

PROMOTING THE DIGITAL ECONOMY: THE GROWING ROLE OF INFORMATION AND COMMUNICATION SERVICES IN UZBEKISTAN

Muminova Gulmira Bakhodirovna

PhD Researcher, Tashkent State University of Economics, Uzbekistan

g.muminova@inha.uz

Abstract

The sustainability of the economy and the society in the modern civilization is directly influenced by the presence of technological component in it. Subsequently, the role of Information and Communication Services is crucially important in today's ever developing digital age. The current paper aims to review the current role and potential perspectives of developing Information and Communication services in Uzbekistan. Today, Uzbekistan is one of the fastest growing economies in Central Asia. The country's active efforts on improving the quality and increasing the quantity of Information and Communication services delivered on a state level, have laid the basis for developing the digital economy in the country.

Keywords: Information and Communication Technologies, Digital Society, Information and Communication Services, e-government

INTRODUCTION

The growth of ICT

The last two decades have witnessed the ubiquitous implementation of ICT, peculiarly personal computers, mobile phones and the Internet. The recent global transformations are undoubtedly associated with the emergence and advancement of such technologies that pervaded with every aspect of human life – economic, social, political and cultural. Today, the sustainability of the economy and the society in the modern civilization is directly influenced by the presence of technological component in it. The experience of many developing countries prove the priority role of information production in the development of the modern society, that allowed many

governments to overcome a huge gap in the economic and social levels in comparison with the developed countries (James, 2002).

Due to the constant and regular development in the ICT field, the variety of ICT products/services and their availability in the markets has considerably increased. By 1990s, the ICT sector became as one of the fastest growing economic sectors in the world. The global ICT consumption rate rose four times since 1986, reaching USD 2 trillion (Bekmuradov, 2013).

Today the digital transformation of organizational and economic principles of management is becoming as one of the key factors of global economic growth. According to the Boston Consulting Group (BCG), the share of digital economy in the GDP of developed countries have raised by 1.2 percent since 2010, reaching 5.5 percent. Whereas, the share of the digital economy in the GDP of developing countries has increased from 3.6 percent to 4.9 percent in 2016 (Waldne, 2015). Furthermore, based on the data of the World Economic Forum, the competitiveness index of the economy has a high level of correlation with the index of ICT development. Subsequently, ICT market is added to the list of 25 percent of fastest growing major sectors of the world economy. In addition, economic sectors that continuously involving ICT in their activities are growing 1.7 times faster than the average growth rate in the economy (OECD Information Technology Outlook 2015).

The role of ICT in building the “digital economy”

The benefits and opportunities enabled through the rapid growth of ICT and its applications have been widely researched and discussed. To generalize, the influence of ICT development can be viewed in two major directions:

1. The economic dimension of ICT: transformation of supply and demand chains; reduced transaction costs.

The computerization of most man made tasks that allow service providers to remodel and significantly upgrade the traditional service delivery procedures. In fact, the widespread application of ICT led to the i) creation of high-paying jobs; ii) growth of productivity and GDP; iii) rise of high growth companies; iv) creation of new sectors and ways of doing business; v) increase of competitive advantage; vi) and promotion of Innovation (Atkinson & Stewart, 2013).

2. The social dimension of ICT: The emergence of new modes of individual behavior, including new or modified means of personal communication and interaction.

Current business world is hard to imagine without electronic communication and the Internet assistance. This goes beyond internal communication on the organizational level. The tremendous growth of ICT and its applications have changed the way people interact and communicate with each other. For instance, there were only eight channels available for a

company to communicate with consumers before 1990s: 1) fax; 2) direct mail; 3) television; 4) telephone; 5) radio; 6) billboard; 7) print magazine; 8) event. Latter technological advances in the market, and their socio-economic outcomes have resulted in the creation of hundreds of channels where consumers may access content. Growing popularity, of social networking sites (such as Facebook, Google+, Twitter, Instagram, YouTube and others) and increasing influence of content delivered through them, completely shifted the power to consumers. This is a major development in the communications market that impacts every business, no matter of its size - large and small.

COUNTRY PROFILE

The modern Uzbekistan is part of the global economic society, and thus integration processes in the international market requires its active involvement in the global information society. Subsequently, the governments are constantly improving the legal frameworks and administrative policies that push forward the development of ICT sector in the country.

Undoubtedly, the development of ICT has the potential to increase the efficiency of governments, leading them to a more open information exchange environment, and the governments' transparency and accountability. The ICT sector has become a major component of the economy of Uzbekistan and a force of its growth.

The legislative and administrative basis for developing Information and Communication services

Since the independence in 1991, the government took a number strategic actions on developing the ICT sector of the Republic, namely(The national legislation database of the Republic of Uzbekistan):

- 1) *“A National Programme of Reconstruction and Development of Telecommunication Network of the Republic of Uzbekistan for the Period up to 2010” (Accepted by the Resolution of the Cabinet of Ministers No 307, 1 August 1995).*

The main objectives of the Programme are:

- Identifying priority directions of the telecommunications development;
- Developing the State principles to improve the telecommunications sector;
- Improving the investment climate for the telecommunication network development, through attracting investment resources from non-governmental sources, both domestic and foreign investment;

- Creating a material and technological basis of communication that meets international requirements, organization of production of telecommunication equipment, optical-fibre cable with the participation of foreign investors;
- Observance of sovereign rights of the country and the interests of regional structures in forming the technical basis of telecommunication and organization of their interaction during the creation and operational stages of development of the telecommunication system.

2) *“Programme of Modernization and Development of National Data Transmission Network of the Republic of Uzbekistan for the Period 1999-2003” (Accepted by the Resolution of the Cabinet of Ministers No 193, 22 April 1999.)*

The main objectives of the Programme are:

- Basic technical requirements for the construction and organization of the National Data Transmission Network;
- Technical means, ways of perfection of communication basis for the creation of a single information space and expansion of the opportunity for integration of the Republic of Uzbekistan into a global information space;
- Measures on centralized connection of data transmission networks of the Country operators (providers) to global information networks, including the Internet, and long-distance networks of the Republic of Uzbekistan, as well as identifying directions and stages of network modernization and development;
- Identifying sources and mechanisms of financing network modernization and development, including utilization of the National Operator-UzPAK finances, attraction of foreign investments, and the utilization of budgetary resources.

3) *“Programme of Computerization and Information Technologies Development for 2002-2010” (Accepted by the Resolution of the Cabinet of Ministers No 200, 6 June 2002).*

Main goals of the Programme:

- Accelerating the development of modern telecommunication infrastructure and digitalization of networks and the development of mobile networks;
- Development of an Internet National Segment;
- Creation of conditions stimulating the development of computerization, domestic industry and exports of software;
- Training of highly qualified personnel in ICT;
- Development of a competitive environment in the ICT sector;
- Further perfection of the normative and legislation base, standardization and certification.

Furthermore, the core objectives of the development and implementation of information and communication technologies in the national market are described in the Decree of the President of the Republic of Uzbekistan dated May 30, 2002 “About further development of the computerization and implementation of information-communication technologies”. The realization of the goals set in the Decree led to the creation of the national system of informatization, the growth of the use of ICT tools in the economy and the households, increased the competitiveness of the economy in the world market.

Consequently, the Cabinet of Ministers adopted a resolution and approved the strategic programme on the development of the computerization and information-communication technologies during the period of 2002 to 2010. The resolution includes clearly stated development directions in the telecommunications sphere and the data exchange, the use of resources, creation of personal web pages in the Internet networks. The main goal of the Programme was to satisfy the information needs of the society and to increase the competitiveness of the national economy in the global markets, through:

- The development of the modern telecommunications infrastructure and the digital networks, as well as the development of the mobile networks;
- The development of the national segment of Internet services;
- The creation of the conditions on stimulating the development of the computerization, national production and export of computer programs;
- Training high-qualified specialists in the ICT field;
- The development of the competitive environment in the ICT sphere;
- The further development of the legal base, standardization and certification;

On July 8, 2005, the President’s Resolution “On additional measures on further developing of information and communication technologies” was approved with the goal of further developing the ICT sphere:

- the expansion and development of the telecommunication networks, information exchange and the application of the information-communication technologies by 2010;
- the formation and the development of the national information searching engines;

The main reason for taking the following steps was the growing need for the fast and secure information exchange between the sectors of the economy and the society, the access to the global information resources, the need to digitalize the education processes and the daily activities of individuals.

Subsequently, the following strategic actions were taken:

- The creation of the modern databases;
- The implementation of the computer and information technologies in the fields of the real economy, management, business, science and education;
- Training high-qualified IT specialists;
- The development of the information resources and services;
- A gradual move towards the electronic forms of information exchange;
- The availability of the high-speed internet connection in both national and international information systems;
- The stimulation of the development of the national IT products and their export;
- The development of the technical infrastructure with the account of the convergence of information-communication networks and services.

Furthermore the Decree “On the Action Strategy for the Continuous Development of the Republic of Uzbekistan in 2017-2021”, was signed by the President of the Republic of Uzbekistan in order to establish decent conditions for continuous economic improvement in the country, distinguish foremost priorities and concise directions of further deepening democratic reforms in the country(2017-the year of sweeping reforms, 2018).

The Strategy for Action underlines major priorities and definite directions of further deepening democratic reforms and the advanced improvement of the country. The purpose of the Strategy for Action is a central development of the efficiency of the current reforms, the formation of conditions to guarantee the full and advanced development of the state and society, modernization and liberalization of all fields of life of the country. The Strategy of Action is broken into five major steps of the country's development, every single of which will be performed as a separate yearly State program.

Section One - Improvement of state and public construction.

Section Two - Ensuring the rule of law and continuous reform of the judicial system;

Section Three - The development and liberalization of the economy;

Section Four - The improvement of the social sector;

The initial step of reforms is illustriously described in the State Programme on the Implementation of the Strategy of Actions on five priority fields in 2017-2021 in the Year of Dialogue with the People and Human Interests. As a result, the reforms within the framework of the Strategy concentrated on the implementation of the tasks determined in the State Programme. More specifically, these reforms effected on the implementation of 437 actions containing 320 articles, the adoption of 29 laws and the improvement of over 900 legislative acts

in a wide range of sectors of the economy and the society(2017-the year of sweeping reforms, 2018).

- The foremost directions of the state and regional programs were mainly concentrated on:
- Discovering measures of the everyday life issues of the citizens;
- Safeguarding the balance between the state and society;
- Implementation of innovative technologies in state administration;
- Enhancement of public administration;
- Creation of proper living conditions for people.

The major changes and actions taken at the initial step of Strategy for Actions significantly bettered the quality of public services delivery provisioned via the use of Information and Communication technologies. “E-government” system was improved with latter technological developments and brought in advanced mechanisms of dialogue with people. Subsequently, the up-to-date system of the delivery of state services enhanced the population’s life standards, boosted the attractiveness of the investment climate in the country, and endorsed the increase of modern and innovative business opportunities.

More specifically, the outset of the automated system of state registration of business entities on April 1, 2017, provided an opportunity to lower the registration processes to 30 minutes. At the moment, 33 types of services are supplied by means of the electronic state services system. The system enables the submission of applications on obtaining 61 type of licenses for 40 types of activities. Over 75 thousand people are already utilizing the electronic state services system. These facilities in the business sector enhanced the status of Uzbekistan in the global ranking of Doing Business 2018 from 24th to 11th position.

Besides, so as to advance the national system of providing state services to a qualitatively new level, the Decree of the President “On measures for drastic reformation of the national system of provision of state services to the population” and the Resolution “On establishment of the Agency on State services of the Ministry of Justice of the Republic of Uzbekistan” was adopted on December 12, 2017. The objective of these vital actions is to identify the organizational and legal actions to significantly enhance the quality, efficacy, transparency and accessibility of state services(2017-the year of sweeping reforms, 2018).

As a result, the Agency on State Service under the Ministry of Justice of the Republic of Uzbekistan with territorial units, which is a separate state agency, was founded. Additionally, the Unified Centers for of state services provision to business bodies on the basis of “Single Window” have been modified into Centers of State Service performing under the People’s Receptions of the President of the Republic of Uzbekistan in regions. The notion of “Single

Window” is to establish one system of service provision not only to businesses, but also to simple citizens. The Decree finds the list of 58 state services that will be provided on the system “Single Window” as liable like a bond of households to water supply, sewerage, permission for individual housing building, permanent registration, check out and registration at the place of residence, patents and many more.

As an only contact point with the population, Centers of State Service and People’s Receptions are founded with the purpose to enlarge the accessibility to governmental services, cut time and financial costs. Today, the President’s Virtual Reception and People’s Receptions have taken in over 1.4 million appeals from individuals and legal bodies. The scrutiny of every appeal case and suggestion is strictly watched according to the law. Within a short span of time, the goals stated further have been attained in the foundation of the virtual receptions and people’s reception:

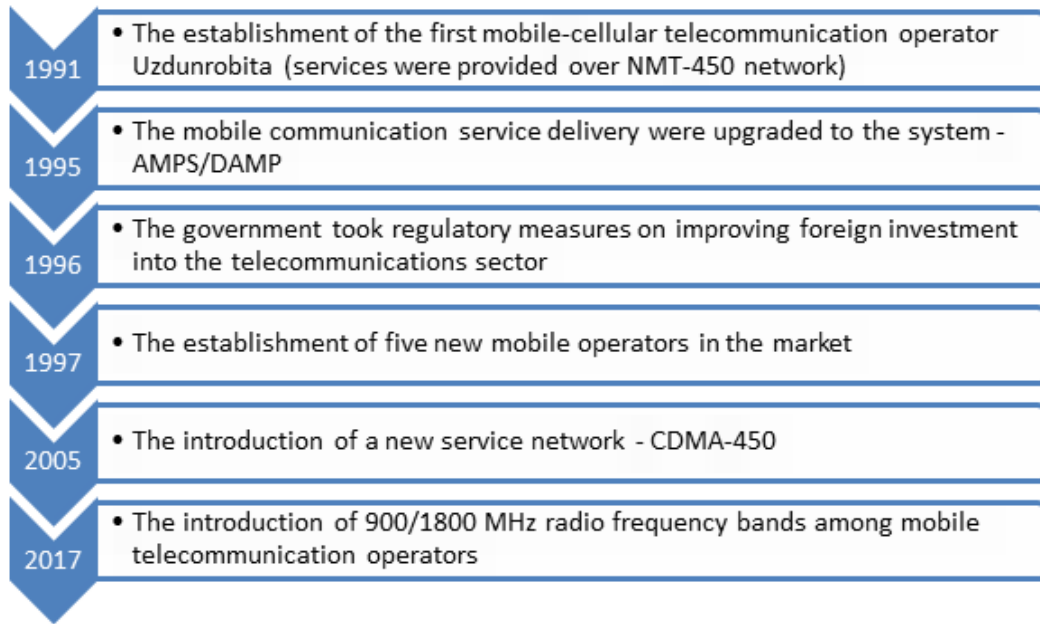
1. Legal framework of the activity of People’s Receptions is enhanced;
2. Virtual Reception of the President of Uzbekistan functions productively (<https://pm.gov.uz>);
3. Help lines are operating efficiently 24/7 (1000).

The Law “On appeals of individuals and legal entities” was introduced in an updated version in order to continuously strengthen a legal platform of work with appeals. Practical actions affected a substantial reduction in the volume of appeals dealing with the registration of citizen’s passports, education, housing issues, amnesty, and financial assistance for medical treatment. On average, the volume of monthly appeals fell by 30 percent since the beginning of 2017.

Current trends of developing the national sector of Information and Communication services

Over the past decade, ICT market of Uzbekistan have considerably advanced through the realization of various projects directed on modernizing and developing telecommunication networks in the republic (Figure 1). Specifically, installation of digital intercity stations in all regional centers of the republic, connecting the fiber-optic cables and digital radio-relay lines on trunk long-distance and intra-regional communication lines, the modernization of TV and radio transmissions and implementation of the wireless radio access system CDMA. Level of coverage of digital telecomm networks of cities and regional centers of the republic reached almost 100%. At the same time, the level of coverage with telecommunication networks in rural areas of the country is around 90%, from which 52% is digital telecommunication networks. The system of telecommunications in Uzbekistan has direct international channels in 28 directions with the exit to 180 countries, connected through the fiber-optic and satellite systems.

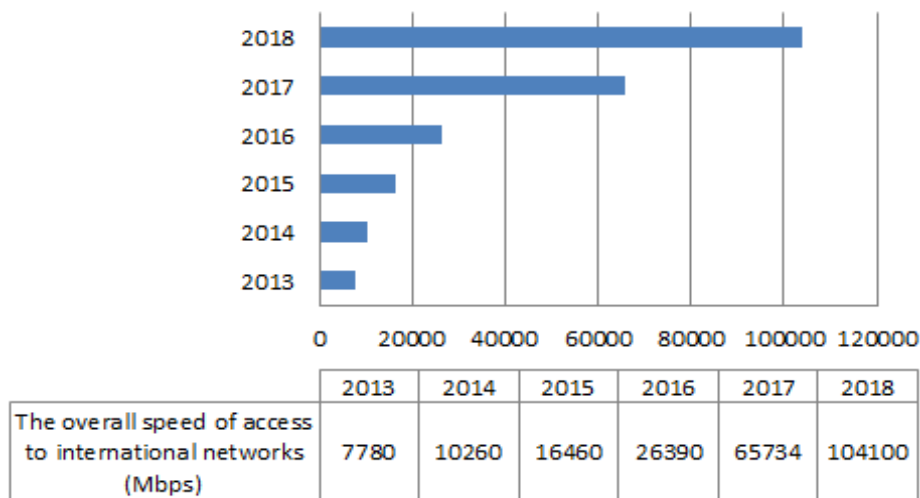
Figure 1. Telecommunication services development



Source: Data collected from the official website of the Ministry for the Development of Information Technologies and Communications of the Republic of Uzbekistan, www.mitc.uz

Direct communications using satellite and terrestrial digital networks were installed, in order to provide access to the international information networks, including Internet. Consequently, there were exponential growth in the number of Internet users, and significant growth in the speed of Internet (Figure 2.0 and Figure 3.0).

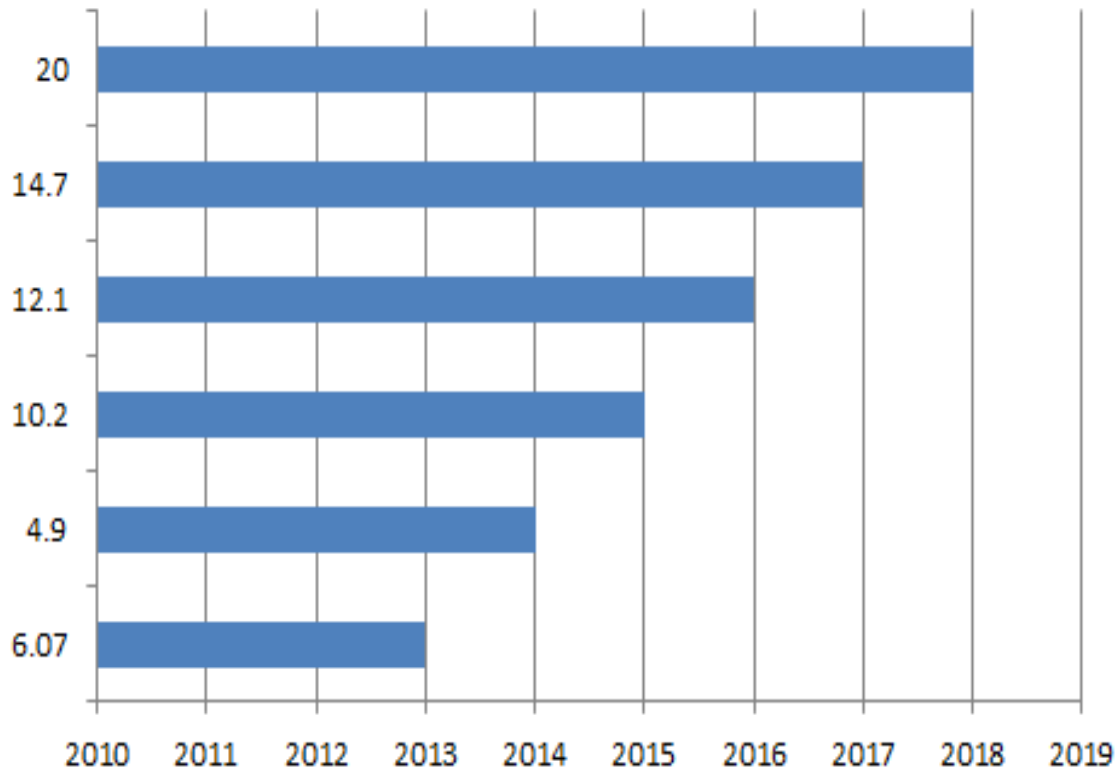
Figure 2. The overall speed of access to international networks (Mbps)



Source: Data collected from the official website of the Ministry for the Development of Information Technologies and Communications of the Republic of Uzbekistan, www.mitc.uz

The number of registered websites within the domain “www.uz” reach more than 10.8 thousand units in 2016. That is around 30 websites to every 100 thousand population of the republic.

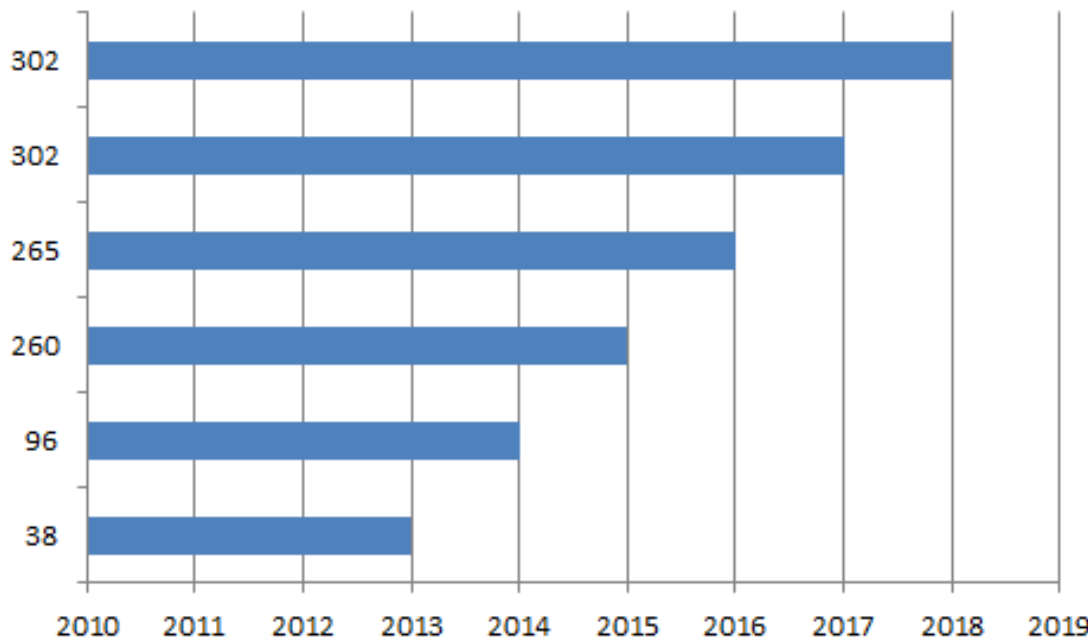
Figure 3. The number of internet users (in thousands)



Source: Data collected from the official website of the Ministry for the Development of Information Technologies and Communications of the Republic of Uzbekistan, www.mitc.uz

The international experience on promoting ICT solutions in delivering state services underline that it is a long and continuous process. The successful implementation of electronic state systems requires preliminary strategic planning and large investments from the government. The implementation of ICT solutions on the state level offers a better interaction of the government with the society, as well as improves the effectiveness of the activities of state bodies. Therefore, the government of Uzbekistan pays a special attention to the development and expansion of the ICT use on the state level.

Figure 4. Number of electronic services at Single Portal of interactive services

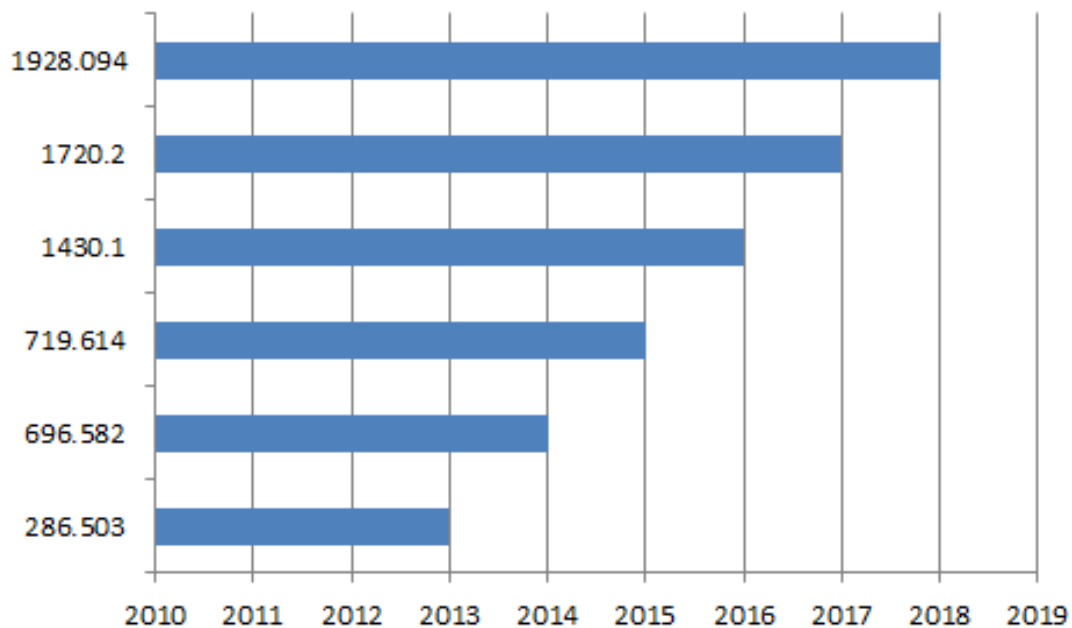


Source: Data collected from the official website of the Ministry for the Development of Information Technologies and Communications of the Republic of Uzbekistan, www.mitc.uz

Increased use of ICT in the government sectors, the development of online services and continuous investments in the infrastructure facilitates to a wider implementation of information technologies in the private sector and contributes to its promotion in the corporate sector. The wide realization of the concept open data ensures the creation of new information services, increases the effectiveness and promotes simplified public access to the information systems. To this day, there are more than 300 electronic services provided through the Single Portal of interactive services.

The recent trends evidence the prioritized attention of the government on investigating different aspects of improving e-government system. The further informatization of the most important sectors of the economy and realization of state projects focused on developing information technologies stimulates the creation of new and improvement of existing business directions. Consequently, these changes may promote the formation of breakthrough technologies within the framework of industry solutions.

Figure 5. Total number of EDS (electronic digital signature) keys (in thousands)



Source: Data collected from the official website of the Ministry for the Development of Information Technologies and Communications of the Republic of Uzbekistan, www.mitc.uz

Subsequently, the implementation of the electronic document management system “e-Hujjat” is an example of a successful practical implementation of another innovative service enabled with the promotion of electronic government. Currently, the electronic document management system “e-Hujjat” unifies the databases of more than 150 organizations and the number of electronic digital signature keys (EDS) increased more than 10 percent since the end of last year (2017) (see Figure 5.). Other successful examples of services provided through the platform electronic government includes the following:

- The national legislation database of the Republic of Uzbekistan, that includes more than 32.6 thousand regulatory acts;
- The portal for taxpayers, that is used by almost 99 percent of entrepreneurs;
- The single licensee portal, which provides access to the full list of activities that should be licensed and licensing procedures, as well as the list of required documents for receiving licenses and permissions;
- The single portal of declarants - today, almost 99 percent of cargo customs declarations are registered online;
- Automated system for the electronic statistical reporting “e-Stat”;

- The portal of municipal services and housing provides a range of different services, including the Reception and Processing complaints, the payment of municipal services and information about payment tariffs;
- The information system “e-Visa - currently, more than 90 percent of visas to the foreign citizens are issued online;
- More than 35 thousand claims and applications to the economic court are applied online through the system “e-Sud”.

The role of international organizations in developing ICT in Uzbekistan is also important. The World Bank jointly with the Ministry for development of information technologies and communications of the Republic of Uzbekistan are intending to realize joint projects in the sphere of digital economy and electronic government. Besides, the government is planning to participate in the regional project DigitalCASA, which connects the Central and Southern Asia in single digital hub through cross-border telecommunication networks. It is considered that the implementation of the project will improve the Internet access for those countries without access to the sea.

Concluding thoughts

To conclude, Uzbekistan has made a significant progress in the development and promotion of ICT sector in the country over the past several years. Although, ICT accelerates economic growth, the effective integration of ICT to the economic sectors of the country is challenging. Since the independence, the government took a number of strategic actions with the aim to stimulate a steady integration of ICT into economic and social sectors of the country. Recently, the government introduced the Strategy for Action that focuses on continuous development during the period 2017-2021. The state program underlines priority directions of further advancement of democratic reforms and advanced improvement of the country. This will be ensured through increasing the efficiency of the current reforms, forming solid ground to guarantee the full and advanced development of the state and society, modernizing and liberalizing all fields of life of the country.

The analysis of the recent reforms in the country highlights the growing role of ICT use in the state sector. More specifically, the government established e-government system that provides more than 300 interactive services. These services systems include electronic document management system “e-Hujjat”, electronic statistical reporting system “e-Stat”, electronic visa registration system “e-Visa, online economic court registration system “e-Sud” and others. Today, more than 90 percent of visas to the foreign citizens are issued online, and nearly all of entrepreneurs submit tax payments and register cargo customs declarations online.

The positive outcomes of the ICT use in the public administration can be viewed from two sides: firstly, it increases the transparency of the activities of state entities; secondly, such technological advancements provide large opportunities for establishing a more efficient interaction of the government with the society and the commercial organizations.

Consequently, increasing the use of ICT in the state sector and expansion of the number and variety of e-government services shall promote the implementation of information and communication technologies in the private and corporate sectors of the country. Besides, the wide realization of the transparency of data in the country will promote the development of new information services and facilitate the easy access to information databases. Therefore, improving the quality of life for the society within.

FUTURE RESEARCH

The purpose of this research was to investigate the potential perspectives of developing Information and Communication services in Uzbekistan and their role in building digital economy. The recent technological move and expansion of online public services aims to promote the digital economy in the country. Further research along three directions is assumed to extend the findings of the current study and contribute to the development of effective electronic services both in the public and corporate sectors.

Firstly, it is important to investigate the security of information exchange (cyber security) in promoting e-services. Although, the scope of the Strategy for Action considers the development of cyber security, a very few studies were dedicated to the investigation of the information security issues within Uzbekistan. This is primarily as a result of the lack of electronic services provided in the country. Nevertheless, the gradual increase of electronic services over the past year stresses the issues related to the improvement of information security activities and the further studies in this direction may potentially have fruitful outcomes.

The second potentially perspective area for further research is the development of online banking and online payment systems. Considering that the promotion of electronic services in all economic sectors is one of the major goals of the state development program, the establishment of effective and secure online payments would add value to the provision of current and other new electronic services. It is important to consider two important factors: (1) to increase the security of electronic transactions and improve the integration of electronic payment services with the corporate sector (for instance, many local businesses already accept payments through the national electronic payment systems, such as Click or Payme); (2) and consideration of the different level of computer literacy (as a result of digital divide) in the centers and regions of the country. Although, from the technical perspective, at least region

centers have Internet access, the low computer literacy levels of most people in rural areas might involve difficulties in delivering and managing electronic payment services. It is also no less important to consider the issues related to consumer trust. People without enough and proper knowledge of electronic money, are often intrusive about e-payments.

Lastly, while current research mainly focuses on the benefits and opportunities of promoting digital economy, the study does not thoroughly addresses the risks and threats that it poses. The potential decrease in workplaces, as a consequence of computerization of most man made tasks, is one of the primary risks of the digital economy. Perhaps, the population with the technical and engineering occupation will suffer most. Further risks include the high level of uncertainty in undertaking national strategic actions. This especially concerns the developing and young economies that are still fragile to any economic challenges.

The current socio-economic trends focused on promoting digital economy in the country facilitates the creation of many considerably new and interesting areas to investigate. This provide researchers an opportunity to contribute to the economic science and challenge their views and findings in practice.

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