

## Digital education mastering advanced technologies

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**Abstract:** the report provides some information about the digitalization of the economy of Kazakhstan: opportunities and initiatives. The main goal of the program "Digital Kazakhstan". Inclusive economy. Inclusive market. Brief commentary on digital literacy. It was concluded that the digitalization of the economy is an objective process associated with the entire course of globalization and the development of digital technologies.

**Key words:** inclusive economy, digital economy, digital technology.

The general paradigm is one of the main trends in the methodology of modern science. It establishes the stage of development of scientific reasoning of a particular branch of knowledge and reflects the features inherent in them, determines the specific nature of the methodology for studying the object of scientific representation at the stage of development of knowledge.

### Digitalization of the economy of Kazakhstan: opportunities and initiatives

Today, digital technologies play an important role in the development of the economy of states in the world. It has a number of advantages not only for the state, but also for the people. For example, access to public services, rapid exchange of information, the emergence of new business opportunities, the creation of new digital products, etc. Read more Strategy2050.kz in the material of the correspondent.

The term "digital economy" came into use in 1995, and was also associated primarily with the rapid development of information and communication technologies. In 1995, the American computer scientist Nicholas Negroponte coined the term "digital economy". Now this term is used all over the world. Thus, this term is increasingly used in the everyday life of politicians, entrepreneurs, journalists.

The digital economy is the use of modern information technologies by many countries of the world in order to increase the efficiency and profitability of the national economy.

Over the past decade, the world economy has been moving to a new format, becoming the main tool in the formation of which digital technologies play an important role. The expansion of the role of Information Technology in the work of the private and public sectors is the basis for the transition to a digital State.

### Digital Kazakhstan program

The main goal of the Digital Kazakhstan program is the sustainable development of the digital economic system to achieve sustainable economic growth, increase the competitiveness of the economy and the nation, as well as improve the quality of life of the population. The implementation of the state program will be carried out

This state program will be implemented in five main areas from 2018 to 2022.

1. "digitalization of economic sectors" - transformation of traditional sectors of the economy of the Republic of Kazakhstan through the use of advanced technologies and opportunities. This increases labor productivity and leads to an increase in capitalization;

2. "transition to a digital State" - changing the state infrastructure to provide services to the population and businesses, taking into account their needs in advance;

3. "implementation of the Digital Silk Road" - development of high-speed and secure infrastructure for data transmission, storage and processing;

4. "development of human capital" is the development of competencies and skills necessary for the digital economy, increasing the digital literacy of the population, training special specialists for industries;

5. "creating an innovation ecosystem" - creating conditions for the development of technological entrepreneurship with a stable connection between business, science and the state, as well as introducing innovations into production.

Digital literacy of the population

According to the state program "Digital Kazakhstan", it is planned to increase the level of digital literacy of the population to 83% by 2022. Thus, in 2020 it is planned to reach 80%, in 2021 – 81.5%, and in 2022 – 83%.

Digital literacy is the ability of a person to use knowledge and information and communication technologies in his daily and professional activities.

General digital literacy consists of basic and professional digital skills. Basic digital skills include:

1. basic digital skills, including reliable use of a personal computer and laptop, mobile devices, the internet, security and data protection

2. skills in using "e-government" and public services, including obtaining the necessary electronic public services "online" without leaving home

3. skills to use Open Government

4. "e-commerce" skills, including the skills of "online" purchase, sale of goods and services

5. information security skills, including protection of personal data, protection of tablets, smartphones, protection during financial transactions on the Internet.

Professional digital skills include five key digital skills:

- Media skills - skills in using digital devices (digital cameras, camcorders)

- Professional digital skills - skills in applying software and hardware solutions in professional activities

Today, the level of digital literacy of the population in Kazakhstan, according to the ex-minister of digital development, innovation and aerospace industry of the Republic of Kazakhstan Askar Zhumagaliyev, as of July 1, 2020, is 82.1%. In his report at the government meeting, the ex-minister noted that thanks to the development of human capital in the field of Information Technologies, the total economic effect of digitalization amounted to 802.5 billion tenge. According to him, more than 120 thousand jobs have been created in various industries.

The issue of training specialists has been established.

The minister also noted that as part of the implementation of the instructions of the head of state Kassym-Jomart Tokayev, changes are being made to the state program. In particular, special attention will be paid to the digitalization of business and economic sectors.

"This will lead to an increase in demand for highly qualified IT personnel. Already, the annual demand for them is more than 30 thousand people," the ex - minister said.

According to Askar Zhumagaliyev, today children learn computer science from the 1st grade, and from the 3rd to 4th grade - the basics of programming. The number of IT laboratories and robotics classes has increased across the country.

At the same time, the minister reminded that currently there are two special universities in the country that train IT specialists. According to him, they will develop training programs together with leading international partners. Also, a pool of the top 10 universities was created. They also prepared their curricula in collaboration with international universities. At the same time, highly qualified ICT specialists are being trained, which in the future will cover the shortage of middle and senior personnel in the industry.

"Today they are taught by the innovative Alem and QWANT programming schools. The effectiveness of such schools has been proven in international practice, so ICRIAP proposes to increase such IT Schools in Almaty, Karaganda and Shymkent," Askar Zhumagaliyev said.

### Advantages of the digital economy

The digital economy, in particular the emergence of new opportunities, of course, has a positive impact on human life.

Thanks to the development of digital technologies, the consumer can quickly get the services he needs, save money by purchasing products in online stores at a low price. In addition, the electronic version of the book will also cost people several times cheaper than its printed counterpart. When buying at wholesale prices on the internet, by negotiating with other customers, citizens save more than they save on purchases in offline outlets. Thus, the consumer can start an online business and become an entrepreneur from home.

The World Bank notes that a number of problems can also be solved through the development of the digital economy.

- increase in labor productivity
- increase the competitiveness of companies
- reduced production costs
- creation of new jobs
- overcoming poverty and social inequality

These are just a few examples of how the digital economy can have a positive impact on our lives, providing the average user with many opportunities, thereby expanding the market's capabilities.

### "Disadvantages of the "digital economy""

The introduction of numbers and e-commerce into life is not without a number of shortcomings. In particular, among them is the emergence of cyber threats associated with the problem of protecting personal data. "Digital slavery" is the use of data on millions of people by observing human behavior. In addition, there is an increase in unemployment in the labor market, as the risk of extinction of some professions and even industries increases. In addition, there will be a diversity of people's digital education, i.e. a gap in digital education, access to digital services and products, as a result of which there will be a gap in the level of well-being of people in one country or in different countries.

### "Digital economy" should serve for the benefit of the public"

The digital economy should serve the interests of the majority, not just certain groups. There is no deterministic principle in technology. They are a source of both opportunities and difficulties. In this regard, the task facing governments is to work closely with other stakeholders to shape the digital economy by establishing "rules of the game". In turn, for this it is necessary to have a clear idea of what kind of digital future we want to have.

The second information we have considered is the Inclusive Economy.

Over the past 30 years, income inequality between the richest and poorest segments of the population has been growing, which can lead to a slowdown in the economy. Many countries are looking for a recipe for comprehensive economic growth, in which high rates of investment, rapid innovation and high GDP growth are accompanied by measures to reduce income inequality. In this regard, many countries make innovative decisions that contribute to widespread access to the social and economic benefits of all segments of the population.

In many countries, people have not seen their income increase over the years. The gap between rich and poor is becoming more and more evident. The growing inequality of income and wealth is a serious problem, but money is only one aspect of people's well - being. In any area, be it education, life expectancy or employment prospects, income depends on socio-economic status, wealth and assets, gender, age or places where people live.

The term "inclusive development" means that finding the perfect balance between people, the planet and profit is the mission of Corporate Social Responsibility (CSR). The main driving force in creating a socially oriented approach is an inclusive economy. Its goal is to ensure equal access for people to economic independence and unhindered interaction between social groups.

For companies, an inclusive economy consists of two separate aspects. One of them is an inclusive labor and employment policy. For example, a company may try to ensure the uniformity

of its employees and hire employees with not too wide opportunities in the labor market. Another aspect focuses on the inclusive distribution market. That is, the company promotes the development of inclusiveness by providing basic needs for people below the poverty line (based on the pyramid).

#### Labor and employment policy.

According to an inclusive economy, each person must participate in the labor process, taking into account their individual abilities. Employers should assess the potential of their employees and make the most of their capabilities. To achieve the maximum performance of their employees, employers must take into account factors such as, for example, the professional development of employees and ensuring the safety of their health.

Employee heterogeneity is not only a socially significant phenomenon, but also provides companies with different opportunities and is a smart move in the face of a shortage of personnel in the market. Companies that pay close attention to the issue of training their employees end the lack of valuable personnel. And by allowing their employees to perform work that meets their qualifications and preferences, companies increase the productivity and efficiency of their employees. In addition, the heterogeneity of employees increases the creativity of the company.

#### Inclusive market

According to an inclusive economy, each person must have access to basic needs to maintain their life: food, water, clothing, health care, housing, education, energy resources. Companies around the world make a significant contribution to the implementation of this task.

The basis of the pyramid is an economic term denoting the largest socio-economic group of the population with the lowest income. This group includes about 4 billion people, whose annual income does not exceed доллардан 4,000. A quarter of the representatives of this group are below the poverty line. They have the opportunity to spend доллар 2-9 a day.

Representatives of this group are part of the shadow economy and small agriculture. Many hardly make a living, their income allows them to buy only the necessary things. However, despite the limited purchasing power, this group is of considerable interest to corporations. Commercial activity in this market segment is closely related to the general fight against poverty.

#### Multilateral companies

Among the unresolved problems in the inclusive market are child labor, discrimination, dangerous or harmful working conditions, and unfair wage rates. Companies that are part of the international network, like other commercial structures, must take measures to solve all these problems, including: raising wages, creating favorable and safe working conditions, taking care of the observance of trade union rights. Increasingly, consumers themselves demand that companies create decent working conditions and respect human rights in all its branches.

Part of the address, announced by the head of state Kassym-Jomart Tokayev in October 2019, is "dynamically developing and inclusive economy". Let's discuss the issue covered in this section.

Thus, the economy of Kazakhstan is moving forward, despite the difficulties of a global nature.

- Since the beginning of the year, its growth has been higher than the world average.
- If we implement the necessary structural changes, by 2025 it will be possible to achieve a stable annual growth in gross domestic product by 5 percent or more.
- In order to give a new impetus to the development of the economy, the government and the Presidential Administration need to carefully analyze all the work of domestic and foreign experts.
- We need to implement a number of structural tasks in accordance with the long-term development strategy until 2050 and the National Plan proposed by the head of state.
- "First. Diversification of the economy, abandoning the mentality tied to raw materials.
- For the "knowledge economy", increasing labor productivity, the development of innovation, artificial intelligence have become the main factors of global development.
- In addition, during the third five-year plan of industrialization, we must take into account the mistakes and gaps made earlier.
- All my instructions and comments on these issues are obliged to be fully fulfilled by the government.

We need to increase the real growth of labor productivity by at least 1.7 times.

The strategic task is to establish our country as a leader in the region and increase our authority in Central Asia.

#### Used literature

1. President of zholdau  
<https://assembly.kz/kk/media-centr/ank-v-tsifrah-infografika/memleket-basshysy-to-aevty-aza-stan-khal-yna-zholdauy-iii-ar-yndy-damy-an-zh-ne-inklyuzivti-ekonomik/>
2. Kazakhstan ekonomikasynn tsifrlany: mumkindikter men bastamalar  
<https://strategy2050-kz.turbopages.org/strategy2050.kz/s/news/aza-stan-ekonomikasyny-tsifrlanuy-m-mkindikter-men-bastamalar/>
3. Inclusive economy  
<https://www.mvonderland.nl/dossier/inclusive-economy>
4. Felipe and Hasan (2006) «The challenge of job creation in Asia» Asian development bank, Manila.
5. Menshikov S. Structural Crisis as a Phase in Long-Term Economic Fluctuations//
6. The Long Wave Debate.; Menshikov S.M., L.A.Klimenko. Long waves in the economy: When society changes its skin. M. – 1989.

#### Мемлекеттік органдар қызметінің ақпараттық ашықтығын жетілдірудегі цифрлық технологиялар

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Түйіндеме: Мақалада мемлекеттік органдар қызметінің ақпараттық ашықтығын жетілдірудегі цифрлық технологиялардың рөлі туралы баяндалған. Цифрлық технологияларды дамыту ашық және қолжетімді мемлекетті құруға мүмкіндік береді. Мемлекеттік және стратегиялық бағдарламалар, ақпараттар, белгілі мерзімде атқарылған жұмыстар туралы есеп және маңызды жаңалықтар интернет-ресурстар арқылы жүзеге асырылады. Сол себепті, мемлекеттік органдар қызметінің ақпараттық ашықтығын жетілдірудегі цифрлық технологиялардың жаңа ұсыныстары анықталды. Сондай-ақ, ақпараттың ашықтығын жетілдірудегі басты мәселелер және оларды шешу жолдары қарастырылады. Ақпараттың еркіндігін арттырудағы цифрлық технологиялардың үлесі қарастырылады.

Кілт сөздер: ақпараттық ашықтық, цифрландыру, цифрлық технология, ашық үкімет, электронды үкімет, экономикалық тиімділік.

Әділ және ашық құқықтық жүйе кез келген елдің кемел болашағының тұрақты дамуының негізгі құралы. Мемлекеттің қарқынды дамуы оның халқының ақпаратқа еркін қолжетімділігімен тікелей байланысты. Дамудың бұл жолында, цифрландырудың жоғарғы қарқынын байқамау мүмкін емес. Мысалы, еліміздің «Цифрлық Қазақстан» бағдарламасында цифрлық технологияларды жетілдіру халықтың әл-ауқатын арттыратындығы басты назарға алынғанын көруге болады. Бағдарламадағы ең басты мақсаттарының бірі мемлекеттік органдар қызметіндегі цифрлық трансформациялар қаралған [1].

Жалпы, «цифрландыру» сөзі мөлдір және ашық қолжетімді деген ұғымдармен етене байланысады. Цифрландыру тек ұлттық бәсекеге қабілеттілікке жетудің басты құралы ғана емес, сондай-ақ, «Халық үніне құлақ асатын мемлекет» тұжырымдамасын жүзеге асырудағы қоғам мен билік арасындағы байланыс құралы болып табылады. Яғни, әрбір азамат қажетті