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The Emerging Digital Economy: Case of Kazakhstan

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Abstract

The analysis of the emerging digital economy in Kazakhstan requires disclosing not only an essence of this type of economy, but an essence of global reconstruction of an economic organization of a human society. Since 1950s the world countries have experienced a post-industrial economy of mass production followed by knowledge economy in 1990s and digital one in 2000s. Revolutionary changes brought by the Internet call the discussion whether that changes have been for the better or for the worse insight of economic context; what legal, economic, social and technological challenges have been experiencing and what sorts of decision making it is necessary to enlarge benefits of digital economy? The purpose of the article is to answer the question why Kazakhstan is not a country number 1 in the Rating of Digital Economy through an examination of major sectors, profiles and cases, obstacles and ways of overcoming.

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1. Introduction

Since 1950s the world countries have experienced a post-industrial economy of mass production followed by knowledge economy in 1990s and digital one in 2000s. The general factor of production has become information and communication technologies (ICT). One of the processes of the digital economy formation is transferring the different types of social and economic activity by usage of ICT into an electronic environment of the Internet: e-commerce, e-business, e-learning, e-media, and e-government. According to different researches the size of the “internet economy” for the G20 group of countries increased from approximately 4.1per cent in 2010 to 8.3per cent in 2012of their GDP. It is supposed that the size of total worldwide e-commerce, when global business-to-business and -consumer transactions are added together, will equate to \$16 trillion in 2013[1, 2].

Modern achievements in development of global information and communication technologies or the Internet technologies led to formation of the global electronic environment for economic activity that, in turn, opened new opportunities for organizational and institutional design in business and other spheres of social and economic activity of the person. It is acknowledged that ICT has the crucial role in connecting people and communities; increasing innovation and productivity; improving standards of living; enhancing competitiveness and economic and societal modernization, bridging economic and social divides as well as reducing poverty across the globe.

The Western Europe along with the North America and the Asia-Pacific region demonstrate about 90 per cent of e-commerce in the worldwide trade [3].

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Kazakhstan being one of the Asian countries has the very modest place in e-commerce development. The e-commerce market in Kazakhstan occupies about 0.45 per cent in a total market. By the end of 2012 growth of volumes of electronic commerce has been raising twice times; it is supposed that in 2013 1,8 per cent will fall to the share of e-commerce; in 2014 - 2,7 per cent; in 2015 the indicator will reach as four per cent and make 3,6 billion dollars [3].

2. Global reconstruction and Kazakhstan

The analysis of prospects of development of digital economy in Kazakhstan demands disclosure of essence not only this type of economy, but also essence of global reconstruction of the economic device of human society.

The history of development of society is studied on the basis of classification of stages of its development. The main concepts and theories of a periodization of development of society are known as follows: determinist theories of historical process; demographic determinism, geographical determinism; periodization of society development on farm patterns; institutional explanation of historical process.

2.1. Global reconstruction

The historical determinism expresses a general relationship and interterm of the social phenomena; the demographic determinism overemphasizes a role of a factor of the population in society development; the geographical determinism assumes that process of social development is not result of manifestation of objective regularities, and a consequence of influence of natural powers; formational approach explains a society organization from a position of property possession with various groups of people; the institutional explanation of historical process is based on evolution of institutes, transaction expenses and the property rights for definition of internal factors of change.

Though research in area of information revolution, information society and information economy has started saying in the 1970s, those futuristic predictions have already in a certain degree come true but it is rather unexpected event for scholars-economists. Nevertheless, the digital economy is already statistically registered fact and processes which constantly strengthen its influence on world development are distinctly visible.

In nowadays two concepts of the economic organization have been accepting: knowledge economy and electronic economy. The economy which functioning on electronic goods and services, launching electronic business and electronic commerce, and using electronic money, carries the name of electronic or digital economy. To this definition such directions of e-economy as e-government, e-media, and e-learning may be added.

Global economic reconstruction leads to the new paradigm of human society organization, the general hypotheses of which are considered as follows:

- Fundamental transformation of the market relations into intercompany ones that directly impact on organizational forms. Actually market relations are replaced by legal and administrative or their mixed forms.
- Refuse from fundamental principle of labor division to sake of business-processes as provision of higher productivity and functioning effectiveness.
- Basic value gets institutional approach to economic realities. The role of “built-in institutes” and public organizations increases. The enterprises are perceived as “the certain sum of contracts” between suppliers, experts, consumers and society as a whole [3].

Table 1. The global economic reconstruction

Type of society	Type of economy	General sector of economy	General factor of production	Period of time
Pre-Industrial society	Agrarian economy	Agriculture	Land	Before second part of XIX c.
Industrial society	Industrial economy	Manufacturing industry	Capital	Second part of XIX c.- mid. of XX c
	Post-Industrial economy of mass production		High-Tech	End of 1950-s-1990-s
Post-Industrial society				

Knowledge economy	Service sector	Human capital	1990-s-2000 –s.
Digital economy		ICT	Since 2000s.

2.2. Kazakhstan: digital economy

Kazakhstan has to find answers to challenges which are born by development and large-scale use of ICT, and the assessment of readiness is urged to help the country to derive benefits from information revolution. Such an objective demands adequate analytical tools. The question of return on ICT usage and readiness for electronic economy isn't applied to indicators of development of ICT's infrastructure and diffusion in various fields of activity.

Computers and access to the Internet itself do not solve problems existed in the field. It seems to be impossible to proceed from still popular representations in the spirit of a technological determinism about certainly and automatically coming prosperity in connection with mass distribution of ICT. The Kazakhstani level and efficiency of use of ICT in a number of fields of activity - in public administration, business and education -lags behind an ICT infrastructure's level of development in these areas and, therefore, is limited to other factors.

In 2011 and 2012 Sweden received the first line in a rating of innovative economy of the world within the World Economic Forum. One of the reason is that payments by paper banknotes and metal coins make only 3 per cent from money circulation in national economy; in the Euro zone the average value makes 9 per cent, in the USA - 7 per cent [4]. In Kazakhstan the structure of bank cards' operations consists of 65.9 per cent as cash and 34.1 per cent as a clearing settlement. The positive dimension inspired in hope is the growth of purchase and sale of goods and services on the Internet from 4.7 per cent in 2007 to 20.2 percent in 2011 [3].

In Kazakhstan numerous legislative and normative documents like the Laws "On Electronic Document and Digital Signature", "On Informatization", "On Information and Information Defense", and governmental programs on decrease of information inequality; forced industrial and innovative development; information and communication technologies have been adopted [5, 6, 7, 8,].

"The Global Information Technology Report 2010-2011" focuses attention of the international public on importance of ICT for national competitiveness and strategy of development in this field being tool for monitoring of national progress. It is marked that Kazakhstan overtakes Azerbaijan as the best performer of the Commonwealth of Independent States (CIS), as the former climbs to 67th position and the latter drops six places to 70th. Kazakhstan is now the only CIS representative in the upper part of the rankings. The country continues to deliver a convincing performance in its government usage pillar, progressing a further eight places to 31st. It is stressed that the quality of the Kazakhstani government's online presence (24th) and its degree of interaction with its citizens (18th) are remarkable [9].

Comparison of digital economy development in Kazakhstan and Sweden was based on the following main positions:

- Three main sectors as population, business, and government have been assessed concerning development and use of information and communication technologies.
- These sectors play the certain role in development of ICT insight of a macroeconomic adjustable environment.
- Level of implementation of ICT by all three sectors depends on degree of their readiness to use and get profit from those technologies.

Table 2. Individual, business and government usage of ICT in Kazakhstan and Sweden

Indicator	Country	Rank	Score
<i>Individual usage</i>			
Mobile telephone subscriptions	Kazakhstan	52	107.9
	Sweden	29	125.9
Impact of ICT on access to basic services	Kazakhstan	62	4.54
	Sweden	1	6.15
<i>Business usage</i>			
Capacity for innovation	Kazakhstan	75	2.82
	Sweden	3	5.73
Impact of ICT on new services and products	Kazakhstan	106	12.1
	Sweden	1	6.33

Impact of ICT on new organizational models	Kazakhstan	85	3.83
<i>Government usage</i>	Sweden	1	6.03
Government success in ICT promotion	Kazakhstan	63	4.36
	Sweden	7	5.55
ICT use and government efficiency	Kazakhstan	70	4.24
	Sweden	3	5.99
Government Online Service Index	Kazakhstan	24	0.53
	Sweden	24	0.53
E-Participation Index	Kazakhstan	18	0.56
	Sweden	23	0.49

Table “ Individual, business and government usage of ICT in Kazakhstan and Sweden” answers question why Kazakhstan is not a country number 1 in the Rating of Digital Economy.

Barriers in e-commerce of Kazakhstan embrace legislative limitations in criminal, administrative, and taxation codes. Information burglary, unauthorized access to database of the Internet shops, falsification of charge cards is laid in competences of the Criminal Code. Administrative infractions have links with responsibility of entrepreneurship to advertize and deliver the ban goods and information. It is discussion to reduce a burden of value added tax from 12 to 10 per cent for trade turnovers done by credit cards.

Laws “On Trade Activity Regulation”, “On the Protection of the Customers' Rights”, “On the Rights of the Child”, “On Advertisement” should contain category “electronic trade”; criteria, rules, and mechanisms of purchase and deliver information and goods through the Internet with the accuracy and protection in mind.

3. Some ways of development

Institutionalization of ICT sector and creation of resources for long-term development, effective use of ICT potential by business, state and society, transition of the Republic of Kazakhstan to information society and digital economy suppose to reach the following objectives:

-share of sector of ICT in GDP in 2014 - 3,8 per cent; level of digitalization of local networks of telecommunications - 100 per cent;-density of subscribers of the broadband Internet - 22 on 100 people; density of subscribers of cellular communication - 111 on 100 people; all settlements with population from 1 000 people and more are provided with services of mobile communication;-number of computers - 25 on 100 inhabitants;-increase of computer literacy of the population to 40 per cent; ensuring transfer not less than 50% of socially significant state services in an electronic form; coverage by radio digital telecasting of the territory of Kazakhstan - 95 per cent; coverage by satellite digital telecasting of the territory of Kazakhstan – 100per cent; level of branch standardization is brought to the international norms and the legal basis promoting development of info communication technologies in the Republic of Kazakhstan (number of the harmonized standards from total of standards of info communication technologies – 77 per cent) is created;-construction and modernization of 560 rural offices of a post service.

To develop the competitive export-oriented national sector of info communication technologies it is necessary to raise the share of information and technological services up to 30 per cent, a share of software engineering - 15 per cent, and a share of information equipments - 55 per cent; to reach share of the Kazakhstan contents in the total amount of the of information technologies market not less than 32 per cent; and share of the Kazakhstan contents in information services - 80 per cent [3].

On the basis of the analysis of the strong sides and weaknesses, opportunities and threats the following tasks are defined:

1) Modernization and development of info communication infrastructure. 2) Development of digital TV and radio broadcasting. 3) Development of the Kazakhstan segment of the Internet. 4) Development of electronic services and e-government.5) Development of sector of software development and IT services. 6) Development of a domestic production of the hi-tech equipment. 7) Development of education in the sphere of info communication.

Development of the Kazakhstan content and creation of electronic trading platforms, online shops and system of the electronic payments focused on requirements the Internet of trade, will make investment attractive the Kazakhstan segment the Internet.

“Kaznet” will promote introduction of broadband access and creation of data-centers; increase in electronic services provided through e-government portal, creation of socially significant the Internet resources (for children and teenagers).

Introduction of the internationalized domain of the top level ".kaz" with use of symbols of the national alphabet will be made for needs of governmental bodies and the device of the President, such as "president.kaz", "akorda.kaz", "parlament.kaz", "senat.kaz", "government.kaz". Also there will be sites with domain names: "mem.kaz" for the state organizations, "bil.kaz" for educational institutions, "kom.kaz" for the commercial organizations, "org.kaz" for non-profit organizations and projects.

Deepening of digital economy in Kazakhstan will cut overhead costs of business and facilitate an exit of domestic goods to foreign markets, increase taxable base and provide a partial conclusion of trade from a shadow economy.

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