests, motivations, moods, values, beliefs of people etc. In as follow case, it is necessary to find out:

- How well are the people being informed about E-Government programmes implementing in the country?
- What quantity of interrogated respondents can use a computer, the Internet?
- What quantity of interrogated respondents uses services of the electronic government? And etc.

4.2 Survey Methodology

During survey the researcher asks the respondents questions about different events. Some respondents for the survey were identified through randomly. The survey is conducted in Kazakhstan with the help of intermediaries from different cities of Kazakhstan. These intermediaries help the researcher to carry out the survey during research. According to what question will be asked, the survey can be oral and written (in our project both these methods are used). Oral survey can be used in the form of free interview or on the basis of the questionnaire. In a free interview the questions were asked during conversation depending on a situation. For the questionnaire all questions were prepared in advance. And before starting an interview or questionnaire all respondents must be guided by the researcher (or by the intermediaries for the respondents from Kazakhstan). Second method is most suitable for questioning a large number of people.

Depending on how answers are formulated, the respondents could give answers to the questions independently, formulating the answers or survey with certain answers when it is possible to answer a question in advance definitely (for example, "yes" or "no").

Last method of survey gives a lot of the important information to the researcher because it is very important to learn opinion of respondents who are on big distances from each other. Thus, it is possible to learn, how the E-Government Development Programme influence to the inhabitants of the country. Utility of questioning for research consists that by means of this method it is possible to collect data for the analysis and statistics.

Questionnaire survey is the first method from other effective methods which has been used in this research. There were participated 100 respondents in this survey. Less

than half of them are top government officials. From 100 respondents of survey 64 respondents are in Kazakhstan. And only 41 of them have shown interest and returned the answered questionnaires to intermediaries in Kazakhstan. After collecting all answered questionnaires the intermediaries have sent them back via E-mail to the researcher. Other 26 respondents were questioned in the UTM campus. Total number of the questioned respondents is 67.

The first part of the questionnaire has introduction which represents the direct reference to a respondent. It has short description about the purposes and research problems, the values are underlined, informed on how results will be used. The rules of the questionnaire are also pointed, and anonymity of respondents is necessarily guaranteed.

The second part of the questionnaire — is basic. It contains questions, directions on extracting of the necessary information.

The second method of survey is an interviewing. For the interviewing there were participated 26 UTM students and for telephone interviewing 10 respondents from Kazakhstan.

For telephone interview there have been chosen the people who have different specialties and over 16 years old.

Interviewing via telephone is irreplaceable in case of carrying out of adjusting researches. In our case this method is used because of the long distance between the respondents and interviewer.

Methodology

At the first stage as much as possible full database of telephone numbers of potential respondents is formed. At the second stage other phone numbers from the generated database will be randomly chosen.

Advantages of the telephone interview:

- High speed of carrying out of public opinion poll.
- Possibility of wide geographical coverage.

- Possibility to reach inaccessible and important respondents;

Disadvantages of the telephone interview:

- Serious restriction of duration of interview (only 7 minutes, dependence on the price for the international calls).

The advantages of the interview methods before questioning consist in the following:

- This method gives an opportunity to watch respondent's reaction, his/her attitude to a problem and to the questions; in case of need it is possible to change the formulation, to put additional questions;
- It is possible to see respondent's attitude to the questions: honestly or not.

The Figure 4.2 shows survey procedure for data collection and data analyzing of the research.

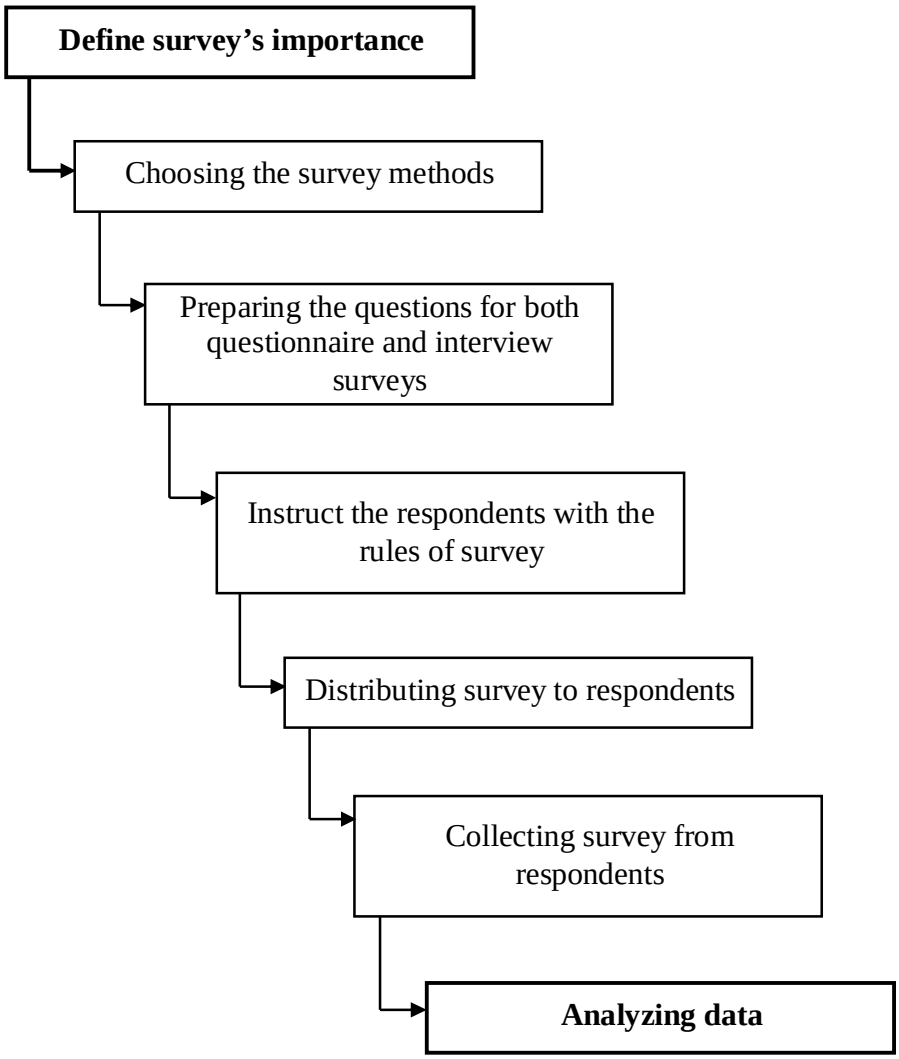


Figure 4.2: Survey procedure for data collection

For collecting of the important data for the analysis of level of computer literacy of the citizens in Kazakhstan it is necessary, that all methods of survey were effective.

4.3 Survey Sampling

One hundred people participated in the survey. Eighty seven of them are simple inhabitants among citizens, and the other 13 are government officials of the country. For non-government officials the following methods of interrogation have been used:

- Questionnaire via the E-mail;
- Interview (telephone interview, via SMS and individual).

For questioning the respondents of the Kazakhstan 87 respondents have been chosen. 54 of them (including government officials) live in Kazakhstan and have been chosen randomly, 26 respondents are the students of UTM. All respondents are over 18 years old and have different occupation. The Figure 4.3 shows the location of the respondents. The cities where respondents live are: Almaty - 10, Astana (capital of the country) - 8, Karaganda - 12, Aktau - 4, Pavlodar - 5, Shymkent – 5, Aktobe – 10.

It was expected that carrying out of interview with respondents who are in Kazakhstan now unreal, because of the long distance between the researcher and respondents. But, despite these restrictions, interview has been spent through telephone conversation with 10 respondents from 100. From 10 respondents - 5 are the students of last years of the Karaganda city universities, 3 are government officials, and the others are retired people.

For the individual interview there were interviewed 26 Kazakhstan’s citizens who at present time study in UTM.

All above-listed respondents answered the questions concerning about developments of the electronic government in the country, results of the program, about an information, computer and telecommunication infrastructure of the country etc. Also it was important to learn about their opinion on the respondents about the effectiveness of the currently running programmes against computer illiteracy of the population.

For the individual interview 26 Kazakhstan's citizens who study in UTM at present time have been chosen.

The questionnaire has been sent via e-mail to intermediaries in different cities who distribute the questionnaires to the respondents. Such method of questioning is more effective because it is possible to obtain the accurate data in a considerable quantity not only from one city, but also from different cities of the country and to estimate a condition of computer illiteracy in full scale.

The intermediaries of the survey helped the researcher to carry out the survey during its process. They are all well known people for the researcher. They have received the questionnaire via E-mail and distributed the copies to the respondents. For answering to all questions from questionnaire the respondents had 2 weeks. After the intermediaries collected the answered questionnaires, scanned and sent them back to the researcher.

4.3.1 Possible reasons of unsuccessful questioning

For collecting of the important data for analyzing the level of computer literacy among citizens of Kazakhstan it is necessary to have effective methods.

During realizing of survey 23 respondents from 64 did not return the questionnaires.

It is possible that questioning of the respondents can give low results because of following reasons:

Firstly, during questioning the situation remains uncontrollable. It is unknown, where and in what situation the questionnaire is filled, whether answers are prompted by somebody.

Secondly, if some questions are not clear to the respondent there is nobody who could explain it.

And finally, the reason is - low percentage of returning of the questionnaires. It is impossible to force the respondents to answer the questions. Especially, if the respondents have never met the researcher. There can be arisen a moral responsibility. Therefore, for solving this problem the researcher did not put a section about name, address and place of work of the respondent.

4.4 Chapter summary

This chapter provides the description of the survey methods and their importance for the project.

Use of methods of questioning, interview gives the chance to estimate widely computer literacy of the population, to see results of performance of the electronic government eyes of inhabitants of the country, to learn methods population training to computer literacy, to make the analysis of efficiency of these trainings etc.

Questionnaires must be carefully designed to yield valid information. Meticulous attention must be paid to ensure that individual questions are relevant, appropriate, intelligible, precise, and unbiased. The order of the questions must be carefully arranged, and the layout of the questionnaire must be clear. It is wise to draft a clear covering letter. Questionnaires must first be piloted and evaluated before the actual survey.

CHAPTER 5

FINDINGS AND ANALYSIS

5.1 Introduction

This chapter consists of five main parts which include an investigation of implementing E-Government in the world and Kazakhstan, studying of the problems with digital divide, analyzing the computer literacy of the Kazakhstan's citizens according to the survey results and seeking the effective methods for increasing computer literacy among citizens.

Investigation of these aspects brings into focus what have been done last 3 years: the results of implementing E-Government, the computer illiteracy level in the country and its main reasons, what have been done for increasing computer literacy among citizens for increasing number of the users for the E-Government services. Last problem is more important, because the completion of implementation of E-Government can be successful when demand for use of its services will increase among citizens.

5.2 Analysis of computer literacy among citizens according to survey results

According to the experts a problem of weak development of the electronic government in the country is the citizens' computer illiteracy.

In many ways this situation is caused by archaism of the technological base inherited from the former USSR. Tendencies for reduction of overall production in the field of high technologies in the domestic electronic and instrument-making industry appeared since the end of 80th years and accepted catastrophic character last decade of the 21 centuries. While expansion of the import of technical equipment for satellite and a mobile communication, products of household electronics and the computer technologies from industrially developed countries of the West, USA, Japan and the countries of Asian-Pacific region (South Korea, China, Taiwan, Malaysia etc.) in the Kazakhstan market became more frequently, the domestic production of this production sharply fell.

According to the official statistics, today level of computer literacy in republic makes only 8 %.

In interview Kuanishbek Esekeev, Chairman, Agency for Informatization and Communications, RK argues, that with the help of the Digital Divide Decrease Programme a level of computer literacy will be increased up to 20%, i.e. it is possible to train about 2 million people about how to use a computer and connect to the Internet. The ministries and akimats joint efforts open classes for training. The mini training centers for military men, state employees, pupils of children's homes and boarding schools are already ready. In total such classes will be two and a half thousand. During finishing the courses they all will receive the certificates.

As the researcher notes, first of all, it is necessary to create a special "tool" which could estimate a level of the citizens' computer literacy, i.e. investigating (testing) of all citizens' computer literacy level in all cities and towns. This statistics can show where

the IT knowledge is high and where is low. The results of these investigations could improve and add changes to the programme for decreasing digital divide among citizens.

At an estimation of readiness for an information society it is necessary to distinguish and consider the factors influencing electronic development and level of use ICT in key areas. Besides, large-scale and productive use of ICT in the country depends from a number of other important factors: presence of the human capital (sufficient number of experts, skills of use of ICT at the population, motivation of its use), the business environment promoting manufacture and use of ICT, adequate legislative regulation. Further, introduction of information technologies should be a part and submit to the purposes of reengineering of that activity in which their use is supposed, whether it being activity of the commercial company, public authorities or separate business process. Only in this case it is possible to expect a positive effect from their use. And, at last, economic growth and social development of the country depend on the general policy facilitating growth and development, than from introduction of ICT.

The program of decreasing of digital divide is directed on reduction of the tariffs for the Internet and supplying people with the computers for an acceptable price. And after these stages population training follows.

Trainings of the citizens in the country already have started. There were trained about 160 thousand people over the past year. Three respondents who participated on these trainings, for the question “Are the computer courses for decreasing a digital divide effective?”, have answered that these courses were not so effective.

As declares in interview Tolegen Tuleev, the director of department for decreasing of digital divide, AIC, the question is not about to teach all citizens as IT experts. The project purpose is to teach Kazakhstan's people to work on a computer without assistance.

According to the researcher there is necessity to improve training methodology for increasing computer literacy. Because it is important to consider age, education and occupation of each citizen. Two of three respondents confirmed, that the training method is not more effective. I.e. it is not always possible to remember those or other rules. The reason is also of the language barrier. If not to consider citizens, only 30 % of IT experts in Kazakhstan know English.

Also, besides training of simple citizens, it is necessary to train the government officials who will co-operate with citizens through G2C model.

For the question "Do you know about provided computer courses according to Digital Divide Decreasing Programme 2007-2008?" 20 % of respondents have answered that they do not know about it. The others have not shown desire to have this course because do not know what is electronic government.

As argues Tolegen Tuleev, the director of department for decreasing of digital divide, AIC on interview there were created and develops many resources, sites, portals by the government. But number of users is minimal.

Drawing a conclusion from this it is to say that the Kazakhstan's people are not interested in the program of implementing the electronic government yet or do not know about programme existence. There are many reasons. But main reason is that almost 60 % of Kazakhstan's citizens live in the countryside, do not have access to the Internet and do not have any computer skills.

Therefore it is necessary to carry out various actions for explaining citizens about advantages of use of services of the electronic government. Also for this purpose it is necessary to involve the local enterprises and organization.

The next problem of increase of computer literacy of the citizens is lack of computers at some levels of population.

Figure 5.2(a) shows results of the respondents' answer for the question: "Do you currently own a computer?"

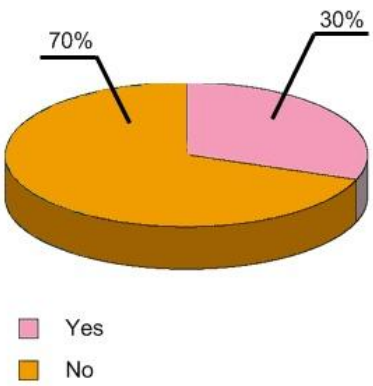


Figure 5.2(a): Number of computer owners among citizens

The reason of such result is the citizens' social status. Even those people who are interested in the electronic government and advantages of knowing of IT do not have an opportunity to buy family PCs for the acceptable prices.

For the decision of this problem the AIC develops the programme on manufacture of own (domestic) computers on the basis of Intel processor which will be on sale for the low price.

90% of respondents from Kazakhstan have answered negative for the question “Does your computer have access to the Internet?”, in their opinion, in 2006 the price for the Internet was lower in comparison with this year.

As Erlan Durmagambetov, the vice-president of AIC has declared in interview: "If we speak about availability of the Internet, we certainly say that Internet cost directly influences. And the country is still working on this problem."

At the same time, on the basis of the carried out of analysis there is a number of problems which includes: insufficiently actual and demanded information contents of web sites of state bodies. During carrying out of interview to respondents, on a question “How often do you visit the web-sites of state bodies and how easily can you find the necessary information?”, the 7 respondents have answered, that many sites are not updated. During research it was found out, that on many resources the design was not updated within already 1-2 years. More than 40% of official Internet resources of state bodies do not have daily updating mode of the information on current activity.

The Internet resources of different departments have the out-of-date structure complicating operative access of citizens to the necessary information, the resources informing on an operating procedure of state body and consideration of references of citizens are not developed.

For the decision of above discussed problems, it is necessary to execute following actions:

1. It is necessary to create the special "tool" of an estimation of a condition of computer literacy among citizens in all parts of the country.

2. To improve methodology of training of the citizens: to use the best and effective method

3. To reduce the prices for computer technologies (to begin mass production of computers in republic) or to give to people access to ICT.

4. To reduce the Internet tariffs.

Other survey results:

The following question of questionnaire concerned definitions of priorities in development of E-Government. Figure 5.2(b) illustrates the answers for the question: What measures should be undertaken for formation of effective E-Government?

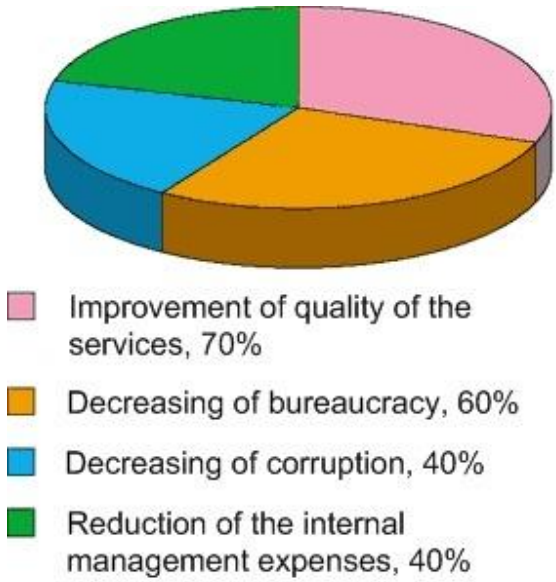


Figure 5.2(b): Answers for the question: What measures should be undertaken for formation effective of E-Government?

The Figure 5.2(c) and Figure 5.2(d) shows distributions of answers to the following question are presented: What barriers interfere with formation of effective E-Government and what services should be realized in sphere of G2C till 2010?

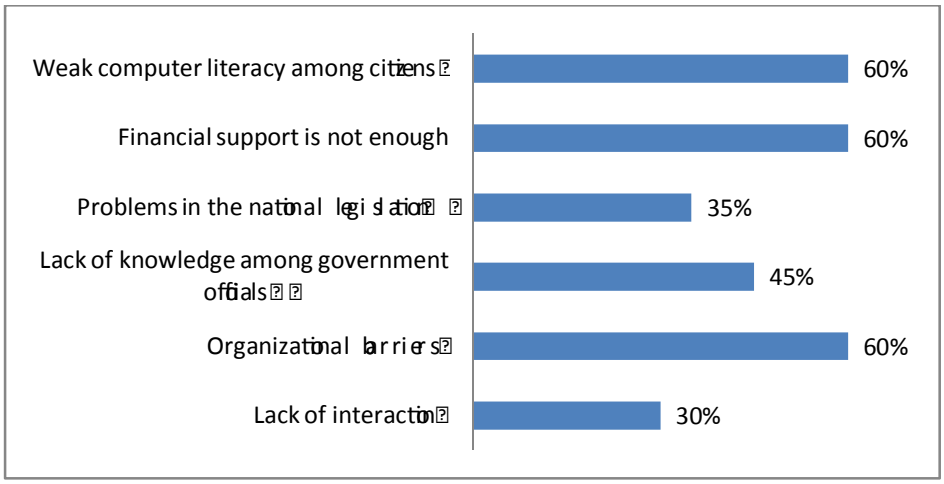


Figure 5.2(c): Distribution of answers to a question: What barriers interfere with formation of effective E-Government?

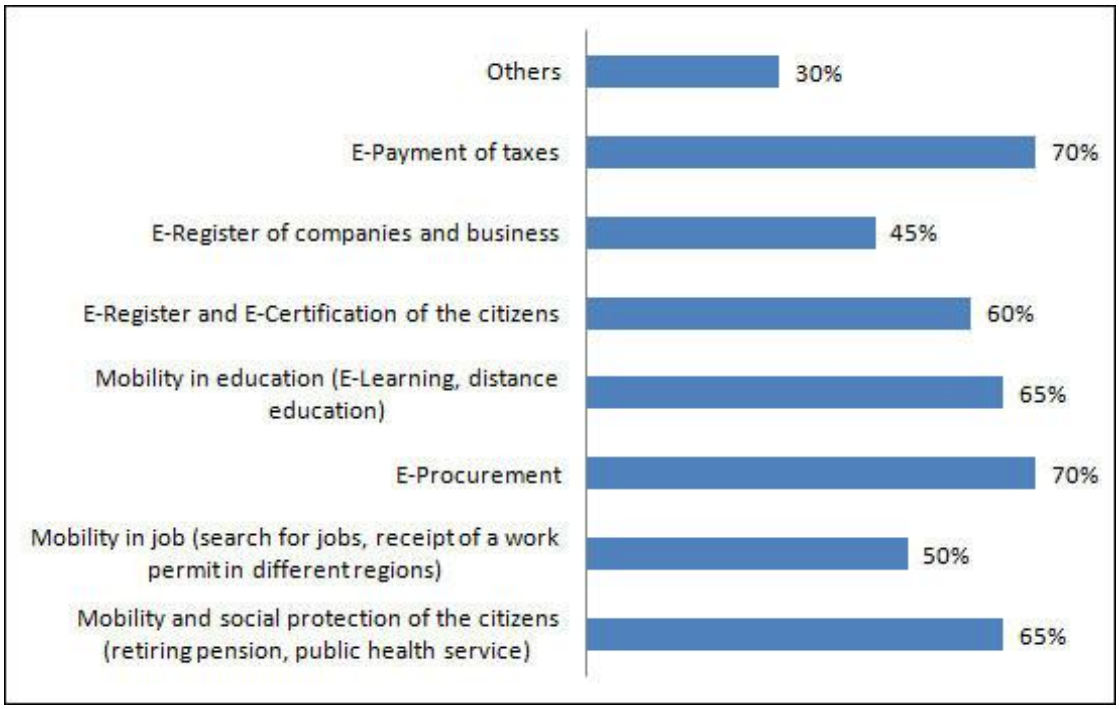


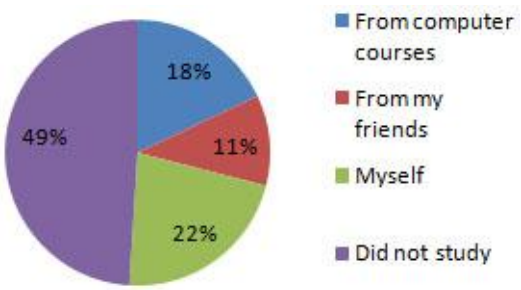
Figure 5.2(d): Distribution of answers to a question: What kind of services should be realized in sphere of G2C till 2010?

The following results show opinion of respondents concerning the familiarity with a computer and implementing electronic government in the country (total number of respondents - 67):

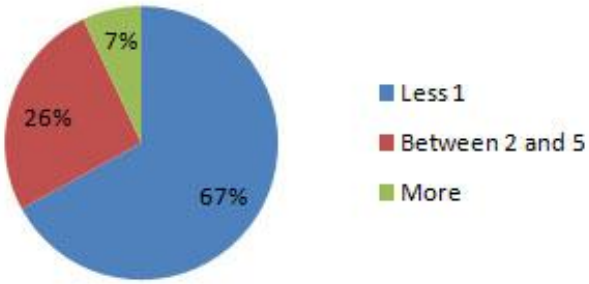
1. Are you familiar with the computer?

50,7% - Yes 49,3% - No

2. Where did you learn to work on a computer?



3. How many years have you been using a computer?



4. Do you currently own a computer?

16% - Yes 84% - No

7. Does your computer have an access to the Internet? (yes, no)

10% - Yes 90% – No

13. Do you know what “electronic government” is?

12% - Yes 88% – No

14. Does Kazakhstan have a national strategy relating to E-Government issues?

15% - Yes 85% – No

15. Have you ever visited E-Government portal – www.e.gov.kz?

9% - Yes 91% – No

16. Do you know what E-Licensing, E-Commerce, E-Payment is?

25% - Yes 75% – No

17. Do you have a basic understanding of E-Learning?

26% - Yes 74% – No

14. Are there any activities in your city for decreasing digital divide (computer illiteracy)?

10% - Yes 90% - No

18. According to the E-Readiness Rankings 2008 Kazakhstan ranked 66 from 72 countries. How do you think is Kazakhstan ready for implementing E-Government?

62% - Yes 38% - No

19. Low computer literacy among citizens is a reason for weak development of E-Government in country.

97% - Agree 3% - Disagree

22. Is it necessary to train the state employees to computer literacy?

70% - Yes 30% - No

5.3 Influence of digital divide on E-Government Development

For the first time the term a “Digital Divide” has officially been mentioned in the report which is prepared by the American administration of telecommunications and information NTIA in 1995. At the international level it has sounded in 1996 when the International union of economists has offered the “Right to communication” project which consists the organization of access to information and communication technologies all citizens in the developing countries. After one year the digital divide was analyzed in the United Nations during annual discussion of the program about development of the third world countries. The modern concept of a digital divide has been formulated at the World summit concerning the information community, passed in 2003 in Geneva.

By providing new information technologies, telecommunication and access to the Internet to the population cannot solve a problem of a digital divide. According to the researcher, it is necessary not only to introduce ICT, but also to explain their possibilities. The main thing in liquidation of an information inequality - is not only providing access to ICT, but also ability in supporting to receive social benefits from their use. But access to ICT does not give social advantages to poor and needy levels of population. Because, they do not have possibility to turn new technological achievements into financial. Sometimes rather low there is also a quality of the access – working in the collective centers is not always conveniently and comfortably. The users do not have not enough special knowledge.

The researcher supposes, that it is important to raise motivation for formation and studying ICT at those who is able to do it, but does not want, - and to help those who wishes to be familiar with new technologies, but cannot because of shortage of knowledge. Many researches prove that ability to receive social benefits from ICT most strongly depends on literacy level, and it is not as much from base skills of reading and writing, as from good all-round preparation within the limits of high school. Such

preparation develops memory, ability to abstract thinking and logic which are rather desirable at work with ICT. But with the account of weak preparation of teachers on computer science the idea of mass distribution of every possible training programs and electronic textbooks looks more perspective. For inhabitants from the distant region it is easy to download books or software then to buy an expensive polytrophic edition.

A digital divide is a problem not only separate people, also the whole countries and regions. First of all, Kazakhstan had to increase an educational level and professional qualification of the citizens before implementing E-Government. Those countries which cannot raise level of information-communication technologies will inevitably lag behind the neighbors. Thereby the economic and social inequality of the nations will even more increase in the world.

For solving these problems in 2007 Kazakhstan started the “Digital Divide Decreasing Programme 2007-2009”. As it is defined in the program of decrease in an information inequality in the republic, the “digital divide” means unequal possibilities of using information-communication technologies. It is defined by unequal access of citizens to resources of the Internet, unequal possession of citizens of skills of using of computer technologies and other digital, communicative features. For decrease digital inequality and development of a plan of measures in the country it was necessary to create the “tool” for its measurement.

By means of this “tool” it will be possible to make a real estimation of a digital inequality among the Kazakhstan’s population.

5.4 National E-Government Development Programme

In 2004 National E-Government Development Programme (NEGDP 2008-2009) for years 2008-2010 was accepted in Kazakhstan. The main objective of the Kazakhstan

E-Government programme is providing quick and high-quality access to public services, enhancing efficiency of government bodies with the help of ICT, i.e. providing access to ICT for every user in everyday life.

To implement the existing objectives, the Agency for Information and Communication (AIC) was to perform a huge amount of preparatory work. Processes of such scale cannot be performed in a flash. First of all the AIC had to work out legal and methodological base development, which would allow the state, population and organizations function in information society environment. Among the existing objectives the AIC should mention developing and enhancing e-Services provided by state bodies; providing access to e-Government services, digital inclusion and enhancing educational level in ICT sphere.

First of all, AIC developed basic constituents of E-Government infrastructure, optimization of information infrastructure of the state bodies and providing E-Government information infrastructure security.

This year the agency has developed a project of new E-Government development programme for years 2008-2010. New goals have been set.

According to president of Kazakhstan Nursultan Nazarbaev, “Competitiveness — a key to successful integration of Kazakhstan to economic and community… Kazakhstan will lead the uniform state strategy directed on introduction of high technologies and support of innovations”.

For the Kazakhstan implementing of E-Government is a chance to develop its ICT, to deliver more information to the citizens through E-Government portals, to decrease corruption, to create educated and contemporary society, and finally to join to the list of the 50 most developed countries around the world.

5.4.1 Realized E-Government services and plans

At present time almost 95% of the state bodies have own web-sites and give the information to the citizens, that shows the formulation of the Internet infrastructure the legislative base is already formulated.

Since 2006 has begun automation of activity of passport offices (300 are already automated), works on integration with a web-portal of the electronic government, and creation of other state databases, the information systems for the Ministries of Internal Affairs, science and education, critical emergency have been done.

The "Legal bodies" database is started in pre-production operation in such departments, as Tax committee, Statistic Agency, Committee of registration service. Within 2007 works on interaction with departmental systems and state databases, and also a web portal of E-Government have been spent.

The “Address register” project also has been implemented in pre-production operation in the "akimats" (governance office of the cities) in such cities as Almaty, Astana, Pavlodar, Ust Kamenogorsk, Kokshetau. In 2007 finished fulfilling of the interactions with the departmental systems and state databases, and its introduction in 10 regional and 120 rural centers.

For 2008 under the "Register of real estate" project support of interaction with Tax committee for actualization of structure of data has been planned. This stage actually requires filling of the "Tax roll and tax base registry information system" and development of integration with information systems of the Agency on management of ground resources, Statistics Agency, akimats, and also e-government components.

Completion of an information stage associates with starting of a portal of the electronic government, as uniform window through which the information of web sites and electronic services will be accessible. In 2006, (April, 12) the electronic government web-portal (www.e.gov.kz) has been started its functionality on the Internet. The web portal of the electronic government is the practical mechanism of realization of the concept of providing the state services in a principle of "one window”.

At present time 900 information services have been realized which cover an activity of the Ministries of the Education and Science, Labor and Social Protection of the Population, Industry and Trade, Justice, Finance, Health, Energy and Mineral Resources, Agency on affairs of public service and National Bank. Till the end of current year it is planned to realize other information services in the portal of all state bodies and to finish an information stage of developing the electronic government in the country.

Information services are grouped on the web portal according to the basic life cycles of the person: a childhood, study, a youth, a family, job, an old age, and enterprise business cycles: planning, opening, liquidation. Construction of structure of providing the electronic services round life cycles of the person and business is directed on the maximum simplification of search and reception of necessary information.

In spite of the information services on the portal there were legalized following services:

- E-mail;
- Contact services;
- Scheduling service;
- Subscription.

A Web-portal supports three languages (Kazakh, Russian and English). Also, there is a news block on the portal.

The next stage is Interactive Stage. The beginning of this stage was supposed in 2008 by implementing the first interactive services which will allow to receive various information through interaction with the centers on population service. It will facilitate every citizen’s life.

Kazakhstan adopts experience in implementing electronic government from abroad, in particular, from South Korea, Malaysia and Singapore. These countries are high ranked in using effective methods for implementing electronic government. South Korea is the first on development of the broadband Internet.

Problem of Kazakhstan at the present stage is concentration of efforts for transition to an information society through IT. Experience of Korea will give the chance to the country for problem solution in this situation.

Electronic document circulation is a first experience in implementing e-management. In 2006 the electronic document circulation with application of the digital signature introduced in 70 state bodies and their structural divisions.

Following initiative of the AIC is integration of this electronic document circulation with the E-Government web portal for receiving the citizens' references and increasing of state bodies' response speed.

Thus, introduction of the e-document circulation will allow to open operative access to the necessary information for acceptance of administrative decisions by the state bodies, and also to reduce the postage expenses and time for delivery the documents to the addressee.

For realization the E-Akimat services, this year it is planned to realize two pilot projects in the East Kazakhstan cities and in Almaty city.

Such systems, as electronic state purchases, electronic customs and the taxation, electronic delivery of licenses and service E-Akimat should become a basis for rendering of the most demanded services. The Ministry of Finance already works on the given direction. And the Ministry of Justice works on electronic registration of citizens and business.

The given systems will connect to the portal by means of a sluice which will be that software which actually will allow realization the ideas of rendering of services of state bodies by the "one window" principle.

On the other hand information services will be connected to the portal from web sites of state bodies. The citizens can have access to these services through the portal (www.e-gov.kz) and through points of public access.

Since 2006 the following departments connected to each other for electronic document exchange:

- Ministry of Justice,
- Ministry of Transport and Communications,
- Ministry of Industry and Trade,
- Ministry of Labor and Social Protection of the Population,
- Ministry of Education and Science, and
- Agency for Informatization and Communications.

For the purpose of integration of departmental information systems, in 2007 the works on delivering of interactive services to the population have been done. Essentially it's a reception of statements, delivery of the various documents (passport, identification card, residence permit of the foreign citizen and the certificate of the face without citizenship) by a principle of "one window" (the passport, the identification card, residence permit of the foreigner and certificate of the stateless persons); act of civil status; taxpayer's certificate; deed of ownership (the certificate on the property right to the ground area); certificates about the state registration of the legal bodies; reception of references of citizens, and also licensing of enterprise activity in the field of telecommunication and delivery of permissions to a radio-frequency spectrum.

Essential condition for transferring to the stage of development of the country in the conditions of an information century is creation and development of the qualitative and universal infrastructure of the e-government for introduction IT during country’s daily, and building of an information society and development of a national economy by use of IT in all sectors.

The special importance of this idea is to obtain of development of electronic industry.

And for these purposes there was built free economic zone in Kazakhstan: the Park of Information Technologies (PIT) - Alatau IT City. According to the development concept, Alatau IT City consists of following supplementing clusters:

- industrial cluster;

- educational cluster;
- inhabited cluster;
- commercial cluster.

All of these clusters consist of offices of the companies, the legal companies, accounting companies, PR-agencies, the venture companies, etc.

The PIT plays the important role in development of the electronic government and decrease digital divide among citizens in Republic Kazakhstan. Activity of the PIT is aimed creation, strengthening and development of the IT industry of Republic of Kazakhstan.

Work in the PIT will help to realize many problems on providing of access of citizens of Republic Kazakhstan to the Internet, achievement of computer literacy at 20% of the population of our country.

5.5 The E-Government delivery models

Analogous to the concept of E-Commerce, which brings customers closer to businesses (B2C) and enables businesses to transact with each other (B2B) more efficiently, Kazakhstan's E-Government aims to make the interaction between government and citizens (G2C): government and business enterprises (G2B) and inter-agency (G2G) (see Figure 5.5). E-Commerce has evolved through four stages: pure publishing; interactivity; completing transactions and delivery. Similar stages have been for assessing the maturity of E-Government.

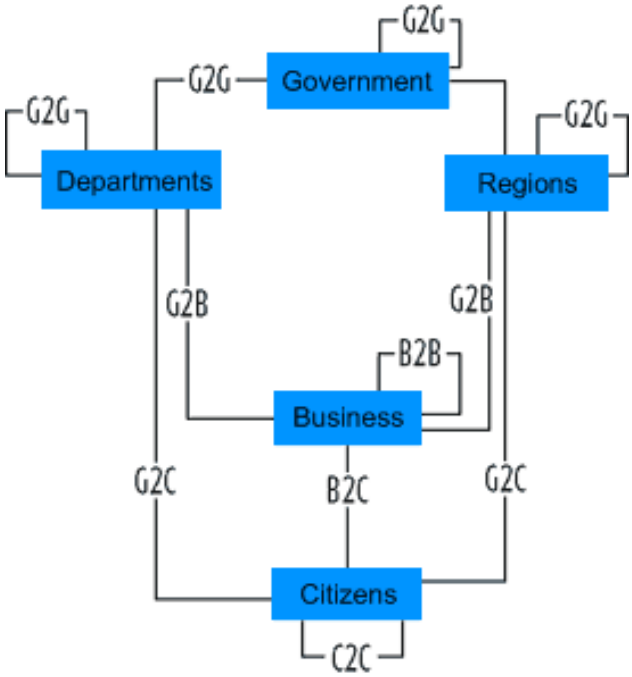


Figure 5.5: Electronic interaction of the government, business and citizens

Traditionally, the interaction a citizen or business and a government agency took place in a government office. With emerging information and communication technologies it is possible to locate service centers closer to the clients. Such centers may consist of an unattended kiosk in the government agency, a service kiosk located close to the client or the use of a personal computer in the home or office.

5.5.1 Interaction between government and citizens (G2C)

The initiatives of G2C model are intended to facilitate interaction of the population with state administration bodies, according to some observers, makes an mail goal of the electronic government. The purpose of these initiatives consists in trying to

perform such operations, as extension of the licenses and certificates, payment of taxes and giving of statements for allowances in short time and easy.

The initiatives of G2C model also contemplate the purpose to expand access to the state information by using of tools of distribution of the information, such as web sites and-or (as it was said before) the "kiosks". Some followers of the electronic government suggests that the one of the missions of realizing these initiatives should be a site creation as "the uniform centre for fulfillment of all purchases" where citizens can carry out variety of problems, especially that assume the reference abreast establishments when from the citizen it is not required to come into contacts to each establishment separately. Potential possibility of increase in initiatives G2C can be called that they are capable to promote interaction at level "citizen to citizen" and to expand participation of citizens in the government by creation of more the ample opportunities, allowing to overcome barriers as time, and geography and by that gathering citizens who usually do not meet with each other.

Before implementation E-Government delivering of the information to Kazakhstan’s citizens basically is carried out through mass-media and has irregular character. People had no possibility to familiarize with the necessary documents as required. The E-Government system can give to citizens following possibilities:

- Reference time behind services and time of providing of services from state bodies will be reduced. Citizens can visit state’s web-sites and fill forms, make appointments, get licenses and permissions, to submit tax declarations and demands for reception of social privileges (to make out unemployment benefits, on the child, etc.) to carry out job search through employment services, to make personal documents (passport, driving license), to register motor transport, certificates (about a birth, marriage), etc.
- It will be possible to use complex services thanks to more effective interaction of the various governmental organizations. Citizens do not need to carry the inquiry from one department to another. It will be enough of the on-line reference at which all

further exchange of documents and the information will occur inside of electronic government in the fixed terms;

- Population can receive fuller information on the state laws, rules, the politician and services. Access to various data will become simpler: to bills, materials of hearings in committees and to documents under the budget. There will be a possibility to watch actions of the elective representatives, to create groups of influence and to express the opinion in a mode of real time;

- E-Government realizes the concept of the transparent government, or so-called electronic democracy (e-democracy). Growth of degree of a transparency of work of state bodies should improve public control over job of the government and lower corruption level. Citizens can influence more effectively acceptance of administrative decisions in the state.

- The people living abroad can participate in affairs of the fatherland. Implementation of E-Government will promote development of existing on-line civil forums (online citizens' forums) and practice of electronic petitions (e-petitions). The Internet will be used more widely for the organization of elections (on-line registration of voters, the publication of results, application of the Internet for simplification of process of voting). On-line elections will allow people to vote practically in any place by means of the device convenient for them.

Interest to initiatives of G2C is stimulated with a combination of some factors. One of them is a demand of the population, especially young citizens and those who has got used to use electronic operations in other areas of the life (for example, a banking). Some observers expect, that demand of the population for services of the electronic government will essentially increase throughout the next ten years as young men who now grow up and use personal computers and the Internet as something self-evident in their life, turn to adult people. However researches which show rather low political activity of young adult people, specify that such "gain" in participation of citizens in these processes can be late for some years.

Demand of the population also can be stimulated with strengthening of value of the factor of time. In process of perception of the citizens of how any problems show the

growing rights to their time, they can start to search for ways of reduction of that time which they spend in turns and solve any administrative problems. One of the ways of achievement of it is ability to make usual operations of bodies of a state administration, such as prolongation of the license or a filing of application on reception of a driving license in a mode of real time.

By analogy to projects within the limits of G2C and G2B the initiatives in sector G2C are also stimulated with growing interest to "government perfection" through increase of efficiency and support of more reliable results.

5.6 Chapter summary

Investigation the implementing E-Government in Kazakhstan shows that national E-Government Development Programme is realizing on time and with the tangible results.

According to the survey results the following requirement shows what is necessary for increasing computer literacy among citizens:

- Interest the citizens by E-Government advantages,
- Improving the training methodology for training the citizens;
- Necessity of creation of an additional programme for monitoring and analyzing computer literacy among citizens.

According to the researcher, the basic obstacles in a way of universal use of the new information technologies are:

- Absence of domestic manufacturers of computer facilities; not developed industrial production of its components. Serial manufacturing of domestic personal computers (and components) would allow to reduce sharply the prices for the modern information technologies that would make its more accessible to needy social strata for use of services of the electronic government.
- High cost of services of the Internet providers which mismatches a standard of living of citizens in some regions of the country?
- Low degree of motivational readiness of different levels of population to use new IT, underestimation by various social strata of importance of process of information in general.
- The problem of a language barrier, namely the contradiction between rather high volume of the software and the network resources presented in English and rather by a small number of people freely or, at least, well knowing this language.
- Absence of interest of the population about the program of development of the electronic government.

CHAPTER 6

IMPLEMENTATION STRATEGY AND EXECUTIVE PLAN

6.1. Introduction

Starting an estimation of success of the projects in the field of electronic government, the country, first of all, should define accurately what exactly should be estimated. Till now the accent basically became on development of ICT in the country and placing of the information and services on the Internet, however the concept and an ultimate goal of the electronic government is much wider and deeper.

It is important to note that without wide use of advantages of the electronic government by citizens, the developed electronic government can become useless. Therefore it is necessary to pay big attention to opinion of the people and to take all measures for increase of interest among the citizens and to train them. The unique decision to this problem can be increase of computer literacy.

6.2. Monitoring and analysis of the citizens' computer literacy

Before beginning of training the citizens it is necessary to know a condition of computer literacy of the population. For this purpose it is necessary to create the special tool which could carry out these actions. In the absence of such tool many conducted computer courses are useless because the citizens background education and occupation is not considered. By tool is meant any organized action for monitoring and analysis of the citizens' computer literacy in all corners of the country. It is impossible to apply for the inhabitants who live in the remote settlements those techniques of training which are spent for the city dwellers.

Monitoring and analysis also can estimate level of availability of the Internet services.

The basic actions providing thus gathering of data and preparation of the analytical information should be as following:

- Conducting of consulting activities by defining of the indicators of computer literacy of the citizens and working out of methods for gathering of the statistical information;
- Defining a level of computer literacy among citizens, degree of use of the Internet resources;
- Conducting for determining of the criteria and degree of the importance of the Internet in a life of the citizens of Kazakhstan;
- Carrying out of monitoring of the trainees' computer literacy;

Carry out of mechanism for involving the private organizations for participation in realization of decreasing of computer illiteracy among citizens.

6.3. Increasing of the citizens' interest

For achievement of a maximum level of benefits to citizens it is necessary to realize the basic principle: a government which should be accessible to everyone, anywhere and anytime. The electronic government should provide to citizens interaction with the state and access to the state services 24 hours a day, seven days in a week, irrespective of a geographical arrangement and a season.

Now delivering of the information to citizens carries, as a rule, passive and irregular character and basically is limited to its distribution through mass-media. People learn about new laws and orders of the government from newspapers, on the TV etc., but they have no possibility to familiarize with these documents when it is really required to them.

For example, addressing to a passport office, a person first of all faces a problem of information search in rendering of services (forms, an order of rendering of services, etc.). Not always this information can be found on a bulletin board, and citizens should address for consultation to the employees who are not always try to dialogue with the clients. After satisfaction of "information hunger", they face the problem of low availability of the services expressed in the form of one or several long turns in which it is necessary for them to stand. Finally, the third problem is a payment of the state services that forces them to defend one more turn, already in the National Bank.

Because of inaccessibility of the information and disinterest of the employees of a state institution in providing of the services, a citizen can not know at all that under the law to it rely, for example, any privileges or indemnifications. People do not know about the rights and consequently quite often become victims of dishonesty of the officials and observers of the law.

Unfortunately, even after implementing of the electronic government people do not have any idea about how it works. According to the questioning many of them do not know what electronic government is. There are 2 reasons: first is a government does

not inform its citizens, the second is refusal of use of services of the electronic government because of shortage of IT knowledge.

For solving the problem with the citizens' computer literacy, first of all, it is necessary to interest people. After the person learning and understanding its reliability and he/she will start to use E-Government services.

There are many methods of informing citizens about new online services. For example, after completion of the E-Government implementation stage (developing ICT, creation of portals) the government of the Great Britain has appropriated money from the budget for similar actions. For example, distribution of brochures which have the list of online services (including URL addresses) and short instructions for their use or posting of the posters in the various state organizations: schools, universities, etc. Such actions like these are also could be useful in Kazakhstan.

For the purpose of attraction of various strata of society for training it is also necessary to create additional stimulus: for example, providing the free Internet twice a week; discounts at purchase of computers, providing the computer literature and the Internet services, distributing the magazines – “Yellow pages of Kazakhstan” (the catalogue of the Kazakhstan web-sites) and publishing the electronic version of magazine on a portal of the electronic government.

6.4. Reduction of the Internet tariffs and providing citizens by ICT

The main objective of the given direction consists in supporting of the conditions for connection to open information resources of all categories of the Kazakhstan’s citizens irrespective of their place of residence and a standard of well-being.

For realization of this plan it is necessary to execute the following requirements:

- Decrease tariffs for the access to the Internet via telephone lines;

- Decrease tariffs for the access to the Internet via specified lines;
- All schools should have free access to the Internet;
- Development of the telephone and fiber-optical networks in Kazakhstan;
- Development of providing of access to Internet via wireless communication (Wi-Fi).

For the purpose of creation the conditions for purchasing of the computers it is necessary mass production of the domestic computers in the country. This idea is already realizing in the Park of Information Technologies

Besides it, it is necessary to give the state privileges to pensioners, participants of the Second World War, invalids and for those working in rural locality.

6.5. Improving of training process

Overall time of the computer courses for increasing computer literacy among the citizens, according to “Decreasing Digital Divide 2007-2009” is 40 hours. I.e. one and a half month. This course includes knowledge of the Microsoft software packs as Microsoft Word, Microsoft Excel, Outlook Express and Internet Explorer. All these lessons should be completed in 30 hours and other 10 hours (last four classes) is practical part where the student works with the Internet.

This time is not enough for a person who is studying information technologies first time.

As respondents have declared, this time is not enough to keep in mind the passed subjects.

According to the researcher, it is necessary to prolong total time of training twice and to divide educational process into two stages. At the first stage it is necessary to use

above described technique. At the second stage the students should pass interactive courses. Thus after the first stage it is necessary to examine the students.

Efficiency of training the citizens should be defined by a combination of five key factors allowing students to analyze, synthesize, generalize, classify the information, to increase the awareness, to achieve the best results of work.

Basically these factors concern of following:

- Interactivity,
- Retention,
- Flexibility in use,
- Providing help,
- Availability.

Introduction of the interactivity in training process of the citizens makes participation of the student more active, allows working in “a zone of the nearest development” of a student, and allows him/her to try to reach the maximum result. Interactivity also helps to teachers to include more difficult materials in a course. Interactivity can be combined with imitation in the course of training of that environment with which students should become familiar with a computer. For example, if a course is devoted use of the computer program (information search on the Internet through the Internet Explorer browser), the image on the screen correspond to what is displayed at work of this program, and it is possible to give the task to execute the operation corresponding to one of studied questions

According to researches of the psychologists who have estimated real effect from interactive training:

1. Interactivity improves attention. Special attention should improve quality of training.

2. Providing of a feedback by the pupil after an interactive question improves quality of training.

3. Repeated acquaintance to a teaching material, caused by the incorrect answer to an interactive question does not influence in any way quality of training.

To interactive methods at training of the population of training should concern:

- teleconference;
- on-line test;
- an individual file with the task;
- performance of such tasks, as searching of the necessary information through the Internet.
- individual or group consultation.

Using of the interactive forms of training allows to reduce time for course studying essentially. The statement of a teaching material and elimination of necessity for routine work on teaching material making an abstract essentially reduces time expenses. The full individualization of training is carried out. Rate of work is chosen by the students according to the preparation and psychological features. The difference in speed of work of students can reach 15-20 percent and more.

For increasing computer literacy among citizens it is necessary to train the following categories of citizens:

- Workers of the budgetary organizations and the jobless population;
- Off-budget sphere and other categories of citizens;
- Pupils of children's homes, schools and youth houses.

But training of the citizens is impossible without corresponding preparation and retraining of the IT experts and teachers.

6.5.1 Retraining the domestic IT-experts

Problems of the given direction is a specification and expansion of the nomenclature of specialties in sphere of ICT, adequate to requirements of the market, perfection of fundamental preparation of experts and pedagogues in the field of ICT, development of scientific potential of Kazakhstan in sphere of ICT. Also integration of higher education and a science into sphere of ICT, perfection of curriculums on information and communication technologies at high schools, increase of role ICT during studying of the pupils of the high schools.

For the purpose of reduction of backlog of rates for preparation of IT experts from growth of requirements of domestic IT, and also increasing of a skill level and preparation of specialized IT workers (testers, analysts and managers of IT projects and other computer specialties) it is necessary to realize following actions:

Creation of distance and full-time education in the field of information technologies and management;

Development of the international cooperation with the leading educational and training organizations in the ICT sphere.

6.5.2 Preparation of the teachers for training citizens

One of the prominent aspects of training the citizens for computer literacy is preparation of the qualified teaching personnel. Thereupon it is necessary to execute the following:

- Working out new, effective training methods;
- Creation of the new centers for preparation the teachers;

- Carrying out training courses of computer literacy for the teachers and practice teacher of IT specialties for all regions of Kazakhstan.

6.5.3 Training the citizens

The purpose of this idea is increasing computer literacy of the various levels of citizens including:

- Training in the regions of Kazakhstan of civil servants of local executive powers, regional divisions of the central state bodies;
- Organization of the trainings of workers from the budgetary organizations and the jobless population registered in bodies of employment and social programs in the regions of Kazakhstan;
- Organization of training of computer literacy among military men;
- Creation of computer classes in children's homes and training;
- Organization of testing of school pupils, colleges and students of the universities;
- Organization of training of workers of off-budget sphere and other categories of citizens;
- Organization of training and certification of workers of the holdings, national companies and joint-stock companies.

6.6 Chapter summary

Improvement of quality of the state services and efficiency of administrative processes is important, but is far not a unique problem of the electronic government of Kazakhstan. As the additional purposes there should be unceasing influence on development of ICT, providing access to ICT for the citizens and their training. Irrespective of how Kazakhstan's e-readiness for implementing E-Government was ranked, it is necessary to make all efforts to achieve the best results.

For the knowing of the citizens' computer literacy level it is necessary to carry out actions for its estimation.

Increasing of computer literacy of the citizens is 50% success at implementing of the electronic government. Demand for services of the electronic government increases when the people understand its importance in their life.

CHAPTER 7

DISCUSSION AND CONCLUSION

7.1 Introduction

Today the Republic of Kazakhstan confidently moves to stated mission for entering in the 50 most competitive countries of the world. Development of information technologies is one of the major steps on a way to achievement of the given purpose.

Studying of world experience in area of overcoming digital divide and the analysis of current position of Kazakhstan shows sharp necessity for realization of the programs directed on increasing of computer literacy among citizens.

Despite a low ranking of e-readiness of Kazakhstan in implementing of the electronic government, the country has done many works on development information and communication technologies by means of the national program of introduction of the electronic government.

As it has already been described in the project by working on E-Government Development Programme there were studied of the countries in which considerable successes in development of technologies of the e-government were studied.

Taking into account world experience in implementing E-Government, in Republic of Kazakhstan the E-Government project is carried out in the following four stages:

- Information (2005-2006),
- Interactive (2006-2007),
- Transactional (2007-2008).

The fourth stage (2010 and further) is formation of an information society at which electronic services will prevail over paper and to cover all life cycle of a person.

According to the results of the executed works almost 90% of the state bodies have the web-sites and there are more then 900 information services have been realized on the first stage. The first stage has begun with creation of such databases, as "Physical persons", "Legal person", “Address register”, “Real Estate Register” and the "Tax roll and taxation objects register” information system.

Also, finished were the introduction of the E-Government web-portal (www.e.gov.kz), as a uniform window, through which all web-sites' information and e-services will be made available.

Research has shown, that information services are grouped on a web portal according to the basic life cycles of the person: a childhood, study, a youth, a family, working, an old age, and enterprise business cycles: planning, opening, liquidation. Construction of structure, providing of the electronic services round life cycles of the person and business, is directed on the maximum simplification of search and reception of necessary information service.

Besides information services on a portal a number of services are realized: "E-mail", “Service of contacts”, “Scheduling Service”, “Subscription Service”.

The following stage after information is interactive stage. The interactive stage has begun by the end of 2006. An essence of this stage in introducing the first interactive services which will allow citizens to receive various inquiries through interaction with the centers via the Internet. This stage includes creation of the online services for electronic document circulation by G2G, G2C, G2B models.

With the help of transactional stage the citizens can open an electronic account themselves, transferring of money resources from serving banks and to carry out the mutual exchanges with the budget online. At this stage electronic passports of citizens will be entered. Creation of the National Identification System to the end of 2008 will be the last project of the transactional stage.

As the researcher notes, for realization of the electronic government it is not enough to develop the programme on its introduction only. It is also necessary to prepare people who having access to ICT can co-operate with “the electronic government” from any geographical point of the country.

7.2 Seeking the effective methods for increasing computer literacy

For increasing of computer literacy among citizens, first of all, it is necessary to understand its level. By monitoring and analysis on the computer literacy among citizens in all cities of the country can make an estimation of the condition of computer literacy.

Then it is possible to take productive measures for this problem. As it was found out during survey, many people have no idea what is the electronic government. It shows, that the government does not pay special attention to interest the citizens. There are many methods to raise citizens' interest from broadcasting 40 second advertising on

the TV (at home or on buses' TVs) few times per day to distribution of the brochures with the list of URL addresses of the services and their short instructions.

Success of realization of the electronic government is not in creating set of services and web pages. It is in their great demand.

For the decision of this problem the government has started the new programme for decreasing a digital divide among citizens for 2007-2009. An essence of this programme is reduction of the Internet tariffs, to give the citizens an easy access to ICT and training them.

As it has been found out by results of questioning, the training methodology is not so effective. First, the background education and occupation of the citizen is not considered. Secondly, trainings are spent in the accelerated rate. Therefore it is necessary to improve the training method.

7.3 Execution of the plans

This project has following plans for increasing the computer literacy among citizens:

- Monitoring and analysis of the citizens' computer literacy level
- Increasing of the citizens' interest
- Reduction of the Internet tariffs and providing citizens with by ICT
- Improving of training process

7.4 Recommendations for ICT development

Considering the current situation of ICT in the country the following steps can be proposed:

- State financing of programs on creation of wide and qualitative telecommunication networks on all territory of Kazakhstan. Not developed telecommunication network is a consequence of a difficult, crisis situation in a national economy, impossibility to provide necessary level of capital investments in network development. As one of the variants of realization of this direction is attraction of foreign investments into development of the given area;
- Increasing in the quantity of points of access to information resources in all territories of the country. The digital divide can sharply be reduced at the expense of access to ICT to various strata of society. It is necessary to carry out programmes to increase in the public places more quantity of electronic terminals, information kiosks etc;
- Supporting the socially-challenged categories of people (invalids, children-orphans etc.) by giving free conditions of access to modern ICT so that will help them to solve their problems considerably. Correct use of new IT would allow the given social groups to get accessible education, to raise individual cultural level, etc.

7.5 Chapter summary

As argued by Kazakhstan's experts, in order to increase demand for the e-government services it is necessary to reach a critical mass of about 3-4 million of active Internet users.

The major condition of efficiency of the electronic government is readiness of citizens to use its services.

Readiness of the citizens is estimated from their desire and aspiration to take advantage of the electronic government. For solving the problem to increase of computer literacy among citizens it is necessary to consider their social status. Reduction of prices on the Internet and providing them with cheap computers can solve half of these problems. Also it is necessary to train the citizens using the best methods of training.

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APPENDIX A

Questionnaire Distributed (in Russian)

АНКЕТИРОВАНИЕ

Это анкетирование создан для получения мнения граждан Казахстана о электронном правительстве с Казахстане. Результаты опросов позволят исследователю проанализировать готовность, направление и провести исследования для поиска эффективных методов повышения компьютерной грамотности граждан.

СЕКЦИЯ А – ЛИЧНЫЕ ДАННЫЕ

Возраст: _____ Пол: _____

Город: _____

Пожалуйста ответьте на следующие вопросы, отмечая (√) в предназначенных для них прямых скобках.

В каком секторе вы работаете?

Правительство: [ ]
Частное учреждение: [ ]
Студент: [ ]
Собственный бизнес: [ ]

СЕКЦИЯ В - АНКЕТИРОВАНИЕ

ЧАСТЬ 1 – Проверка компьютерной грамотности

5. Умеете ли вы пользоваться компьютером?

Да [ ] Нет [ ]

6. Где вы научились работать на компьютере?

[ ] на компьютерных курсах
[ ] у друзей
[ ] самостоятельно
[ ] не изучал

7. Сколько лет вы используете компьютер?

[ ] меньше 1 года
[ ] от 2 до 5 лет
[ ] больше

8. У вас есть собственный компьютер?

Да [ ] Нет [ ]

5. Легко ли вам ориентироваться на Web-страницах в Интернете?

Да [ ] Нет [ ]

6. Согласны ли вы с тем, что иметь компьютерную грамотность является необходимой частью в вашей жизни?

Согласен [ ] Не согласен [ ]

7. Подключен ли ваш компьютер к Интернету?

Да [ ] Нет [ ]

8. Какой тип соединения вы имеете?

[ ] С помощью модема
[ ] ADSL
[ ] Безпроводное соединение
[ ] У меня нет доступа к Интернет

9. У вас есть какой нибудь опыть поиска информации в Интернете (например, используя поисковую систему Yahoo, Yandex, Google и т.д.)?

Да [ ] Нет [ ]

10. Есть ли у вас собственный адрес электронной почты?

Да [ ] Нет [ ]

11. Необходимо ли менять метод тренинга по повышению компьютерной грамотности? *(Для тех, кто имел тренинги по программе ликвидации циврового неравенства на 2007-2009 годы)*

    Да [ ] Нет [ ]

12. Согласны ли вы с тем, что тарифы за Интернет высокие?

    Согласен [ ] Не согласен [ ]

ЧАСТЬ 2 – Электронное правительство (E-Government)

20. Знаете ли вы что такое “электронное правительство”?

    Да [ ] Нет [ ]

21. Имеет ли ваша страна национальную стратегию (программу) развития электронного правительства?

    Да [ ] Нет [ ]

22. Посещали ли вы когда нибудь Web-портал – www.e.gov.kz?

    Да [ ] Нет [ ]

23. Известно ли вам, что такое E-Licensing, E-Commerce, E-Payment?

    Да [ ] Нет [ ]

24. Учились ли вы используя систему E-Learning?

    Да [ ] Нет [ ]

14. Проводит ли ваш город мероприятия по снижению цифрового неравенства (компьютерной неграмотности)?

    Да [ ] Нет [ ]

25. Все предприятии, компании и другие организации совместно участвуют в программе развития электронного правительства.

    Да [ ] Нет [ ]

26. Пожалуйста дайте вашу оценку на выполнение внедрения электронного правительства в стране.

    [ ] Плохо
    [ ] Продвижения заметны
    [ ] Хорошо
    [ ] Отлично
    [ ] Не знаю

27. Согласно оценке электронной готовности на 2008 год, страна занимает 66 место из 72 стран. Как вы думаете готов ли Казахстан внедрить электронное правительство??

    Да [ ] Нет [ ]

28. Низкое компьютерная грамотность населения является причиной слабого развития электронного правительства в стране.

    Согласен [ ] Не согласен [ ]

22. Необходимо ли обучать государственных служащих к компьютерной грамотности?

    Да [ ] Нет [ ]

23. Какие меры должны быть предприняты для эффективного формирования электронного правительства?

    [ ] Улучшение качества сервисов
    [ ] Снижение бюрократии
    [ ] Снижение коррупции
    [ ] Снижение внутренних управленческих расходов

24. Какие барьеры могут стать препятствием для формирования эффективного электронного правительства?

    [ ] Нехватка взаимодействия
    [ ] Организационные барьеры
    [ ] Нехватка знания среди государственных служащих
    [ ] Проблема в законодательстве
    [ ] Недостаточное финансирование
    [ ] Слабая компьютерная грамотность граждан

25. Какие сервисы должны быть реализованы в сфере G2C (правительство населению) до 2010?

[ ] Социальная защита граждан (пенсия, сервисы общественного здравоохранения)
[ ] Работа (Поиск работы, получение разрешения на работу в различных регионах)
[ ] Электронные закупки
[ ] Образование (E-Learning, дистанционное образование)
[ ] Электронная регистрация и сертификация граждан
[ ] Электронная регистрация компании и бизнесов
[ ] Электронная оплата налогов
[ ] Другие

26. Используйте ниже указанные варианты для ответа на вопрос. (*Пожалуйста, отметьте ваши ответы используя знак (√)).*

1. Совершенно согласен
2. Согласен
3. Не согласен
4. Категорический не согласен

Утверждение	**1**	**2**	**3**	**4**
Страна должна решить IT проблемы до развития электронного правительства				
Электронное правительство может столкнуться с основными проблемами цифрового неравенства				
Для отслеживания направления реализации программы развития электронного правительства в Казахстане, необходимо создать систему мониторинга и осуществить периодический анализ				
Обучение граждан компьютерной грамотности				

Спасибо!

APPENDIX B

Questionnaire Translated (to English)

QUESTIONNAIRE

This study seeks to determine opinion of the Kazakhstan's citizens about E-Government in Kazakhstan. The results of this study allows the researcher to analyze the readiness, realization course and to investigate what effective methods is possible for increasing computer literacy among citizens.

SECTION A - BACKGROUND

Age: _____ **Gender: _____**

City: _____

Please answer the following questions by ticking (√) the appropriate box.

Which sector are you working now?

Government: [ ]
Private: [ ]
Student: [ ]
Own business: [ ]

SECTION B - QUESTIONNAIRE

PART 1 – Computer literacy

9. Are you familiar with the computer?

Yes [ ] No [ ]

10. Where did you learn to work on a computer?

[ ] from computer courses
[ ] from my friends
[ ] myself
[ ] did not study

11. How many years have you been using a computer?

[ ] less 1
[ ] between 2 and 5
[ ] more

12. Do you currently own a computer?

Yes [ ] No [ ]

5. Is it easy for you to orient on the Internet Web-pages?

Yes [ ] No [ ]

6. Do you agree that being familiarity with a computer is a corporate part of your life?

Agree [ ] Disagree [ ]

7. Does your computer have an access to the Internet? (yes, no)

Yes [ ] No [ ]

8. What type of connection you have?

[ ] Modem connection
[ ] ADSL
[ ] Wireless
[ ] I do not have internet connection

9. Do you have any experience of searching information in the Internet (for example, by using Yahoo, Yandex, Google, etc.)?

Yes [ ] No [ ]

10. Do you have your own E-mail address?

Yes [ ] No [ ]

11. Is it necessary to change a method of training of computer literacy? *(For those who had training supported by government according to Decreasing Digital Divide Programme 2007-2009)*

    Yes [ ] No [ ]

12. Do you agree that the Internet tariff is very expensive?

    Agree [ ] Disagree [ ]

PART 2 – Electronic Government (E-Government)

29. Do you know what "electronic government" is?

    Yes [ ] No [ ]

30. Does Kazakhstan have a national strategy relating to E-Government issues?

    Yes [ ] No [ ]

31. Have you ever visited E-Government portal – www.e.gov.kz?

    Yes [ ] No [ ]

32. Do you know what E-Licensing, E-Commerce, E-Payment is?

    Yes [ ] No [ ]

33. Do you have a basic understanding of E-Learning?

    Yes [ ] No [ ]

14. Are there any activities in your city for decreasing digital divide (computer illiteracy)?

    Yes [ ] No [ ]

34. Are all enterprises, companies and other organizations involving to the program of development of the E-Government?

    Yes [ ] No [ ]

35. Please give your estimation of the implementation of E-Government in the country.

[ ] Poor
[ ] Fair
[ ] Good
[ ] Very good
[ ] Don't know

36. According to the E-Readiness Rankings 2008 Kazakhstan ranked 66 from 72 countries. How do you think is Kazakhstan ready for implementing E-Government?

Yes [ ] No [ ]

37. Low computer literacy among citizens is a reason for weak development of E-Government in country.

Agree [ ] Disagree [ ]

22. Is it necessary to train the state employees to computer literacy?

Yes [ ] No [ ]

26. What measures should be undertaken for formation of effective E-Government?

[ ] Improvement of quality of the services
[ ] Decreasing of bureaucracy
[ ] Decreasing of corruption
[ ] Reduction of the internal management expenses

27. What barriers interfere with formation of effective E-Government?

[ ] Lack of interaction
[ ] Organizational barriers
[ ] Lack of knowledge among government officials
[ ] Problems in the national legislation
[ ] Financial support is not enough
[ ] Weak computer literacy among citizens

28. What kind of services should be realized in sphere G2C till 2010?

[ ] Mobility and social protection of the citizens (retiring pension, public health service)

[ ] Mobility in job (search for jobs, receipt of a work permit in different regions)
[ ] E-Procurement
[ ] Mobility in education (E-Learning, distance education)
[ ] E-Register and E-Certification of the citizens
[ ] E-Register of companies and business
[ ] E-Payment of taxes
[ ] Others

26. Use the choices given as a guide. (*Please state your opinion by ticking (√) only ONE for each of the following statement*).

5. Strongly agree
6. Agree
7. Disagree
8. Strongly Disagree

Statement	**1**	**2**	**3**	**4**
Before implementation of E-Government a country should solve IT problems entirely				
The E-Government will face an existing fundamental problem of an digital divide				
For tracking a realization course of the Kazakhstan's E-Government program it is necessary to create a monitoring system and realize of the periodic analysis				
Training the citizens for computer literacy				

Thank You!