

DIGITALIZATION OF KAZAKHSTAN'S ECONOMY

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***Abstract:** Digitalization covers the whole world and is one of the main development goals. Recognizing the importance of digitalization and the development of digital technologies in defining long-term economic growth, Kazakhstan actively participates in the development of this sector as one of the key directions of state policy. The article discusses the trends and processes of transformation of Kazakhstan's economy related with increasing digitalization. The features of the formation of the digitalization of the economy are considered, problems and possible directions of the use of digital technologies are identified.*

***Keywords:** digital economy, competitiveness, economic sectors, digitalization, ratings*

I. INTRODUCTION

Currently, the implementation of digital technologies in the country's economy and daily life is proceeding continuously. At the same time, it is becoming increasingly obvious that digital technologies and their further development are not just another wave of scientific and technological revolution – digitalization entails fundamental changes in the technological structure of the economy. Already, the

use of digitalization results can provide an unprecedented increase in the rate and quality of all production and commercial processes.

Digitalization of the economy contributes to the adoption of digital and information and communication technologies in the economy, making it possible to reduce the cost of services, enhance the availability of goods and simplify their entry into global markets, the implementation of financial support, building a new cultural and social environment in community. The result of the impact of digitalization on the economy is the emergence of a digital economy - a system of economic relations based on the use of digital information and communication technologies. Digitalization has an impact on all sectors and will lead to a change in the structure of Kazakhstan's economy as a whole, diversification and disclosure of the potential of non-raw materials industries, as well as promoting startup activity and the opening of “new industries”.

Digital economy is the utility of the online possibilities and innovative digital technologies both for the large enterprises and for small and medium businesses. The growth rates of investments in the information and communication technology industry in developed countries exceed the growth rates of investments in processing and extractive industries. The share of income from the information and communication technology industry in the gross domestic product, as well as the number of employees employed in it, is constantly growing. Thus, the primacy in the development and implementation of digital technologies may in the future provide the country that achieves it with an exceptional position in international economic and geopolitical relations.

II. CONDITIONS AND PROBLEMS OF DIGITALIZATION OF THE ECONOMY OF KAZAKHSTAN

The digital economy is associated with the transition to a new stage of production management based on the use of modern information technologies. In the contemporary world, digital technologies are playing an progressively more significant role in the development of countries' economies.

Digital technologies have provided a number of advantages - simplifying public and business access to public services, accelerating data exchange, the emergence of new business opportunities, and the creation of new digital products.

The development of digitalization in Kazakhstan started with government programs for the formation and development of “Electronic Government”, “Information Kazakhstan – 2020” and the main driver of digitalization was the State Program “Digital Kazakhstan”, which included 12 target indicators, 26 indicators of results and 125 activities.

The results of the government program demonstrated a favorable effect on the development of economic sectors with a total economic effect in the period from 2018 to 2020 – 1250.66 billion tenge and the drawing of 45.5 billion tenge into the innovation ecosystem. Today, more than 90% of government services are available online; the share of e-commerce has grown from 2.7% to 9.7% in 2020.

Table 1.

Rating indicators of digitalization of Kazakhstan

Indicators	2018	2019	2020	2021
IMD World Digital Competitiveness Ranking (Digital Competitiveness Ranking, 2021)	38	35	36	32
WEF Global Competitiveness Index (Kazakhstan Competitiveness Index, 2021)	53	59	55	55
The Inclusive Internet Index (Overall rank, 2021)	46	51	58	62

Note: compiled by the authors from the sources [1], [2], [3].

The human capital index of Kazakhstan is 0.63 out of 1 (according to the United Nations rating for 2019), Kazakhstan is in 51st place. The level of basic digital literacy is more than 80%. The telecommunications infrastructure index in Kazakhstan is 0.5668 out of 1 and indicates the need for its further development. According to the SpeedtestGlobalIndex, Kazakhstan ranks 95th among 138 countries in terms of mobile Internet speed, and also continues to rank 65th among 174 countries in terms of fixed broadband Internet speed. The share of organizations in the economy that carried out innovations by the end of 2020 amounted to 11.5% (in 2019, 11.3%).

Table 2.

Indicators of the State Program «Digital Kazakhstan» for 2018-2021

Indicators	Unit of measure	2018	2019	2020	2021
E-commerce share of total retail sales	%	1.4	1.8	4.1	3.6
Internet users	%	81.3	84.2	88.2	92.9
Digital Literacy of the Population	%	79.6	82.1	84.1	87.3
Levels of Home Broadband penetration Internet access	%	83.9	86.8	90.6	93.7
Increase in Labour productivity in the section “Transport and warehousing” (by 2016), %	%	108.7	112.2	89.6	96.6
Increase in Labour productivity in the section “Mining and quarry development” (by 2016), %	%	111.1	117.1	113.7	118.2
Increase in Labour productivity growth in the section “Agriculture, forestry and fisheries” (by 2016), %	%	124.9	129.6	136.3	132.1

Indicators	Unitofmeasure	2018	2019	2020	2021
Increase in Labour productivity in the “Manufacturing industry” section (by 2016), %	%	108.5	114.3	119.2	126.2
Share of large and medium-sized industrial enterprises using digital technologies	%	-	5.9	7.8	9.9

Note: compiled by the authors according to Bureau of National Statistics.

The main share of organizations using the Internet to communicate with government agencies accounts for receiving information – 82.9%, electronic sending of completed forms – 76.2%, downloading forms – 60.3%.

On December 30, 2021 Government approved the Concept “Concept for the development of the information and communication technologies and digital sphere” [4]. The implementation period of the Concept is 2021-2025. The functions of the Concept are to indicate the optimal ways to solve urgent issues in the field of public services for the population and the business community, the transformation of public administration and the further development of economic sectors using the capabilities of digital technologies in accordance with the priorities of the National Plan until 2025.

The growth of the information and communication technology sector increases the number of jobs, the efficiency of economic sectors, and economic competitiveness is developing through digitalization. And as the higher the level of economic development, it is the higher the level of development of information and communication technologies. The information and communication technology sector is understood as a set of enterprises producing uniform or particular products using the same type of technologies.

This will be reached by establishing conditions for the use of technologies by industries, including the introduction and development of support measures for

the technological re-equipment of enterprises in the real sector of the economy, the provision of public IT services to organizations to create innovative business models, as well as by creating an ecosystem for the development of innovative companies.

The events are aimed at providing entrepreneurs with services and creating infrastructure for the fulfillment of the principle of a “single window” for business. This initiative is a key one and involves ensuring transparency and simplifying measures of financial and non-financial support for small and medium businesses, as well as providing other public services to legal entities.

Digitalization of industry will enhance the quality of manufactured products, increase labor productivity and allow entering new competitive markets both domestic and foreign.

Digitalization of agriculture is aimed at overcoming a number of global challenges, such as: improving the quality of life, increasing the need for food as a result of population growth, transformation of consumer preferences and the development of a model of sustainable and environmentally friendly consumption. For Kazakhstan, where about 45% of the population lives in rural areas, the development of agricultural production will ensure the solution of all social problems of the village.

III. CONCLUSION

The process of digitalization of the economy leads to an unavoidable transformation of the socio-economic paradigm, community and its particular areas. The transition to a digital economy means for Kazakhstan to increase its competitiveness in a new technological way. For high-quality economic growth, it is essential to have technologies which make it possible to assess the current state of markets and industries as accurately as possible, as well as to effectively predict

their development and accelerate their response to changes in the conjuncture of national and world markets. However, the process of digitalization of Kazakhstan's economy faces problems such as difficulties in changing the corporate culture and business processes of organizations; lack of qualified personnel in the field of information and communication technologies.

Kazakhstan has all required preconditions for the further implementation of digital technologies. New technologies will impact all sectors of life: business, education, healthcare, and also improve the quality of life, create new forms of socialization and communication. The digital economy is becoming one of the key factors affecting economic growth and has important implications for measuring GDP, productivity and household well-being in all economy sectors. In our view, the key factors of the success of digitalization in Kazakhstan may be a significant degree of involvement of the country's leadership, government authorities, and the government as a whole in the digitalization of all sectors of country's economy, via the development of the national IT sector; encouraging investments in entrepreneurship and IT startups; creating a favorable environment for attracting digital innovation technologies and especially providing support measures to talented youth; ensuring information and cybersecurity technologies.

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