

## **“Examination of the Innovative Activity in National Economy: Experience of Kazakhstan”.**

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**Abstract.** The article is dedicated to the examination of innovative activity of Kazakhstani enterprises in 2003-2010 to reveal the current state in the field and to find opportunities for further development of an information society in Kazakhstan. The relevance of the theme is defined by an attempt to raise competitiveness of the national economy and attain the position among the 50 top ranked countries. The purpose of this paper is to examine the innovative activity of enterprises as a basis of the information society development in Kazakhstan; to define fields of information and communication technologies; to clarify types of innovative activity in education and public administration; medical care and social services; arts, entertainment and recreation; to find factors of performance of professional, scientific and technical activity in Kazakhstan. While undertaking this theme the following desk research and statistical methods were used. As a result of study the innovative activity in Kazakhstan is made generally by public enterprises; Education, Public Administration and National Defense, Medical Care and Social Services, Arts, Entertainment and Recreation, Professional, Scientific and Technical activity and Information Society are sectors in which innovations are used more than in other industries; e-government, distance and online learning, e-ticket, the Internet banking are the most wide innovations in use; essential increase of the Internet usage and the number of personal computers at Kazakhstani enterprises are a guarantee of information economy development; Professional, scientific and technical activity of Kazakhstani entities may be analyzed as poor performers due the small volume of expenses for research and development and reduction of fundamental research.

**Keywords:** an innovative activity, an information society, the electronic government, the Internet banking, the mobile communication, the communicative culture, the ICT sector and the IT-Services.

### **1. Introduction.**

Kazakhstan is a part of the world economy which is in the process of development of a new economy based on the wide usage of innovations, first of all information and communication technologies. In the USA the knowledge and information work provides 75 % of the total national product and almost 77 % of employment. Information and communication technologies make up more than 70 % of the invested capital in the operation of an economy similar to finance, insurance and real estate. [1] Information systems optimize a stream of this information and knowledge in the organization, helping management to maximize resources and knowledge of a firm.

Examination of the innovative activity in Kazakhstani national economy to reveal some aspects of deepening a new economy development is done

### **2. Analysis of the Innovative Activity of Enterprises and Bases of Development of the Information Society in Kazakhstan.**

#### **2.1. Analysis of the Innovative Activity of Enterprises.**

The Agency of Statistics of the Republic of Kazakhstan tells us that there were 294 458 registered enterprises in our country in August of 2011. Among them only 176,925 were the operational enterprises of the different types of property: 13.7%, the public form of property; 82%, the private form of property and 4.

3 %, the foreign form of property. From the view point of the scale of enterprise, share of the big enterprises reached only 1.25%, share of the middle sized enterprises, 6.8% and share the small-sized enterprises, 90%, in the total number of the operational enterprises of Kazakhstan in 2010. [2]

Analysis of innovative activity of enterprises of Kazakhstan allows us to conclude the following:

- In 2003 the share of the innovative activity of the private enterprises prevailed; the total share of the innovative activity of the public and foreign enterprises reached 5.6 %.
- Since 2006 share of the innovative activity of the public enterprises has risen essentially and reached 9.8 % in 2010. It is 2.45 times more than the share of the innovative activity of the private enterprises and 2.7 times more than share of the innovative activity of all foreign enterprises.[3]

## 2.2. Fields of Innovative Activity.

To understand what sorts of innovative activity are done by these enterprises let's firstly refer to their structure through listing (publication) by the national economy of Kazakhstan.[1]

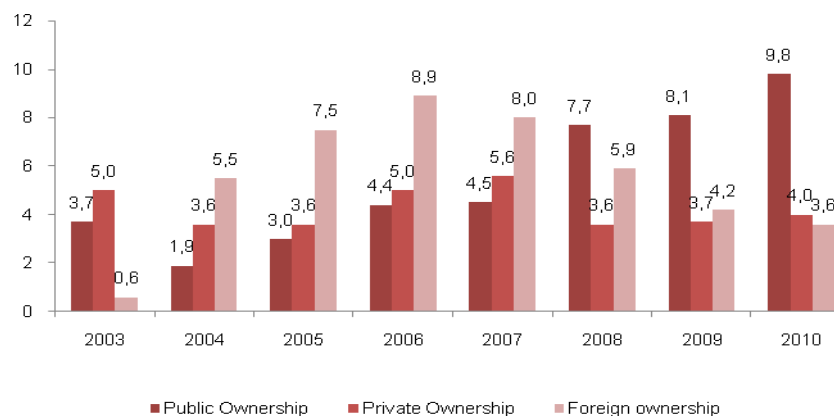


Fig. 1. Innovational-active enterprises by types of ownership in Kazakhstan in 2003-210

Table 1. Structure of the public enterprises in the National Economy of Kazakhstan in 2010

	2010, number in units	2010, share in %
<b>Total</b>	<b>24 340</b>	<b>100,00</b>
Agriculture, Forestry, Fishery	73	0.3
Mining	-	-
Manufacturing	22	0.09
Electricity, Gas Supply	110	0.45
Water Supply	283	1.16
Construction	59	0.24
Wholesale and Retail	18	0.07
Transport	48	0.16
Hospitality	12	0.04
Information and Communication	220	0.99
Finance and Insurance	9	0.04
Real Estate Services	82	0,34
Professional, Scientific and Technical activity	562	2.3
Administration Activity	125	0.5
Public Administration and National Defense	8 710	35.8
Education	10 985	45.1
Medical Care and Social Services	1 624	6.7
Arts, Entertainment and Recreation	1 386	5.7
Other Services	12	0.04

As we can see from the table above an innovative activity in Kazakhstan may be realized by the public enterprises in the following areas:

- Education
- Public Administration and National Defense
- Medical Care and Social Services
- Arts, Entertainment and Recreation
- Professional, Scientific and Technical activity
- Information Society

### 2.3. Types of Innovations.

An innovative activity in education, within Kazakhstan, is characterized by implementation of the National Program of Informatization Public Administration, Medical Care and Social Services are in the way of usage of e-government. In 2006 the information stage of formation of "the electronic government» was completed. Now the electronic government of Kazakhstan is at an interactive stage, there is a work on transition of the transaction stage. For last four to five years the communicative culture has cardinally changed. The quantity of subscribers of a network in any country now supplies the Internet with more than three million users. Development of an infrastructure of the ICT-BRANCH in the world is characterized by the expansion of an Internet telephony and transition from stationary to mobile communication, a competition in the communication market between operators, growth of incomes of cellular operators, a decline in the rates of increase of incomes of the operators, rendering traditional services. These tendencies are characteristic and for Kazakhstan. [4]

Internet technologies and technologies of mobile and online technologies have all become the ordinary and regular tools in different industries including Arts, Entertainment and Recreation. The table below tells us that usage of the Internet by enterprises of Kazakhstan has risen by 16 times from 2004-2010 and the number of personal computers at Kazakhstani enterprises has risen up to 11 times in that same period .[5]

Table 2. Enterprises of Kazakhstan used Internet and Personal Computers at the Enterprises of Kazakhstan

	2004	2005	2006	2007	2008	2009	2010
Enterprises of Kazakhstan which use the Internet	2,843	4,883	5,767	6,803	35,089	44,046	45,354
Personal Computers within the Enterprises of Kazakhstan	52,531	114,869	155,847	193,929	257,663	540,702	557,824

Such a kind development is the basis to use Internet technologies and software products.

In 2010 communication technologies which allowed the usage of the Internet were basically presented by telephone analogue modem at 39, 3%, DSL at 30, 6% and mobile phones at 26.4%. Only 1.8% of those technologies were realized via a satellite communication.

### 2.4. Factors of Poor Performance of Professional, Scientific and Technical Activity

Professional, scientific and technical activity of Kazakhstani entities may be analyzed as poor performers. The 2010 Survey of 10,937 respondents revealed the following: [6]

- Level of the innovation activity by respondents' answers was 4.3 %.
- 10,470 respondents answered that they had no innovations.

The objective reasons of such a kind performance may be explained by the data below: [7]

- The small volume of expenses for research and development in 2003-2010 decreased from 0. 25% to 0. 16% of the GDP of Kazakhstan.
- The biggest share of expenses for Research and Development belonged to the republican and local budgets; 60. 2% in total financing. At the same time enterprises spent only 22.4%, development institutions, 0. 3% and foreign entities, 0. 6%.
- A reduction of fundamental research from 16% to 8 % in the total scientific and technological works.

- The good fortune of new technologies development in regions of Kazakhstan.

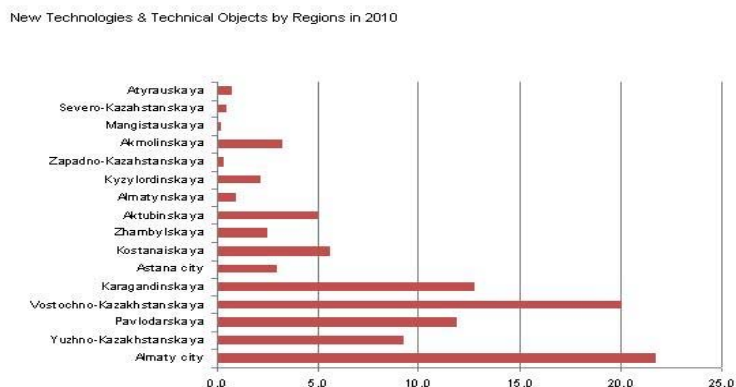


Fig. 2. New Technologies and Technical Objects by Regions of Kazakhstan in 2010 [8]

## 2.5. Bases of Development of Information Society in Kazakhstan.

Information society development in Kazakhstan is presented by «The program of development of the intellectual nation for 2020» on analog of the Malaysian program of development of the intellectual nation «IN 2015». It means universal training of the population with use of information technology.

IT-Services offered by IT enterprises of Kazakhstan involve consultations on software, Publication of ready system software, Services related to personal computers, Software development for individual users, Data-mining and tables production, Services regarding the computer data processing, Consultations on hardware and technical support.[9] Industrial products (goods, services) in the ICT sector: Manufacture of consumer electronics, Manufacture of computers and peripheral equipment, Manufacture of communication equipment.[10]

## 3. Conclusion

As a result of the analyses of implementation IT technologies as a general innovative activity in Kazakhstani enterprises, the following conclusions may be made:

- Innovative activity in Kazakhstan is presented by public enterprises in:
  - Education
  - Public Administration and National Defense
  - Medical Care and Social Services
  - Arts, Entertainment and Recreation
  - Professional, Scientific and Technical activity
  - Information Society
- Internet technologies, Internet telephony, mobile communication, e-government are the types of information technologies in Kazakhstan
- Increase of Internet usage by 16 times and the number of personal computers by 11 times, from 2004-2010 by Kazakhstani enterprises is a base to use Internet technologies and software products and further development of innovative activity
- Professional, scientific and technical activity of Kazakhstani entities may be appreciated as poor performance Objective reasons are:
  - The decrease of expenses for Research and Development from 0.25% to 0.16% of the GDP of Kazakhstan in 2003-2010
  - Financial Research and Development generally by federal and local budgets, by 60.2%, in total investments
  - The reduction of fundamental research from 16% to 8 % in the total scientific and technological works
  - The good fortune of new technologies development in regions of Kazakhstan
- IT-Services offered by IT enterprises of Kazakhstan involve consultations on software, publication of ready system software, services related to personal computers, software development for

individual users, data-mining and tables production, services regarding the computer data processing, consultations on hardware and technical support

- Industrial products (goods, services) in the ICT sector: the manufacture of consumer electronics, computers and peripheral equipment and the manufacture of communication equipment.

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