

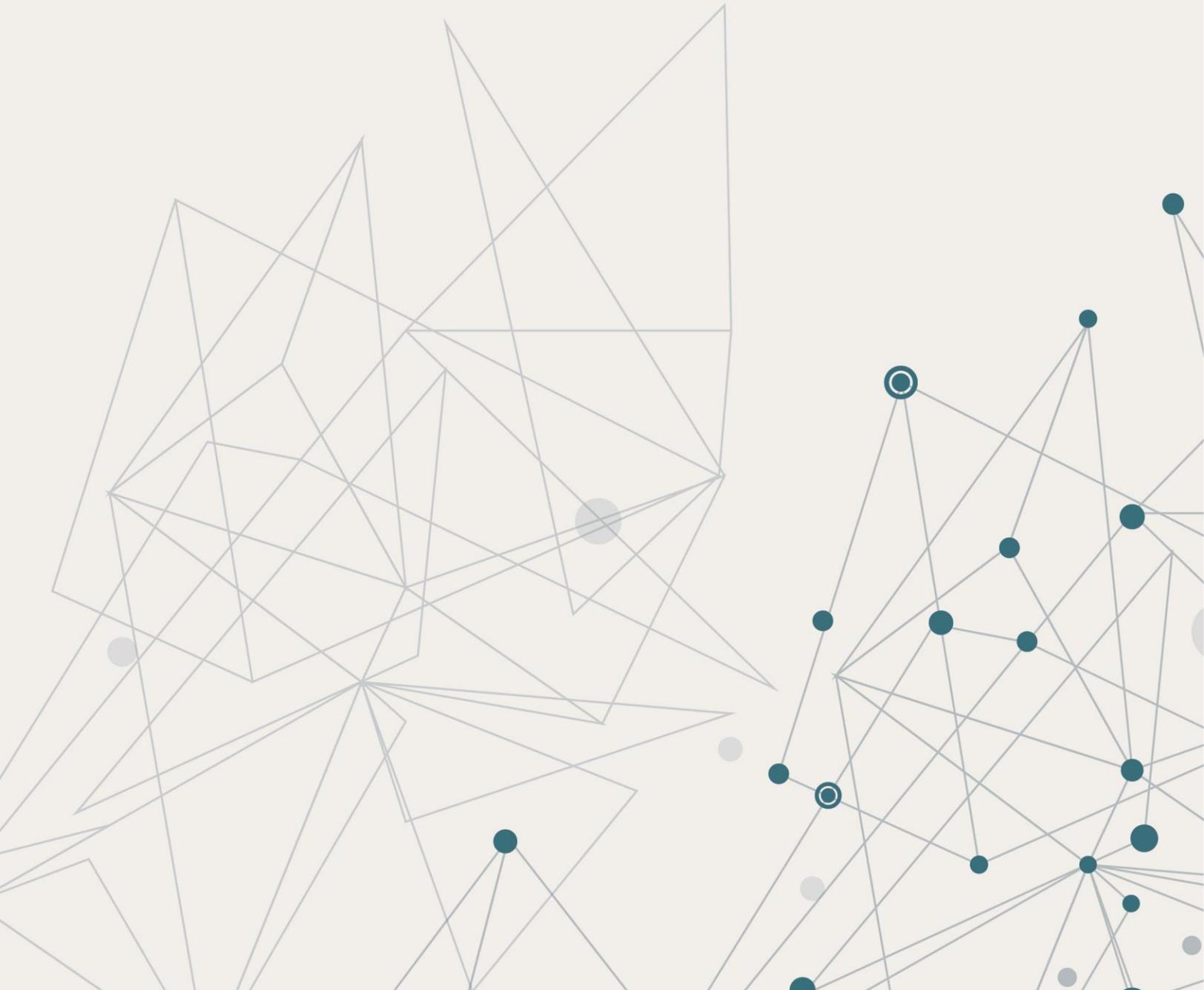


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**INTERNATIONAL
BUSINESS
COUNCIL**

DIGITAL ECONOMY OF THE KYRGYZ REPUBLIC



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EXECUTIVE SUMMARY

In the period from February to May of this year, the International Business Council (IBC), with the support of the USAID Competitive Enterprise project, in cooperation with independent experts conducted a comprehensive analysis of the current state and development opportunities of the digital economy in the Kyrgyz Republic. The study examined the best international practice (on the example of advanced countries such as the USA, China, Singapore, South Korea, Ireland, Israel, Estonia, Great Britain), as well as the experience of neighboring countries such as Belarus and Kazakhstan.

The research focused on analysis of national legislation and practical cases related to the development of e-commerce, banking services and non-cash transactions, postal and logistics services, Internet access, including broadband and other issues, the level of digital literacy of the population and skills of key players in the digital economy.

Kyrgyzstan ranks 97 out of 152 countries according to the UNCTAD rating, which assesses the willingness of countries to develop e-commerce in terms of the B2C e-commerce Index. The index assesses the willingness of countries to develop e-commerce based on 4 indicators: Internet penetration, the presence of bank accounts among the population, the share of secure servers per 1 million of the population and the level of development of postal services according to the rating of the Universal Postal Union. According to this UNCTAD rating, Kyrgyzstan lags behind almost all CIS countries: Belarus (37th place), Russia (42nd place), Kazakhstan (52nd place), Armenia (66th place), Azerbaijan (68th place).

Digital platforms play a special role in the development of the digital economy. Those are an environment for transactions and trading operations. For example, seven of the eight largest companies in the world in terms of capitalization use platform business models, including Amazon, Alibaba. According to the study, despite the existence of a sufficient number of national programs and strategies, including for digital transformation, many initiatives have not been sufficiently implemented. At the moment, the Law "On Electronic Commerce" has not been adopted, which gives an explanation of some concepts in the field of the digital economy, including the concepts of "electronic commerce", "electronic transaction"; changes are also required in tax legislation, providing for special tax regimes for electronic commerce, logistics of goods and services.

According to the E-Commerce Association of the Kyrgyz Republic, 72% of online stores use offline stores, when digital platforms are often just a virtual showcase, which does not fully realize the possibilities of digital commerce. In this regard, it is necessary to implement a set of measures that stimulate the transition of entrepreneurs to e-commerce, starting with an understandable and accessible algorithm for starting a business in this area, simplified taxation, modern and convenient electronic payment systems, a developed system of goods logistics, especially in cross-border trade.

A separate research issue is the development of education in the field of the digital economy. Today, one of the big challenges in the development of the country's digital economy is the insufficient level of digital competence and skills / literacy of the population. At the moment, it is necessary to develop a comprehensive digital literacy training program, increasing the competence of not only civil servants of all ranks, but also business representatives, persons planning to engage in entrepreneurship and the population in general. It is proposed to create a Center or Institute for Digital Competence for government organizations and the private sector representatives.

Most countries provide tax incentives and subsidies to create a more favorable environment and to stimulate online entrepreneurship. For example, in neighboring Kazakhstan, e-commerce market participants were exempted from corporate tax and income tax, subject to basic rules such as selling goods via the Internet, delivering goods through their courier services or through outsourcing, cashless payments, etc. In the PRC, e-commerce is also free from taxation; the economy benefits from an increase in production and individual income. There are many examples of supporting the development of e-commerce in the world practice examined in this Report. It is also important for the Kyrgyz Republic to provide tax incentives for e-commerce so that entrepreneurs can invest in knowledge, skills and intangible assets.

Products and services from the Kyrgyz Republic do not withstand price competition with manufacturers from other countries because domestic exporters pay double taxes when trading with some countries. It is necessary to re-prioritize and audit the current list of countries with whom the Kyrgyz Republic has signed agreements on the avoidance of double taxation. The existing list does not fully meet the requirements and needs of modern exporters (IT, export of services and the creative economy), such as: Ireland, USA, UK, etc.

According to the official data examined, account ownership has grown significantly since 2014, from 327 accounts per 1,000 adults to 684 accounts per 1,000 adults in 2020. The share of the population with bank accounts in 2020 was over 65% against 18% in 2014. The measures taken by the National Bank of the Kyrgyz Republic (hereinafter – NBKR) and the Government of the Kyrgyz Republic (hereinafter – the Government or Cabinet of Ministers) aimed at the development of banking infrastructure, such as exemption from VAT on the import of ATMs, terminals, zero sales tax rate when paying in non-cash form influenced the growth in the number of ATMs and other banking payment equipment. However, despite the progressive increase in ATM penetration in terms of geographic coverage and in terms of the number of ATMs per 100,000 adults, Kyrgyzstan has not reached the level of ATM penetration in developed countries. Also, most of the ATMs and terminals are concentrated in large cities and towns.

Electronic money is becoming more and more popular in the Kyrgyz Republic, so the number of electronic wallets for the 1st quarter of 2021 amounted to 3.8 million wallets (compared to the same period last year, the figure increased by 63.4 %). The number of identified e-wallets amounted to 937 thousand (24.6% of the total number of e-wallets). At the same time, with the growth in the spread of e-wallets, there are a number of constraining factors. In this regard, it is proposed to develop an agent network, the number of points (business entities), accepting payment through an electronic wallet, including for cross-border trade.

The problems associated with trade logistics create uncertainties and costs for both e-commerce firms and consumers. The lack of access to the sea in Kyrgyzstan leads to inevitable costs in terms of trade logistics. In this regard, it is necessary to develop the capacity of the International Trade Logistics Centers (ITLCs) in Kyrgyzstan, allowing companies, especially small and medium-sized enterprises, to monitor improved inventory management, efficient packaging and handling, to protect against price fluctuations and improve risk management. However, most of the ITLCs that have been established are warehouses, and only few of them handle packaging or provide transport and logistics services.

DIGITAL ECONOMY IN THE WORLD

DEFINITIONS AND CLASSIFICATIONS OF DIGITAL ECONOMY ACTIVITIES

The digital economy in the world does not have a universal definition. According to a number of experts, the definition of such basic concepts as “digital economy”, “digital transformation”, “digital platform” could facilitate a sharper establishment of the culture of consumption of digital services in the world.

The term "digital economy" first appeared in 1995 and was associated primarily with the intensive development of information and communication technologies. The term was first coined by Professor N. Negroponte of the Massachusetts Institute of Technology in relation with the intensive penetration of technologies into numerous areas of society, as well as in connection with the acceleration of the transformation processes of the world economic system impacted by the scientific and technological progress.¹ It is obvious that the development of the Internet and mobile communications are the “basic technologies of the digital economy”. But ultimately, these processes affected all sectors of the economy and social activity, including manufacturing, healthcare, education, financial services, transport and other sectors of the economy.²

According to the World Bank, the digital economy (in the broadest sense of the word) is a system of economic, social and cultural relations based on the use of digital information and communication technologies

The definition of a concept is a reflection of time and contemporary trends, especially in the field of new and high technologies. Early interpretations focused on Internet technology, which became the technological mainstream of the 1990s. Later, researchers wrote a lot about the development of mobile and wireless networks, and already in 2016-2017 - about cloud technologies and technologies for working with big data. The term "digital economy" refers exclusively to the ongoing and not yet completed transformation of all sectors of the economy due to the digitalization of information using computer technology. The researchers sought to demonstrate that something is happening that goes beyond the previous concepts (Appendix # 1).

Researchers Rob Kling and Robert Lamb in their work identified four main components of the digital economy:³

- **Digital products and services** - products delivered using digital technologies, as well as types of services mainly delivered in digital form (online information services, software sales, e-education, etc.).
- **Mixed digital products and services** - this category includes retail sales of physical goods (e.g. books, flowers, hotel rooms, and related sales and marketing).
- **Services or production of goods dependent on Information Technology** - services that are critically dependent on information technology (such as accounting services) and the production of physical commodity in which the use of information technology is critical (such as computer-controlled chemical plants).

¹ [Definition, concept and measurement of the digital economy, R. Bucht, R. Hicks](#)

² [Digital Economy: History and Prospects](#)

³ The Emerging Digital Economy” (Margherio et al., 1999).

- **Segment of IT-industry** - IT sector products and services primarily designed to serve the abovementioned three components of the digital economy. This includes manufacturers of networking equipment and personal computers, as well as IT consulting firms (number of analysts include communications equipment, including television and radio broadcasting, and communications services in this list)

The possibilities of the Internet in the implementation of trade operations were also taken into account and included in the definitions of the digital economy. IT-based business activity was first mentioned as a component of the digital economy in a report from the US Department of Commerce.

About 10 billion machines and mechanisms - devices, sensors and instruments - are "using" Internet today, and by 2020 this number is projected to double. 99% of the world's data has already been digitized and over 50% has an IP address. In the future, the volume of data will double every two years.⁴

There is an opportunity for more efficient use of resources, shared use of infrastructure, and more efficient utilization of capacities - this is the so-called "mutual assistance economy" or "shared consumption economy", the volume of which is already estimated at 150 billion US dollars due to connectivity and data exchange. All these phenomena fundamentally change the structure of the global economic system - the possibilities of consumers, the structure of industries, the role of the state.

Digitalization of the economy creates benefits and increases efficiency, as digital technologies contribute to job creation and economic growth. The digital economy also encompasses all aspects of society, influencing the way people interact and causing social change.

Based on the forecasts of the consulting company Accenture, the usage of digital technologies should add \$ 1.36 trillion in 2020, or 2.3% of the total GDP of the world's top ten economies. The GDP of developed countries will grow due to the "digital economy" by 1.8%, and the GDP of developing countries - by 3.4%.⁵

The Boston Consulting Group predicts that the digital economy could reach \$ 16 trillion US dollars by 2035.

⁴ The Boston Consulting Group (BCG)

⁵ The Boston Consulting Group (BCG)

Growth of the share of the digital economy in the GDP of the G20 countries from 2010 to 2016

Share of the digital economy in GDP



The specific features of the digital economy are:

- Predominance of digital over physical exchange in economic activity;
- The main economic resource is intellectual capital (i.e. knowledge), not finance;
- The leading means of communication is the Internet;
- Leading organizational structure - network;
- The main method of development is self-organization and evolution, which set changes from simple to complex;
- The main level at which data is exchanged is global instead of regional.⁶

The digital economy also refers to a wide range of economic activities in which digitized data and knowledge are used as key factors of production. The Internet, Cloud Computing, Big Data, FinTech and other new digital technologies are used to collect, store, analyze and share information digitally and transform social interactions.

In summary, the digital economy is an information infrastructure of an economic system that allows to simulate all the processes of an analogue economy, obtain aggregated and detailed information about ongoing processes and substantiate, using the information received, new socio-economic relations arising in the production, distribution, exchange and consumption of goods.

Summary / main outcomes

1. *There is a trend towards the development of digital goods and services, and the Kyrgyz Republic is no exception. It is necessary to identify and update this issue, to support the exchange of expert experience with foreign partners, as well as international organizations.*
2. *New and agreed strategies and regulations need to be adopted to more equitably distribute benefits from existing processes under the influence of digital technologies and to concentrate advantageous market features in the digital economy. The digital economy in the world must work for the common good of humanity.*

⁶ Rumana B., Richard H. Definition, concept and measurement of the digital economy // Bulletin of international organizations: education, science, new economy.

3. *The digital economy requires completely new skills and competencies, new mechanisms for social protection and a new approach to work and rest, since new technologies and, in particular, artificial intelligence are associated with significant changes in the world labor market, including massive job cuts in some sectors and creation of new places in other areas.*
4. *Large investments are required for the development of education, which will be aimed not only at the learning process, but also at teaching methods and approaches to organizing the educational process, as well as organizing permanent education system and access to learning services throughout a person's life.*
5. *There is a need to develop policies for digital data governance and regulation, as they address key areas such as human rights, trade, value creation and benefits, legal compliance and national security for the countries of the world.*
6. *The rapidly developing new technologies and digitalization trends in the world require increased attention and absolutely full participation on the part of states, the scientific environment, the private and civil sectors, since the digital revolution taking place in the world, on the one hand, carries great opportunities for accelerated and sustainable development, and on the other hand, increased requirements and competitiveness associated with affordable and reliable networks, determination of the competitive cost of goods and services, work with big data, digital inequality, cyber security and personal data protection issues.*
7. *Measures for data protection and security, competition, taxation and cross-border data flows need to be addressed at the regional and international levels by building dialogues and finding flexible, harmonized opportunities at different venues.*

WORLD STATISTICS

Universal digitalization in the world has transformed global markets creating new opportunities for scaling the national economy in the global space and achieving efficiency by reducing transaction costs and savings due to scale.

The digital economy is based on digital technologies associated with e-business and e-commerce, and the digital goods and services they produce and sell.⁷

E-Commerce includes⁸:

- Electronic information exchange (Electronic Data Interchange, EDI)
- Electronic funds transfer (Electronic Funds Transfer, EFT)
- Electronic trade (e-trade)
- Electronic money (e-cash)
- Electronic marketing (e-marketing)
- Electronic banking (e-banking)
- Electronic insurance services (e-insurance)

E-commerce today provides an opportunity for countries to form new conditions for employment of the population, stimulates the development of entrepreneurship, provides inclusive development of the economy creating new opportunities for economic activities for vulnerable groups of the population (people with disabilities, youth, women and retirees). An enabling environment must be created for active growth, lower barriers to market entry, and develop digital skills population to gain benefits of e-commerce. Today countries are at different stages of development of electronic commerce based on the readiness of the national e-commerce ecosystem to ensure active growth and compete in global space.

The annual e-commerce turnover will reach \$29 trillion US dollars according to UNCTAD⁹. More than 88% of this indicator accounts for the B2B market, where business interacts with business and provides it with goods or services, whereas the market of online B2C retail turnover constitutes \$3.4 trillion US dollars. According to the analytical agency Statista this figure will reach 4.8 trillion US dollars by 2021¹⁰, which is twice as much in comparison with 2016. Half of the market share is taken by the U.S. and China. At the same time, the average growth rate of the electronic market commerce in the world reaches 20-30% per year.

One of the key indicators of the success of e-commerce development is the share of e-commerce from retail trade in the country and the penetration level of e-commerce, which estimates the proportion of the population aged 16 and over who made a purchase online at least once a year. At present, the average share of e-commerce is from retail turnover in the world is 14,1%. More successful countries have achieved indicator of 20%. These are countries such as the U.K. and China, where every fifth purchase is done online. In some countries, this statistic is less than 1%. In

⁷ [OECD. Digital Economy and New Business Models](#)

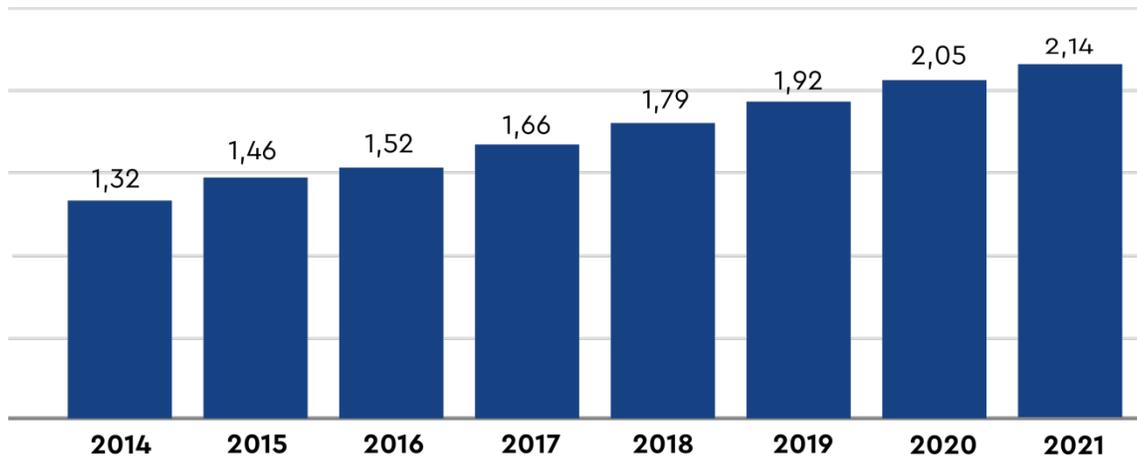
⁸ [OECD. Digital Economy and New Business Models](#)

⁹ [UNCTAD Review: Global E-Commerce](#)

¹⁰ [Statista Agency Review 2012-2014](#)

the CIS countries, this statistic is still severely low. Nowadays the share of electronic commerce from retail turnover in the Russian Federation is around 6-7%¹¹, in Kazakhstan 2.9%¹², in Ukraine 6%¹³, in Belarus 3%¹⁴. In general, the global e-commerce performance is considered undervalued due to the fact that there is no single concept and evaluation methodology. One of the main tasks on international platforms is to discuss the regulation of e-commerce is the application of single standards and concepts to conduct more effective comparative analysis of the development of e-commerce in the world.

Growth of online buyers from 2014 -2021 (billion people).



Types of E-Commerce

There are several generally recognized categories that e-commerce is divided into. Such disengagement is carried out for the target group of consumers:

Commercial organizations

Category	Definition
B2B (Business-to-Business)	relationship between commercial organizations
B2C (Business-to-Consumer)	relationship between a business organization and consumers
B2E (Business-to-Employee)	the relationship between commercial organizations and employees
B2G (Business-to-Government)	relationship between organization and government
B2O (Business-to-Operator)	relationship between an organization and a telecom operators

The scheme of B2B work (business-to-business). The principle of such interaction is very simple: an enterprise trades with another enterprise. Internet platforms make it possible to significantly simplify transactions at all stages, to make trade more efficient and transparent. Often, in these cases, a representative of the customer's side has the ability to interactively control the order fulfillment process by working with the seller's databases. Information about goods can be presented on sites accessible to all users on the Internet, as well as on the web resources available only to authorized users. An example of a B2B deal would be the sale of website layout to companies for subsequent use as the basis for the design of a company's own web resource. Clearly, this includes all

¹¹ [Commersant publishing](#)

¹² [PROFIT White Paper](#)

¹³ [Informational edition of Z-Urain](#)

¹⁴ [Analytical edition E-DATA.BY](#)

interactions involving bulk deliveries of goods or similar order fulfillment. An example of such interaction can be an online ordering by a dealer in a personal account posted on the distributor's website.

The scheme of B2C work (business to consumer). In this case, the company trades directly with the client (not a legal entity, but an individual). As a rule, here mainly the retail sale of goods is discussed. For the client, this method of making a commercial transaction makes it possible to simplify and speed up the purchase procedure. A consumer does not have to go to the store to select the desired product: it is enough to view the characteristics on the supplier's website, select the desired configuration and order the product with delivery. For a merchant, the possibilities of the Internet make it possible to track demand more quickly (in addition to saving on premises and staff). Examples of this type of trade are traditional online stores aimed at a target group of direct consumers of goods. Since 2010, the so-called social commerce, or the sphere of selling goods and services in social networks, began to develop.

Scheme of C2C work (consumer to consumer). This way of doing e-commerce involves transactions between two consumers, neither of whom is an entrepreneur in the legal sense. Internet sites for such trade are something in between a regular market and a column of advertisements in a newspaper. As a rule, C2C commerce is handled on Internet-auctions that are gaining more popularity these days, which is why this category of e-commerce is considered one of the most dynamically evolving ones. For customers within these systems, the main convenience lies in the lower price of the product, compared to its cost in brick-and-mortar stores.

There are few more e-commerce schemes described above. They are not so popular, but nonetheless, they are still used in some specific cases. What is concerned is the interaction of both entrepreneurs and consumers with government agencies. Recently, many tax collecting operations filling out questionnaires, supply ordering forms, work with customs began to be carried out using Internet technologies. This makes it possible to significantly facilitate the work of civil workers on the one hand and enable payers to get rid of a certain amount of paperwork on the other.

Consumers

Classification	Definition
C2A (Consumer-to-Administration)	relationship between consumers and administration
C2B (Consumer-to-business)	relationship between consumers and commercial organizations
C2C (Consumer-to-Consumer)	relationship between consumers

Administration

Classification	Definition
A2A (Administration-to-Administration)	relationship between administrations
A2B (Administration-to-Business)	relationship between administration and commercial organizations
A2C (Administration-to-Consumer)	relationship between administration and consumers

Other business models

Classification	Definition
D2C (Decentralized-to-Consumer)	Decentralized relationship technology between consumers based on Blockchain technology

G2B (Government-to-Business)	Relationship between government and organization. At the institutional level, large corporations and financial institutions use the Internet to exchange financial data to facilitate internal and international business. Data integrity and security are pressing issues for e-commerce.
P2P (Peer-to-Peer)	Relationship between individuals

Conclusion:

1. *According to UNCTAD, the global e-commerce turnover in 2019 reached \$ 26.7 trillion per year. More than 70% of this indicator is in the B2B market, where business interacts with business and provides it with goods or services, and the online retail B2C market is \$ 3.4 trillion. According to the analytical agency Statista, this figure will grow to 4.8 trillion US dollars by 2021, which is twice as much as in 2016.*
2. *The popularity rating of trading platforms differs from region to region, but the largest B2C e-commerce leaders in the world are the following platforms: Taowao.com, Amazon, Tmall.com, JD.com, eBay.*

DIGITAL ECONOMY DEVELOPMENT TRENDS IN THE WORLD INCLUDING CENTRAL ASIAN REGION

Digital platforms are used in all sectors of the economy around the world to improve productivity, expand market presence and reduce operating costs. The widespread use of information and communication technologies, coupled with falling prices and productivity of technologies, has fueled the development of new activities in both the private and public sectors. These technologies have increased market reach, reduced costs, and allowed the development of new products and services. In addition, these technologies have also changed the way these products and services are produced and delivered, as well as the business models of companies ranging from start-ups to multinationals. Payment methods have emerged, including new forms of digital currencies. The first industries in which the Internet made significant changes were entertainment, news, advertising, and retail. The first major digital providers built their business operations on traditional business models and adapted them to better equip end users and wider networks over the Internet in these sectors.

Online retailers have adapted the mainstream retail business model by selling traditional physical goods (such as books) electronically. Another category in the early stages of the digital economy was online resellers who operated websites to find, buy and sell goods and services (AliExpress, Amazon). Other digital service providers specialize in selling traditional services online (such as online insurance brokers). Ever since, the retailers have started marketing digital products and services such as downloadable and streaming of music and movies (Netflix, Spotify), games and data-driven services, and as these businesses evolve, the distinct between goods and services has become increasingly blurred. Online advertising was also originally based on the traditional business models of the advertising industry and gradually evolved as the industry fully took advantage of the potential of digital technology (Google, Facebook). In addition, new online services have emerged that create the basis for the sharing economy and service based economy, allowing people to rent out their apartments or cars to third parties or offer their skills and labor.

Forbes has published a ranking of the 100 largest public companies shaping the digital economy. Amazon, as a retail company, is at the top of the list. And while retail accounts for the majority of the company's \$ 108.3 billion in revenue, its cloud computing division generated \$ 17.5 billion, or 16% of sales last year. Netflix, the leader in Internet subscription streaming services is 2nd, NVIDIA Corporation is 3rd, Salesforce.com is 4th and ServiceNow is 5th tops out the list. The ranking includes software and IT service companies (35% of the list), 26 process equipment companies, and 23 semiconductor companies. The list includes 49 American companies, 16 Chinese and 34 from Asia.¹⁵

In general, any attempt to copy projects of international organizations is not justified by itself, but it is worth paying particular attention to the experience of other countries by carefully analyzing them. In the context of a rapidly developing global digital economy, it is extremely important for the Kyrgyz Republic to choose its own unique path of development, which will take into account the best international practice. It is also important to determine whether the potential and prospects of the ICT sphere in the country, as the main driver of digital transformation and digital development, are fully realized, and whether it is possible to increase the productivity of the sphere using international experience.

¹⁵ [NRI 2019 Countries](#)

Brief analysis of international experience on digital economy issues

It is necessary to analyze the characteristics of digital economy models and transformation of foreign countries, which show a high level of efficiency in extracting “digital dividends” for society to give practical recommendations on a competitive digital economy in the Kyrgyz Republic. Those are: Ireland, Sweden, Israel, UK, South Korea, Singapore, China and some CIS countries: Belarus, Kazakhstan and Estonia.

There is a rating system is widely used in the world to more fully disclose and evaluate economic activity in the digital sector. This system is a methodological tool for scientific and applied research, which makes it possible to form huge amounts of data, rank them according to one or several criteria and, as a result of ranking, assess the business activity of economic entities by comparing them with each other or with a reference, the highest indicator.

This system is a methodological tool for scientific and applied research that allow to form huge amounts of data, rank them according to one or several criteria and, as a result of ranking, assess the business activity of economic entities by comparing them with each other or with a reference, the highest indicator.

The most common rating systems that are used in the world to assess the development of the field of information and communication technologies include:

- Networked Readiness Index (NRI)
- Global Innovation Index (GII)
- E-Government Development Index (EGDI)
- ICT Development Index

Country	The Network Readiness Index (NRI) ⁱ	Global Innovation Index (GII) ⁱⁱ	E-Government Development Index (EGDI) ⁱⁱⁱ	The ICT Development Index (IDI) ^{iv}	Population
	2019 121 countries	2020 131 countries	2020 193 countries	2017 176 countries	2020 mln. people
Ireland	19 place	12 place	27 place	20 place	4.9
Sweden	1 place	2 place	6 place	11 place	10
Israel	22 place	13 place	30 place	23 place	9.2
Belarus	61 place	72 place	40 place	32 place	9.4
Kazakhstan	60 place	77 place	29 place	52 place	18.7
UK	10 place	4 place	7 place	5 place	67.8
Estonia	21 place	25 place	3 place	17 place	1.3
China	41 place	14 place	45 place	80 place	1.4 bln
Singapore	2 place	8 place	11 place	18 place	5.7
South Korea	17 place	10 place	2 place	2 place	51.2
Kyrgyz Republic	Without rating	90 place	83 place	109 place	6.5

Estonia

One of the most advanced digital countries on the planet has never developed technology from scratch and only implemented what was developed in the private sector. As a result, a basic digital infrastructure was built in Estonia in 2001, which did not exist at that time in any other country in the world. President Kersti Kaljulaid claims that Estonia is a completely different case. In 2020, citizens are like shareholders, and the public sector cannot afford to be worse than commercial Internet companies. Estonia has become a digital hub and the first country to integrate blockchain technology into its operations.¹⁶

Today, most public services operate online 24/7, and data integrity is ensured by blockchain technology. Any resident of Estonia can pay taxes, see a doctor, or even buy a car without leaving home. The vast majority (about 99%) of all opportunities are available via the Internet. The transition to a digital model without bureaucracy allowed the state to regularly save additional millions of euros in the treasury. On average, this model saves up to 2% of GDP and up to 1400 working hours each year. Moreover, it also gave a boost to tech startups. In Estonia, the density of unicorns (startups with a market value of over \$ 1 billion) is four companies per million citizens.¹⁷

In 2014, Estonia announced its decision to provide users from all over the world with the opportunity to apply for electronic citizenship of the country or virtual residency (e-residency). It should be noted right away that the ID card relying on electronic residents is not the equivalent of an ordinary Estonian passport. It does not give the right to enter Estonia or other EU countries, does not provide tax resident status, it is just the right to a residence permit. However, more than four tens of thousands of people from one hundred and fifty countries of the world have already received an e-residency digital card.¹⁸

Any adult citizen of another country who is willing to pay about one hundred euros for the service can become an electronic citizen of Estonia. All processes for issuing an ID-card are carried out online, but the applicant will still have to visit the Estonian embassy to submit biometric data and receive the document itself. Today, among the countries whose citizens have used e-residency, Ukraine is leading, followed by Finland, then Russia, Japan, China, and South Korea.

The secret of such popularity of the program is a number of advantages that ID-card holders get:

- Possibility to open a company in Estonia via the Internet. Such an enterprise receives a European residence permit, the opportunity to enjoy all tax benefits on an equal basis with resident companies. By the way, if the company does not distribute its profits, but reinvests it, then the amount of income tax will be zero. At the same time, there is no need to pay the authorized capital - it is enough to fix its size on paper.
- Open access to many state portals, which allows you to submit applications and declarations online. E-residents can authorize using their ID-card in electronic banking to make payments, monitor the movement of funds.
- Sign documents electronically, conclude contracts, undergo secure digital identification. A digital signature in Estonia has the legal force of an ordinary signature. The smart card has a built-in chip with security certificates. In addition, PIN1 and PIN2 are also provided.

¹⁶ <https://decenter.org/ru/estoniya-gosudarstvo-na-blokcheine>

¹⁷ <https://decenter.org/ru/estoniya-gosudarstvo-na-blokcheine>

¹⁸ <https://internationalwealth.info/residence-permit-abroad/e-residency-v-jestonii-pravila-uslovija-preimushhestva-reshenija>

- Ability to obtain licenses via the Internet.

E-residents of Estonia in most cases are entrepreneurs who thus decide to acquire an Estonian company and receive all the benefits of such a solution.

After all, a businessman has the opportunity to conduct all business remotely, sign the necessary contracts, submit declarations and reports, look for partners / investors without personally visiting Estonia. The government of the country strongly supports foreign business, offering investors attractive tax rates and other benefits.

X-Road network lies at the heart of digital Estonia. It is a decentralized public network with open source data, on which the entire infrastructure is based, through which a complete secure exchange of data between different departments, companies, services and people is ensured.

Currently, the Estonian information system "X-road", on the basis of which the "Tunduk" system operates, is being developed in 20 other countries. According to experts, the system of interagency cooperation in Estonia can save up to 1 billion euros and 800 years of working time annually.¹⁹

In 2019 in Estonia:

- More than 1000 commercial organizations and 487 state institutions were connected to the X-road system;
- there were 2,600 information services;
- in 2019, there were almost 1 billion interactions and data exchanges;
- 99% of government services were provided online;
- 52,000 organizations indirectly use X-Road databases;
- 99% of citizens have ID-cards;
- 70% use the Internet regularly

The Kyrgyz state-owned "Tunduk" system has successfully started to apply the Estonian experience and their platform X-Road, where interagency cooperation and provision of services are provided in five areas: education and training, information services, public services (including the issuance of licenses and permits), financial services and consulting. The Tunduk system is designed to improve the efficiency of interaction between government agencies, reduce corruption and eliminate bureaucratic obstacles for citizens and entrepreneurs through automated data exchange. The implementation of the system is in line with the government's plan to reduce the public sector by 20% over the next three years.

To date, 115 ministries and departments are participants in the system of interdepartmental electronic interaction (EEC). As of February 2021, 28 commercial organizations were also connected to the Tunduk system. Through the portal, 191 public services can be accessed, and 85 additional public services have been included under the Government as a Platform project (276 in total). Thirteen types of certificates were automated and 1.5 million certificates were issued electronically. If in 2018 the annual exchange of data between government agencies amounted to 363 thousand transactions, and between government agencies and commercial organizations there was no information transfer at all, then by October 2020 the exchange of data between government

¹⁹ [Center for Electronic Interaction "Tunduk"](#)

agencies reached 40.0 million, and between government and commercial organizations - 53.3 million transactions.²⁰

In addition, 38 state bodies and their subordinate organizations, as well as 14 commercial organizations, carried out electronic data exchange among themselves. Agencies interact and exchange documents through cloud-based data processing and storage systems and integrated portals, with 7 million interactions recorded in October 2019 alone.

In addition to integrating internal communication and processes, the Cabinet of Ministers of the Kyrgyz Republic should consider the possibility of e-residency and long-term work visas for "digital nomads", strengthen efforts to improve access to and awareness of digital services for a wide range of stakeholders, including the business community.

UK

The UK is one of the most developed digital countries in Europe and in the world, which demonstrates high growth rates of digital development and is a leader in the diffusion of innovations. It is one of the ten leading countries on the planet. Fintech is a promising area, where the UK has made significant strides in dynamically developing financial technology ecosystems and providing a favorable environment for the successful functioning of digital banks. EU will lose the leader in digitalization due to Britain's withdrawal from the European Union, since in terms of the level of digitalization and applied technologies; the UK is ahead of Germany, France, Spain, Italy and only slightly lags behind some Nordic countries.

According to a report by Tech Nation, an organization created by the merger of two technology clusters - London Tech City and Tech North has allowed the UK tech sector to grow 2.6 times faster than the country's economy as a whole. Today, London is second (only to Silicon Valley) ideal location for technology companies. The UK has strengthened its position as a global technology leader: 33% of clients of technology companies based in London live in other countries (for comparison, in Silicon Valley this figure is 30%, in Beijing - 7%); 25% of private entrepreneurs in the world indicated partnerships with two or more London-based companies (only Silicon Valley is higher).²¹

Matt Hancock, the UK's Secretary for Digital, Culture, Media & Sport, has said that the government's top priority is to "continue to make Britain a convenient place to start and grow its tech business." One of the targets for Tech Nation will be to help 40,000 IT entrepreneurs and 4,000 startups in 12 cities across the country. The government's task is to ensure that the benefits of the development of the technology sector are felt by the entire population, to "ensure confidence" that the United Kingdom is "the safest place to live and work online." These goals are formulated in the Digital Strategy.²²

The government of the United Kingdom is taking quite serious measures to improve the online safety of its citizens. According to public opinion polls in the UK, four out of ten users have experienced online harassment, and more than 60% of respondents have seen inappropriate content. According to Minister Hencock, the state supports technology companies, but the safety of citizens and the protection of their children is a priority. Thus, the new rules for blocking content

²⁰ [Center for Electronic Interaction "Tunduk"](#)

²¹ [Britain's digital economy - state and development plans](#)

²² [Britain's digital economy - state and development plans](#)

aimed at humiliating a person, bullying and intimidation, just like the principles of transparency in filing complaints about online attacks, are included in the regulatory norms for companies like Facebook and Twitter.

Another innovation is a digital tax aimed primarily at American tech giants including Amazon, Google and Facebook, which began operating in the UK on April 1, 2020. The digital services tax is 2% on profits generated from UK users of social media, search services and online shopping platforms. This tax will apply to profits in excess of £ 500 million (\$ 615 million) from worldwide activities and over £ 25 million (\$ 31 million) from activities in the United Kingdom market. According to the Financial Times, the government expects to use this tax to attract about £ 500 million a year to the budget.²³

The UK stimulates start-up and venture capital market: there is government support for tech start-ups in the form of tax incentives to stimulate the development of venture capital business. Research and development tax incentives (R&D) are another such measure. Companies that are engaged in R&D projects can benefit from a reduced corporate tax. To qualify for this, startups must have less than 500 employees and an annual turnover of less than € 100 million. There is a so-called “patent box”. This incentive allows companies to apply a preferential tax rate on income from the development and operation of patented inventions and other intellectual property introduced in the UK (10% lower than usual). In addition, UK taxpayers investing in seed funding startups enjoy 50% income tax relief. Private investors who provide funds to venture capital businesses at a later stage pay income tax reduced by 30%. Thus, according to estimates of individual experts, up to 85% of investments in startups can be returned through debt preferences. So the state encourages domestic investors to invest more in the country's economy.

The Government of the Kyrgyz Republic should pay attention to the UK's experience in improving legislation in the field of blocking malicious content and protecting the safety of citizens in the online environment. It is also necessary to study the experience of introducing digital taxation in relation to technology companies, whose services addressed to the population of the country. It is worth studying country specifics, such as the volume and scale of the domestic economy, the balance between administration and potential losses and the growth in the cost of marketing and attracting potential consumers for domestic companies; and it is also worth studying the methods and types of remote registration and administration.

Singapore

Singapore is a small island state in Southeast Asia with a small population of 5.7 million people, which has long held leading positions in world rankings thanks to the country's competent economic and investment policies. As the world's fourth largest financial center, Singapore is the only country in Asia with an AAA credit rating from all 3 agencies.

Some facts and figures:²⁴

- Singapore is the 2nd country in the world for the ease of doing business;
- 3rd place in the world in terms of population income (Forbes);
- 1st place in the ten most globalized economies in the world (McKinsey, 2016);
- Singapore is rated as the most politically stable country in Asia;

²³ [Digital Tax Launched in UK](#)

²⁴ [The digital economy of Singapore.](#)

- 1st place in the quality of labor force in the world and 1st place in Asia for quality of life;
- Singapore is the smartest city on the planet according to Juniper Research for 2015;
- 1st place among countries for the development of information technology;
- 6th place in the world for the development of an innovative economy;
- One of the strongest legal systems for the protection of intellectual property rights.

What is the secret of the success of the country, which gained independence from Malaysia in 1965 and only owned a port? “If we are ordinary, we simply will not be” - this is how Lee Kuan Yew, the author of the Singapore economic miracle, formulated the essence of his strategy for the development of a city-state. The stake was made on investments in electronics and the introduction of technologies, although the state at that time was a major transport hub. For example, in 1998, a massive high-speed Internet connection program was launched, and five years later, 65% of homes and workplaces were connected to the network. Thus, the state has formed an IT infrastructure and created a wide layer of people who can work in a post-industrial economy and create intelligent products. As a result, Singapore focused on IT technologies, actively attracting international innovative business and developing its own.²⁵

The government of Singapore is currently implementing a large-scale Future of Singapore initiative with the aim of introducing new ideas and solutions in the areas of urban planning, public administration, healthcare, medicine, and consumer goods and services. In 2014, it announced the launch of the state program Smart Nation, which tests innovative technological systems to solve urban problems in order to simplify the life of citizens with a high population density. One of the first steps towards the implementation of the objectives of this project was the launch of a network of smart sensors throughout Singapore. Smart sensors track the consumption of electricity, water and other services in real time and help to optimize costs and develop the right and necessary solutions, for example, to reduce dependence on Malaysia, from where Singapore still imports some of its fresh water.

These housing, health and transportation initiatives combine to form a cohesive ecosystem called Virtual Singapore. It accumulates all the necessary data about the city, while absolutely accurately, for example, about the size of apartments down to a centimeter, the position of windows in it and the main building materials. All data will be available in one place: car traffic and its density, foot traffic density, current water and electricity consumption, air quality, noise level and more. Virtual Singapore will help you not only visualize all available data, but also predict what changes will entail certain actions. The platform will show which urban areas need additional transport, or, for example, how the emerging virus will spread. Some of the information is already available to residents of Singapore.²⁶

Ultimately, the goal of the Smart Nation program is to demonstrate how the cities of the future will function when their efficient livelihoods are based on analytical solutions of big data.

The Singaporean experience in optimizing water and electricity consumption through the widespread use of sensors, IT-based technologies, artificial intelligence and big data is extremely important for the Kyrgyz Republic in the light of lack of water resources and scarcity of electricity.

²⁵ [Smart nation, or what is interesting about Singapore's digital transformation experience? HABR](#)

²⁶ [The digital economy of Singapore.](#)

South Korea

South Korea is a dynamically developing country that actively uses new technologies and is undoubtedly on the list of digital leaders in the region and the world. In 2018, the Growth through Innovation Plan was approved and adopted by the Ministry of Economy and Finance of South Korea.²⁷

The South Korean government's five-year plans include the development of a new type of economy, which includes streamlined supplies of hydrogen fuel, the development of artificial intelligence and blockchain systems, and the training of 10,000 specialists in future technologies. At the same time, the South Korean authorities have decided on their plans to support the development of new technologies and are ready to allocate \$ 9 billion or about 10 trillion Korean won for this in the next five years.

Seoul's plans are divided into long-term and short-term. Next year, the leadership of the Asian country will spend \$ 4.5 billion on pilot projects in the following areas:

- cars of the future,
- services using drones,
- new energy,
- medical and biotechnology,
- smart factories,
- smart cities,
- smart farms,
- financial technologies.

Over the next five years, South Korea intends to develop a platform economy - a new type of economy in which technology plays a special role. To this end, Seoul will focus on four programs:

1. Creation of a platform for working with data arrays - using AI and blockchain;
2. Incentivizing businesses to use big data and digital trading platforms;
3. Establishment of production, as well as storage, transportation and use of hydrogen fuel;
4. Educational program for training 10,000 "specialists of the future".

One of the key roles in the government of the Republic of Korea is the Korea Internet and Security Agency (KISA), which is responsible for the development and implementation of the country's cyber security and data protection policies and mechanisms.

The policy and regulatory framework for cyber security in Korea is:

- Effective operation of Information Security Incident Response Center / Coordination Center of Korea
- Continuous Cyber Preparedness for COVID-19
- Cyber incident prevention system and analysis of global cyber threats in the world

For the government of the Kyrgyz Republic, the South Korean experience in developing the capacity of government agencies is very important, which can strengthen the competence of the government of the Kyrgyz Republic to understand, identify, track and effectively respond to cyber threats, as well

²⁷ ['Growth through Innovation' Investment Plan](#)

as develop regional leadership in the field of digital resilience, including cybersecurity, business continuity and personal protection data.

Kazakhstan

The state program "Digital Kazakhstan" is an important comprehensive program that aims to improve the standard of living of every citizen of the country through the use of digital technologies. The main objectives of the Program were to accelerate the development of the economy of the Republic of Kazakhstan and improve the quality of life of the population, as well as create conditions for the economy to transition to a fundamentally new trajectory - the digital economy of the future.²⁸

The implementation of the state program will be carried out in the period 2018-2022 in five key areas:

1. "Digitalization of economic sectors" - transformation of traditional sectors of the economy of the Republic of Kazakhstan using breakthrough technologies and opportunities that will increase labor productivity and lead to an increase in capitalization.
2. "Transition to a digital state" - transformation of the state infrastructure to provide services to the population and business, anticipating their needs.
3. "Implementation of the digital Silk Road" - the development of a high-speed and secure infrastructure for the transmission, storage and processing of data.
4. "Development of human capital" - transformations covering the creation of a creative society and the transition to new realities - the knowledge economy.
5. "Creation of an innovation ecosystem" - creation of conditions for the development of technological entrepreneurship with stable ties between business, the scientific sphere and the state, as well as the introduction of innovations into production.

The implementation of the program involves attracting financing in the amount of 141 billion KZT from the republican budget. It is also expected to attract more than 169 billion KZT of funds from subjects of the quasi-public sector. The beneficiaries of the program will be the entire population, business and government agencies, since it affects all spheres of life and it is assumed that by 2022 300 thousand jobs will be created due to digitalization.

In the key world ranking of ICT development, calculated under the auspices of the UN - ICT Development Index, - Kazakhstan in 2016 ranked 52nd out of 175. It is assumed that as a result of the implementation of the program and other strategic directions, the country will rise in the ranking to 31st place by 2022, 25th place by 2025, and 15th place by 2050. Kazakhstan is also a catching-up country in the e-intensity rating of the international consulting company The Boston Consulting Group in terms of the current level of digitalization.²⁹

The Kyrgyz Republic needs to work closely with the central authorities and private sectors of Kazakhstan to maximize the extraction of digital dividends within the framework of bilateral and multilateral platforms such as the EAEU, SCO and other organizations.

²⁸ ["Digital Kazakhstan" will allow the economy, business and citizens to come to fundamentally a new trajectory of development.](#)

²⁹ [What's in store for Digital Kazakhstan?](#)

Ireland

Technology sector takes up to 40% of the GDP of Ireland. According to Forbes, Ireland is the best country to do business and a center of gravity for IT companies and tech startups. The presence of innovation giants in the market has led to an intensive development of the digital economy and a constant influx of venture capital investments. About 14 thousand companies are opened annually in Ireland and the country has established itself with an effective tax and legal system. There is a well-developed public startup funding program, a mentoring program that includes many accelerators and incubators.

Enterprise Ireland (hereinafter "EI") is a government agency responsible for the development of Irish entrepreneurship in the global markets and support of export channels, as well as the development of innovation. In addition, EI owns a portfolio of investments in over 2,000 high potential companies. EI is also responsible for the commercialization of research. An important feature of the Irish Business Ecosystem is the provision of grants for all stages of product development: from considering the prospects for a business idea, to scaling up to the global market.^v

The Kyrgyz Republic could study and borrow from Ireland the mechanisms of state support for R&D (Research and Development) and innovation, as well as ways of doing business in the regional and global markets. Also, the Irish experience is valuable in the sense that an integral system of partners of the digital ecosystem is organized in the country: the private sector, scientific centers, administrative resources of the state, which help to interact with international organizations and long-term investors.

Israel

Israel firmly holds the title of "Startup Nation": the country has been developing a startup movement for over 20 years and has achieved significant success in the area. Israel was able to build a leading knowledge economy based on intelligence, innovation and entrepreneurship, virtually from scratch. The country with a population of just over 9 million people occupies decent positions in the above mentioned world rankings. It should be noted that the presence of large IT companies opens up opportunities for startups to internationalize and commercialize businesses, as well as enter global markets. The active participation of information and communication technologies in shaping the country's digital ecosystem, as well as the orientation of all products to markets with wide coverage, is common features of Ireland and Israel.

Israel's formula for success can be broken down into the following components:

- Orientation to export and to large markets;
- Strong connection between education and business;
- Comprehensive cooperation between universities and business;
- Constant feedback and mainstreaming of educational programs;
- Strong government support for the high-tech industry;
- System of government grants and subsidies for innovative startups;
- The existing network of incubators "Technological greenhouses", which provide projects with early financing.

Thus, the Kyrgyz Republic could study and adopt experience in building a system of effective partnerships between business and scientific institutions, a mechanism for launching incubators for agro-technological and export-oriented digital start-up projects.

Sweden

The contribution of ICT to Sweden's GDP reaches 16%, while 5% of the working-age population is employed in the IT sector. The keys to development of innovative sectors of the economy of Sweden were the balanced financial policy of the country, openness to foreign markets, the development of a competitive environment and innovation.

Elimination of bureaucratic barriers in the country for IT entrepreneurs, demonopolization of the information services sector, as well as the provision of subsidies for the operational development of ICT infrastructure have become essential stages in creating a favorable business climate in the country. On top of that, it is worth mentioning that one cannot fail to mention the high level of electronic participation of citizens in the decision-making process, which is rather a combination of both social and technological factors.

In Sweden, significant support for the development of innovation is provided by numerous government agencies, of which the key ones are: the Ministry of Entrepreneurship and Innovation (Näringsdepartementet), the Swedish Public Management Agency (Statskontoret). In general, there are many ministries in the country, in their area of responsibility, which include various aspects of the digitalization of the economy.^{vi}

A key element in Sweden's digital development strategy is given to education and the development of the necessary digital competencies and knowledge. The key to the rapid development of Sweden's ICT sector is its significant infrastructure capabilities (data centers, communication infrastructure, R&D centers, etc.)

Sweden's emphasis on providing the necessary IT competencies for professionals and the public in the formation of a digital ecosystem is an experience that is definitely worth studying and considering by decision makers and determining the digital agenda in the Kyrgyz Republic.

Belarus

Development of the ICT sphere is one of the most important indicators of the social and economic well-being of the state. Since 2012, the share of exports of ICT services in the export of services has grown from 10.6% to 18.5% in 2016, which demonstrates the gradually increasing specialization of Belarus in the production of ICT services. There is an increase in the share of gross value added of ICT in GDP from 3.7% in 2012 to 5.2% in 2016. This indicates that the ICT sector has acquired a strategic importance for Belarus.^{vii}

Created in 2005, the High Technology Park of the Kyrgyz Republic (hereinafter referred to as HTP), provides wide range of benefits for its residents: the preferential income tax rate is 9%, and not 13%, as in the economy. The HTP is also a major employer in the country - in 2016 the payroll number of employees was 25,056 people. According to Ernst & Young forecasts, in 2020, the HTP's revenue was expected to reach \$ 1.3 billion, and the number of HTP employees was to grow to 40 thousand people. As of 2021, the HTP of Belarus is one of the largest IT hubs in Central and Eastern Europe, the number of employees has exceeded 65 thousand people - world-class developers, analysts, programmers and engineers.^{viii}

The Kyrgyz and Belarusian economic models have a lot in common with the Swedish one. The similarity in such parameters as social orientation and a high rate of state participation in the economies of both countries suggests that digital development in the Kyrgyz Republic and Belarus can proceed according to the Swedish scenario with the least required transformations. However, the effectiveness of ICT regulation in Sweden contrasts with the regulatory rules of these CIS countries. Effective digital ministries in Sweden could serve as a source of ideas for the creation of a full-fledged Ministry of Digital Economy in the Kyrgyz Republic and Belarus. In perspective, this could enable the efficiency of administration of the digital sphere and deep integration of innovative technologies into various sectors of the economy.

China

Not only software engineers, marketers and entrepreneurs can be engaged in the digital economy, but it also youth, people with disabilities, women, as well as the population living in remote regions of the country. It is a new economy that benefits developing countries with limited resources. However, it is necessary to provide market actors with the basic infrastructure and skills for online sales.

The TaoBao Village phenomenon exemplifies how the country lifted the most economically underdeveloped areas out of poverty in record time through the development of e-commerce. Only 8 years ago, villages like Danji were considered one of the poorest and most remote villages in China, with the lowest economic indicators. These include bad roads, internal migration, lack of infrastructure, low income and education. The young population left the village in search of work in more economically prosperous regions of the country.

Everything changed with the emergence of political will and initiative to establish the necessary infrastructure for e-commerce in economically underdeveloped zones, so that villagers could engage in economic activity and make a living on their own. As part of the state e-commerce development program, rural areas have begun to develop infrastructure, build roads to develop logistics, connect the village to high-speed Internet, and train farmers in online commerce skills.

The first TaoBao villages emerged only 10 years ago and ever since then their number has increased from 3 to 4310 villages. Today, Danji Village in TaoBao alone accounts for 60% of the sales of carnival clothing and performance costumes, as well as supplies to Southeast Asia. The e-commerce turnover of Danji Village has reached \$1.4 million US dollars per year and the income of such villages is growing at an average of 10% per year.³⁰

At present, employment rates in China are demonstrating positive growth dynamics. The unemployment rate for September 2019 was 3.6%, 65% of the population over 15 years old were employed, and the self-employed population was 36.3%. The Alibaba platform alone has employed more than 30 million people. The aggregate income of TaoBao villages in 2018 was 63 billion yuan, or \$ 9 billion US dollars, and the total GDP of China per capita increased from 4,500 to 9,600 US dollars in the period from 2010 to 2018.³¹

E-commerce has made it possible to create new jobs without barriers for people with health disabilities with the development of modern automated logistics systems, online payments, flexible schedules and minimal investment. E-commerce in China has also helped to engage the most vulnerable people, people with disabilities and the elderly, in economic activity, ensuring

³⁰ [World Bank Report, 2019](#)

³¹ [World Bank Report, 2019](#)

inclusiveness and reducing the digital divide between the population. In Alibaba trading platform alone, 316,000 online stores are owned by sellers with disabilities, with the annual trade turnover exceeding \$ 1 billion US dollars. E-commerce has expanded opportunities, including socially vulnerable segments of the population.

Conclusions and summary on international experience:

1. Bring national legislation in line with the best international practice on such issues as: collection, analysis and use of Big Data and application of a data-based economy.

- *The digital economy continues to develop at a rapid pace thanks to the ability to collect, organize, use and analyze large amounts of digital data worldwide.*
- *This digital data is collected on the basis of the so-called digital traces left on various digital and electronic platforms as a result of the activity of individuals and legal entities.*
- *“Internet Protocol (IP) -based global traffic, which provides a rough idea of the scale of data flows, has grown from about 100 GB per day in 1992 to over 45,000 GB per second in 2017 (see below). diagram).*
- *Despite the fact that now the data-driven economy is only in the early stages of its development; global IP traffic is projected to reach 150,700 GB per second by 2022.* ³²

Internet traffics dynamics in different years	GB
2002	100
2007	2000
2017	46000
2022	150700

- *There are various types of relevant data: personal and impersonal, closed or publicly available, data that is used for commercial or government purposes, data that is provided voluntarily, obtained by observation or extrapolated analytically. In general, this data is used to develop policies.*

2. Study international experience and make efforts to collect, use and analyze data and transform it into digital intelligence and, accordingly, dividends.

- According to the UNCTAD report, a completely new “data value chain” has also emerged in the world, where the links are companies that collect, synthesize, store, analyze and model data. In this case, value is created as a result of the transformation of data into so-called digital intelligence and their further monetization in the process of commercial use.

On Digital platforms

3. Create a platform (through PPP or other ways) of experts for the creation of a national digital platform that will work on the basis of big data and is an environment for transactions and trade operations.

- *According to the UNCTAD report on the digital economy, many digital platforms have emerged around the world that use data-driven business models that are fundamentally changing the nature of industries in the traditional economy over the past decades. It is significant that seven of the eight largest companies in the world by capitalization use*

³² https://unctad.org/system/files/official-document/der2019_overview_ru.pdf

platform business models. Digital platforms act as mechanisms that enable parties to the market to interact online.

- *Companies operating on digital platforms have tremendous opportunities and advantages in a data-driven economy. They have access to data related online business activities and transactions between platform users. The growth of such platforms is directly related to the ability to collect and analyze digital data, and how these platforms can monetize data.*³³

In this sense, the Kyrgyz Republic needs to take a closer look at the experience of Estonia, where various national and international platforms are successfully operating in one of the most advanced innovation areas of the country, like Fintech. For example, the international payment platform TransferWise, which allows individuals and small businesses to transfer funds between international accounts. TransferWise uses peer-to-peer technology to match users from different countries, conduct transactions in currencies, which is much cheaper and faster than the centralized payment infrastructure used by banks.

Estonia also has several platforms providing debt and equity financing for individuals and SMEs. For example, the Bondora platform, which has been recognized as one of the largest European lending platforms for unsecured consumer loans. More than 300,000 users have been registered on the Bondora platform and more than 30,000 loans have been funded in Estonia, Finland and Spain. The Funderbeam platform is operating in Estonia and represents the world's first secondary venture capital market.³⁴

The examined examples of the above developed digital ecosystems demonstrate the prospects for obtaining digital dividends for the Kyrgyz Republic. Each of the countries considered has gone its own way. However, the development success of these countries has common factors such as:

1. Openness of the economy;
2. Moderate government assistance;
3. Emphasis on education and 21st century skills;
4. Orientation of the ICT sector towards global markets and export mechanisms;
5. The predominance of product companies;
6. An effective institutional environment attractive to international business;
7. Recognizable brand of the country and clear positioning.
8. Legal framework providing clear legislative mechanisms for regulating the relationship of participants and protecting their rights.

³³ [DIGITAL ECONOMY REPORT 2019 UNCTAD](#)

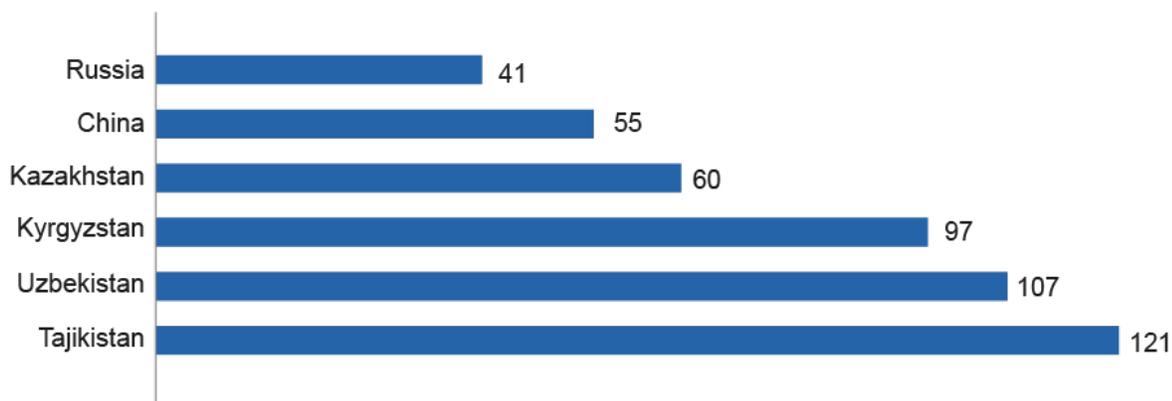
³⁴ [Estonia is the most digital state!](#)

Central Asian Overview

According to the UNCTAD ranking, which assesses the willingness of countries to develop electronic commerce in terms of B2C e-commerce Index, the Kyrgyz Republic ranks 111 out of 152 countries. The index assesses the willingness of countries to develop e-commerce based on 4 indicators: Internet penetration, the presence of bank accounts among the population, the share of secure servers per 1 million people of population and the level of development of postal services according to ranking of the Universal Postal Union. Based on the UNCTAD rating, the Kyrgyz Republic lags behind from almost all CIS countries: Kazakhstan (52nd place), Uzbekistan (86th place), RF (42nd place), Belarus (37th place), Azerbaijan (68th place), Armenia (66th place), Moldova (54th place).

International organizations such as OECD, WTO, UNCTAD offer as a set of measures aimed at developing e-commerce: adopting strategies supporting SME businesses in taking advantage of the benefits of e-commerce, support for internet startups, partnerships with SMEs and industry associations for development potential of e-commerce. The EU indicates e-commerce as a key component of the digital economy and does an intensive work for harmonization and establishment of enabling, competitive and open market relations in a single digital market. A number of countries today are included in regional trade e-commerce agreements and create trade corridors that stimulate bilateral trade between countries.

Rating of the readiness of e-commerce ecosystems of the SCO countries ³⁵



The UNCTAD e-commerce Index global ranking is determined on the basis of the following indicators:

- The level of Internet penetration in the country
- Percentage of the population with bank accounts of 15 years or older
- Secure servers
- The level of reliability of postal services, according to the The Universal Postal Union UPU rating

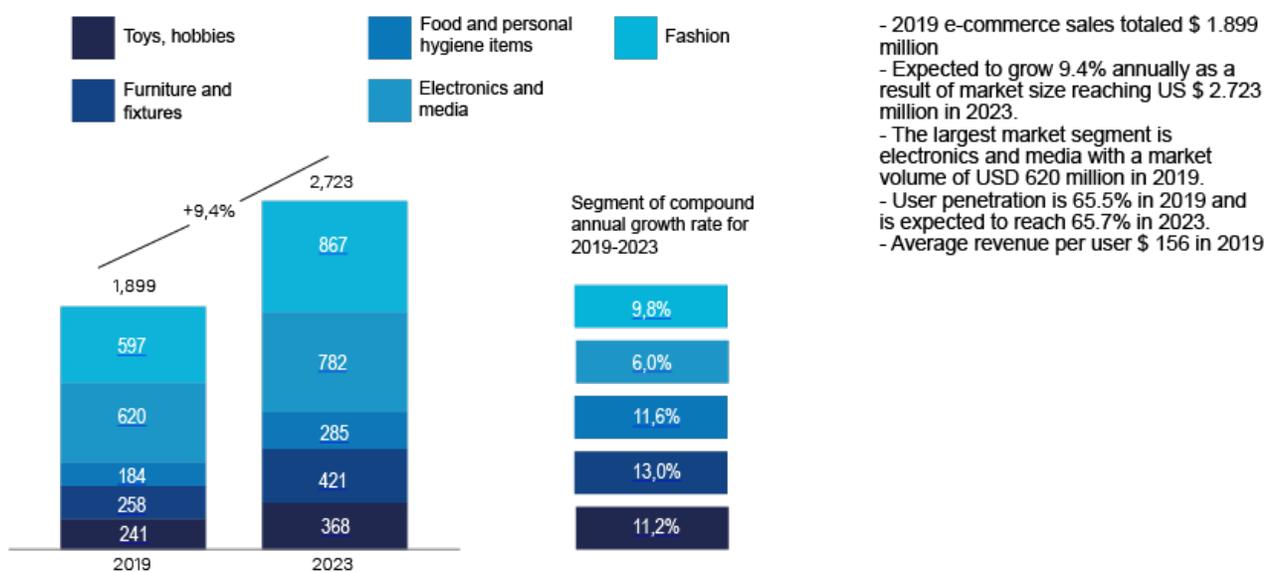
Level of e-commerce in Kazakhstan

³⁵ [Global rating UNCTAD](#)

Kazakhstan is actively developing in the field of digital economy.

Brief review:

- 79% of Kazakhstan citizens use the Internet³⁶
- On average, each person has 3 bank cards (as of 01.02.2021, 49.3 million payment cards are in circulation, and the number of holders of these cards amounted to 39.8 million debit)³⁷
- The share of non-cash payments 74% for January 2021 ³⁸
- Kaspi.kz driver of e-commerce and cashless payments in Kazakhstan, with 8 million cardholders
- Developed state and private electronic portals and platforms for merchandise, logistics, services and payments.
- Growth of retail trade over the past year + 43%³⁹



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Level of e-commerce in Uzbekistan

Uzbekistan is also actively gaining momentum and developing e-commerce. Brief review:

- Uzbekistan ranks 95th in the ICT development index of the International Telecommunication Union
- The penetration rate of e-commerce is 3.8% (according to the E-Commerce Association of Uzbekistan)
- The share of non-cash payments when buying online - 20% (according to ECAU)
- There are national payment systems (UZCARD, HUMO) and international (VISA, Mastercard, UnionPay, Mir)

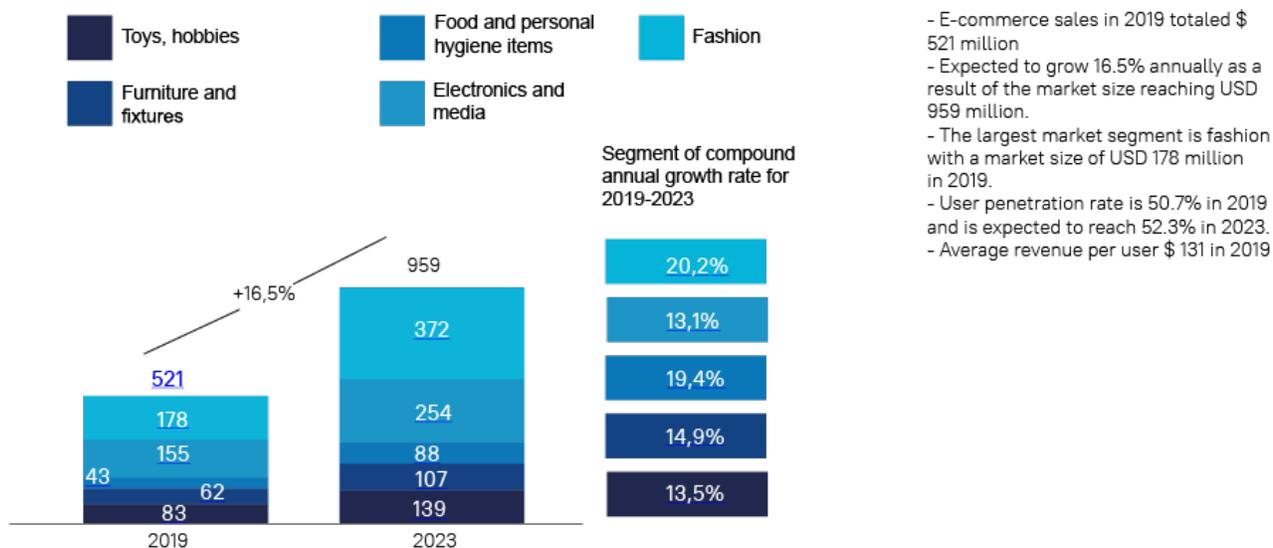
³⁶ datareportal.com

³⁷ Report of the National Bank of the Republic of Kazakhstan

³⁸ Report of the National Bank of the Republic of Kazakhstan

³⁹ forbes.kz

⁴⁰ Statista Digital Market Outlook 2019; ready 4 Trade in Central Asia, International Trade Center, eComConnect.



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Impact on the labor market and poverty eradication

On the one hand, e-commerce helps create new jobs through information services, necessary software development and digital products. On the other hand, the emergence of online shopping is also leading to job cuts. Areas with the greatest projected job losses are marketplaces, postal and travel agencies.

The development of e-commerce will also create new jobs that require highly skilled workers to manage large volumes of information, customer needs and production processes. People with lack of technical skills cannot occupy them.⁴² E-commerce technologies reduce transaction costs by allowing both manufacturers and consumers to work without intermediaries. This is achieved by expanding the search area for the best price offers and group purchases. The success of e-commerce at city and regional levels depends on how local businesses and consumers have embraced e-commerce. Consequently, e-commerce stimulates the creation of many small businesses, open up markets and make a significant contribution to increasing employment and reducing poverty in the region.

The rating below demonstrates the position of the Kyrgyz Republic in relation to individual regional countries - neighbors in the Central Asian region.

Index / country	TJK	KGZ	KZ	UZ
B2C e-commerce index (UNCTAD)	121	97	60	107
ICT Development Index (IDI)	Not applicable	4.37	6.79	4.9
The Integrated Index for Postal Development (2IPD)	159	106	49	93

⁴¹ Statista Digital Market Outlook 2019; ready 4 Trade in Central Asia, International Trade Center, eComConnect.

⁴² Teriz, N. The impact of e-commerce on international trade and employment. — Procedia - Social and Behavioral Sciences, 2011. — 745 p.

The Network Readiness Index (NRI)	109	94	56 ⁴³	Not applicable
The GSMA Mobile Connectivity Index	41.9	47.5	66.2	44.6
E-Government Development index (UN)	133	83	29	87 ⁴⁴

European economies make the top 10 of the list, which also includes Singapore and Australia. Figure below demonstrates the index for some of the countries, but the Kyrgyz Republic has yet to catch up to some extent with its neighbors.

UNCTAD BTC E--commerce index, 2020⁴⁵

2020 Rank	Economy	Share of individual s using the internet (2019 or latest)	Share of individual s with an account (15+, 2017)	Secure internet servers (normalized, 2019)	UPU postal reliability score (2019 or latest)	2020 Index value	Index value change (2019-20 data)	Rank 2019
1	Switzerland	97	98	92	97	95.9	-0.1	2
2	Netherlands	96	100	94	93	95.8	-0.7	1
3	Demark	97	100	100	81	94.5	0.2	6
4	Singapore	89	98	94	97	94.4	-0.4	3
5	United Kingdom	96	96	84	98	93.6	-0.8	4
6	Germany	93	99	90	91	93.4	0.6	9
7	Finland	95	100	88	91	93.4	-0.9	5
8	Ireland	88	95	92	98	93.4	-0.6	7
9	Norway	98	100	84	88	92.6	-0.7	8
10	China, Hong Kong SAR	92	95	88	92	91.8	1.0	14

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⁴³ [Networked Readiness Index 2020](#)

⁴⁴ [Rating of countries by the level of e-government development](#)

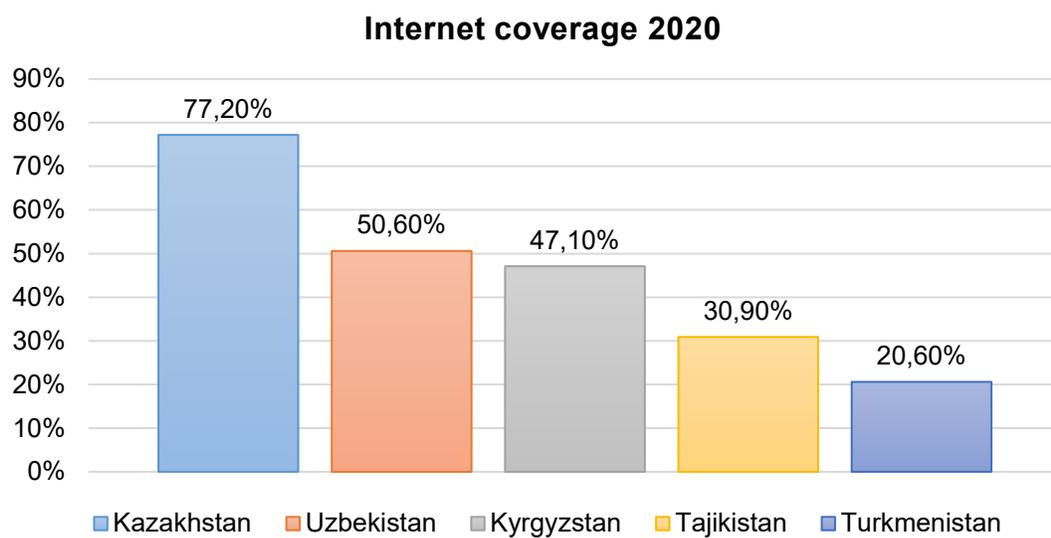
⁴⁵ [THE UNCTAD B2C E-COMMERCE INDEX 2020](#)

⁴⁶ [THE UNCTAD B2C E-COMMERCE INDEX 2020](#)

GENERAL DATA ON KYRGYZ DIGITAL ECONOMY

For the Kyrgyz Republic, at the moment, there is very little official data on the development of the digital economy for a number of reasons. First, the definition and concept of the digital economy and other components, including e-commerce, are not legally enshrined, and criteria for assessing the volume of the market are not given (the President of the Kyrgyz Republic returned the Law on Electronic Commerce to the Jogorku Kenesh for revision). Secondly, the methods for calculating the shares and sizes of e-commerce in different countries are different. For example, some countries do not include the online services market in the analysis, some countries consider the market by the volume of non-cash transactions made, other countries estimate the market turnover by the volume of electronic transactions.

According to the Internet World Stats open data portal, the Internet coverage in the Kyrgyz Republic was 47.1%⁴⁷ in 2020. The mobile platform accounts for the vast majority of Internet connections. The limited and dwindling number of fixed telephone lines has limited the development of fixed broadband services, prompting mobile operators to continue to invest in network upgrades.

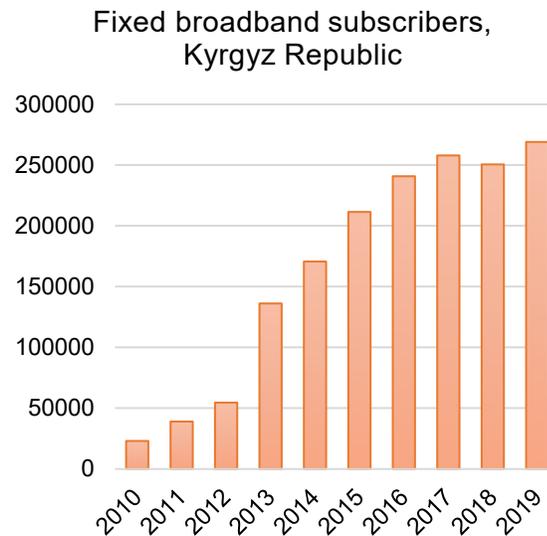
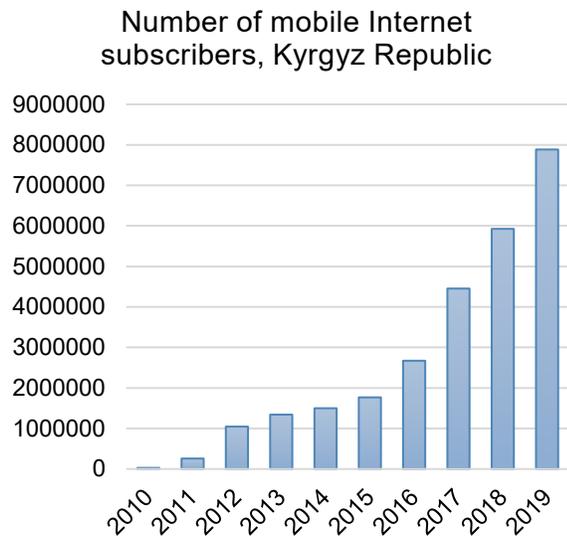


As a result, mobile Internet services are available to approximately 99% of the population, of which 72% have access to high-quality 4G Internet, while broadband Internet access is only about 10%⁴⁸. Below, the diagrams show the dynamics of growth in the number of mobile broadband and fixed broadband Internet subscribers.⁴⁹

⁴⁷ [Internet 2021 Usage in Asia](#)

⁴⁸ Data from the State Communications Agency of the KR for 2020

⁴⁹ [Committed to connecting the world](#) ITU



The World Bank project "Digital CASA - Kyrgyz Republic" implemented by the State Service for Digital Development under the Government of the Kyrgyz Republic (currently the Ministry of Digital Development of the Kyrgyz Republic) was launched in 2019 to improve access to the Internet and reduce its cost. It is planned to build fiber-optic communication lines (FOCL) in all regions of the state within the framework of the project. The construction involves the use of existing fiber-optic lines in partnership with telecom operators - on the basis of IRU (inalienable right of use agreements). Thus, the project will focus on attracting private investment to enable operators and service providers to expand and share their existing regional and domestic FOCLs, as well as lay new cross-border fiber links to strengthen connectivity with neighboring countries and deploy domestic fiber high bandwidth optical and wireless networks.

Broadband access in the country is mainly developing on the mobile communications market, which is divided by three operators: O!, Megacom and Beeline. LTE networks were first deployed in 2014 and are currently developing dynamically. However, coverage is mainly concentrated in large cities and their environs, as well as in the most attractive tourist destinations. In addition, the Kyrgyz Republic has a good transit potential and is trying to develop the capacity and coverage of fiber-optic networks, since most of the Internet traffic in the country is inbound traffic. As of 2018, the length of FOCL in the country (including cross-border highways) was 19,500 km⁵⁰

One of the components of the Digital CASA - Kyrgyz Republic project is the centralized provision of public services to citizens using digital platforms, as well as the development of a network of regional data processing centers. As a result of the project, it is expected that at least 134 institutions and government agencies will be connected to the G-Net (Government Net). Thus, the construction of fiber-optic communication lines will ensure the provision of services at the regional and national level, as well as improved security, increased bandwidth and coverage of the state-owned G-Net network, which is used exclusively for official state and municipal communications.

However, it should be noted that the implementation of this project is proceeding at an extremely slow pace (about 2% of all activities and plans have been implemented at this stage). Considering that there are no more than two years left until the end of its implementation period, experts fear that

⁵⁰ [Regulation report Broadband access in the CIS countries and neighboring countries ITU](#)

the Digital CASA project will not bring the benefits and benefits for which it was conceived. According to experts, the configuration of the project for the infrastructure component needs to be revised and in anticipation of a large-scale transition of mobile operators to fifth generation 5G networks - up to 50% of funds will be allocated to help mobile companies build 5G networks, possibly in the form of a sharing model. Thus, in their opinion, the invested funds will have a greater effect and return.

Today, dozens of settlements in Kyrgyzstan are still not connected to the Internet. The inaccessible location and remoteness of these villages makes the wire Internet overwhelming. Only radio communication can be an inexpensive solution. The Kyrgyz Internet Society plans to connect remote and hard-to-reach villages in the country using inexpensive technologies that operate on frequencies that are not usually popular with telecom providers. First of all, they plan to connect villages in the Batken region to the Internet, in particular the village of Zardaly, where there is no electricity, cellular communications, TV and the Internet. However, in order to bring the Internet to remote villages with a low population density, it is necessary to facilitate access to the following spectra:

- Wi-Fi, 2404 - 2483.5 MHz

Power restrictions and installation of external antennas must be lifted to use these frequencies

- Millimeter waves 60 GHz
- It is necessary to cancel licensing for frequencies 57-64 GHz

The use of WiFi equipment is limited to a capacity of 100 mW, without external antennas and indoor installation in the Kyrgyz Republic. In practice it is clear that such a prohibition is unnecessary. No provider can assure high-quality service at 2.4GHz WiFi frequencies in cities. And in rural areas, mobile providers are more suited to work at 800-900 MHz frequencies due to the greater range and penetrating effect. In the world practice, in particular in the USA and other European countries, these frequencies are not regulated.

The above measures will make it possible to connect remote and hard-to-reach regions of the country to the Internet in a very fast time frame and with minimal investment. The licensing exemption will enable the development of a market for smart things such as smart meters, sensors and sensors.

*For reference*⁵¹

The Kyrgyz Internet Society for the Development of the Internet in Central Asia is working in the following areas:

- Construction of the Digital Silk Road IXP Internet Access Exchange Center, which will significantly reduce the price of the Internet for residents of Kyrgyzstan, Uzbekistan, and Tajikistan, while increasing the speed and improving the quality of the Internet.
- Provision of wireless Internet for residents of remote and mountainous regions of the Kyrgyz Republic "Wireless for Communities".
- Providing content for rural schools and libraries without Internet access "Bilim Bulagy"

⁵¹ [The Kyrgyz Republic proposed to jointly build the Digital Silk Road at the Forum of the University of Cambridge KABAR](#)

High-Tech Park (HTP) is successfully operating in the market of the Kyrgyz Republic. It was formed in 2011 to create a favorable environment and infrastructure for the legalization of the information technology industry, increase the export of software development and services in the field of information technology, attract investment by creating a favorable tax and a business environment for international representatives of the information technology development industry. For 2019, the number of residents was 85 companies, their revenue for 2019 was about \$ 12 million.

Azis Abakirov, ex-chairman of the Kyrgyz Association of Software Developers and Services (KASDS) noted that HTP is now:

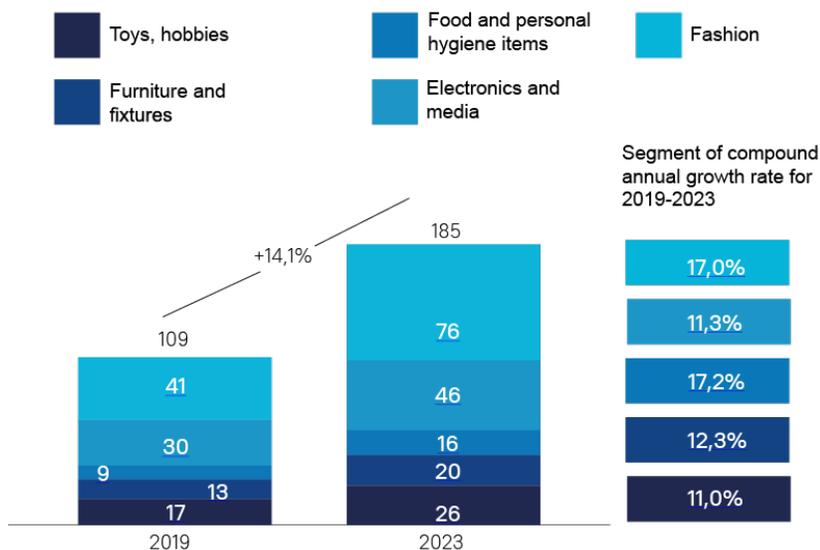
- 1.2 billion KGS of turnover;
- about 100 resident companies with 1000 jobs;
- exporting products to more than 30 countries of the world;
- Labor productivity of each employee is 1.7 million KGS.

It should be noted that the state did not spend a single KGS on the creation of the HTP. Despite the pandemic and disappointing forecasts, HTP growth in 2020 was 20%.⁵²

The services of HTP are used by clients from more than 30 countries of the world, including the USA, Ireland, Kazakhstan, Russia, Cyprus, Great Britain, China, Germany, Turkey, Iran, India, Georgia, the United Arab Emirates and others.

According to Statista Digital Market Outlook 2019 and the ready 4 Trade in Central Asia project, International Trade Center, eComConnect, the growth rate of e-commerce in the Kyrgyz Republic by 2023 will be 14.1% and e-commerce revenue will amount to USD 185 million. Besides:

- E-commerce sales in 2019 totaled \$ 109 million
- 14.1% annual growth expected as a result, the market volume in 2023 will amount to USD 185 million
- The largest market segment is fashion, with a market size of USD 41 million in 2019
- Average revenue per user in 2019 is \$ 52



⁵² [The creative economy is the most important factor in the country's sustainable development Azis Abakirov](#)

The E-Commerce Association conducted a survey in October 2019 to demonstrate the development of the digital economy and its individual components. The objects of the study were sites of participants in the e-commerce process: online stores, logistics companies, commercial banks, etc. The total sample was 769, of which: 25 sites of commercial banks, 194 logistics companies and 350 sites - stores in the Kyrgyz Republic, of which 257 are full-fledged online stores. Categories of online stores are presented in the following diagram:

The majority (72%) of online stores use offline stores and have omnichannel sales: (mainly, the presence in social networks as a virtual showcase).

There are currently no guidelines or regulations on how e-commerce businesses should register. When enterprises are registered in the organizational and legal form - a limited liability company, they have the opportunity to choose the type of economic activity - distance selling via the Internet and postal services. However, most companies were registered before this option became available for registration, and they can also sell online and offline. Therefore, there are no strict rules that e-commerce businesses must follow in their operations. Some of the entrepreneurs use a simplified version of buying a "patent" on a monthly basis, and no further requirements are imposed. However, e-commerce as an activity is not included in the list of activities carried out on the basis of a patent. Therefore, most retailers use retail patents.

During the pandemic, the demand for the delivery of food and medicines increased, as well as the demand for courier services. The companies had the problem of registering couriers - since the companies were not ready to hire them on the staff under an employment contract - due to the seasonal nature and specifics of the work; at the same time, couriers could not conclude contracts for the provision of services, since it was not advisable to form a legal entity (LLC, individual entrepreneur) due to a small income. Fortunately, the issue was resolved this year: on the initiative of the State Tax Service and the Association of e-commerce of the Kyrgyz Republic, which initiated and submitted a new type of patent on March 12, 2021 - courier services (53.20.0) worth 1000 KGS / month.

Among other reforms, the government has focused on simplifying business registration systems through the introduction of a single window system. However, studies show that gaps in legislation have led to the fact that the "one-stop shop" principle has not been fully implemented - entrepreneurs are forced to personally visit the Tax Service and the Social Fund, which increases the cost of starting a business. In addition, despite efforts to reform the licensing system, the licensing and permitting system is still ineffective and the Law is not being fully implemented. The main problem is that additional legislation has not been brought in line with the Law: there are many conflicting norms, conflicts and contradictions in the current legislation.

Conclusions and summary:

1. It is necessary to adopt the Law on Electronic Commerce, which will form a clear definition of the term for electronic commerce, so that the bodies of justice, statistics, the National Bank, tax, border and customs services begin to maintain separate accounting and reporting for further detailed analysis and recommendations.

- *the Law on Electronic Commerce, by-laws regulating the simplified procedure for registration, administration and reporting for electronic business entities.*

- *separate accounting, reporting and analytics in government agencies for e-commerce subjects.*

2. It is necessary to develop, discuss in wide circles and adopt a development strategy (roadmap) for the digital economy.

- *together with representatives of all stakeholders develop and adopt a strategy for the development of the digital economy.*

3. Complete the construction and ensure the laying of fiber-optic communication lines both within the country and with access to trans-main lines.

- *The Kyrgyz Republic needs to promote low-cost and high-quality Internet access for all citizens of the state by stimulating the development of private sector network infrastructure and providing Internet services throughout the country. For this, it is important to implement projects such as "Digital CASA - Kyrgyz Republic" and in the very near future to begin the construction of fiber-optic communication lines (FOCL) to provide the population from hard-to-reach areas with access to a high-speed Internet network*
- *The Kyrgyz Republic has great potential for the development of e-commerce, including thanks to an active and open foreign economic policy, membership in the WTO, SCO, EAEU, CIS and many other associations and unions, its advantageous geographical location and proximity to China; potentially promising sectors such as tourism, light and clothing industries. To do this, it is necessary to create conditions for a cross-border approach to improve the capacity of networks by laying the necessary regional fiber-optic lines to provide access to broadband Internet in the countries of Central Asia and some landlocked countries of South Asia.*
- *Provide subsidies or preferential rates for the lease of poles of state distribution companies (Severelectro, Vostokelectro, Oshelectro, etc.) and municipal services (Bishkek trolleybus administration, Gorsvet, etc.) for telecom operators. The decrease in the cost of renting poles directly affects the decrease in the cost of the Internet and the availability of fixed broadband access for subscribers.*
- *Simplify the procedure and reduce the time for consideration and issuance of a permit for the construction of communication facilities in the State Construction Committee of the Kyrgyz Republic. This procedure has been developed and submitted for consideration to the Office of the Cabinet of Ministers of the Kyrgyz Republic. It is necessary to speed up its approval and approval.*
- *Update the infrastructure component in the Digital CASA project. At least 50% of the funds will be allocated to help mobile operators in the construction of fifth-generation 5G networks, the rest will be left for the construction of fiber-optic communication lines in remote areas of the country. Experts recommend considering the possibility of using an infrastructure sharing model during the project for mobile operators.*

4. The Kyrgyz Republic does not use and does not reveal its transit potential. The number of parcels from China to Europe by 2023 will increase to 6 billion. The UAE and the countries of the Middle East are experiencing increased interest in the EAEU market.

- *launch the E-Commerce Park of the Kyrgyz Republic, which will help Kyrgyzstan realize its transit potential, simplify and increase export supplies of domestic producers.*

5. Kyrgyz products do not withstand price competition in the international market due to the high cost of delivery and logistics. The Kyrgyz Republic has no access to the sea and the ability to reduce the cost of delivery of its products.

- *Create conditions for trucking companies to consolidate and merge into large, complex, integrated logistics companies with a wide range of services, a competitive fleet of vehicles, highly qualified specialists and competitive prices.*
- *Reduce the cost of air transportation, it is necessary: to develop and carry out comprehensive measures to withdraw Kyrgyzstan from the “gray list” of air carrier countries in the European Union; liberalize and create a competitive environment for the development and inflow of private investment in the management and operation of airport services - for the development of competition in this sector; consider the possibility of alternative supplies of aviation fuel to the refueling complexes of airports as the main part of the cost of transportation.*

6. Adopt a concept and roadmap for the development of the creative economy. It is necessary to focus on the export of not physical goods and products, but the export of services. Thus, entrepreneurs of the Kyrgyz Republic will not experience price pressure in this part due to the high cost of logistics and will be able to compete in the field of export of services and the creative economy with the whole world.

- *concept and roadmap for the development of a creative economy developed by a working group under the Ministry of Economy and Finance with the participation and involvement of experts from the private sector.*

7. Prepare and establish a Digital Competence Center or Digital Competence Institute to analyze and provide recommendations for optimizing business processes to increase the level of digital competence and knowledge, increase the quality of management for the development of the digital economy and promote the digital agenda, digital leadership, as well as development models of consulting and expert support for public organizations and the private sector.

It is worth noting the constraining factors for the development of the digital economy of the Kyrgyz Republic, including the undeveloped ecosystem of the digital economy, a low level of digital literacy and a low level of public confidence in the digital economy.

Low level of digital skills among the population and language barrier. The Kyrgyz Republic needs to develop digital skills among the population, entrepreneurs and government officials, which, together with the lack of widespread knowledge of English, speaks of the lack of competitiveness in the global market for the digital economy (both commerce and export of services).

- *It is necessary to develop a comprehensive digital literacy training program for entrepreneurs, government officials and the public. In this matter, special attention should be paid to the involvement of the private sector, NGOs, development partners in solving this issue, both for the joint development and use of educational content, and for coordinating efforts in order to avoid ineffective work and duplication of processes.*
- *The greatest threat to the digital and creative economy and the export of intellectual products is posed by brain drain and increased migration among highly qualified professionals. The*

digital economy can significantly reduce the level of poverty, reduce the outflow of migrants and increase the level of employment among the population, especially in remote regions.

- *For the purposes of training and employment of citizens, it is necessary to navigate and adopt international standards in training and certification in specialties and areas.*

GENERAL OVERVIEW OF THE KYRGYZ LEGISLATION ON DIGITAL ECONOMY

The National Strategy for the Development of the Kyrgyz Republic between 2018 and 2040 approved by the Decree of the President of the KR dated 31 October 2018 No. 221 (National Strategy) is the key strategic document for the purposes of the development of the KR. The National Strategy is the fundamental document which provides for the strategic directions for the development of the KR in the long term, determines the main principles and ways to achieve the goals of development in all areas of the society's life and priority mid-term steps to launch strategic vision.⁵³

Note

The National Strategy provides the following on the digital economy:

- By 2040 the Kyrgyz Republic is the digital hub on the Great Silk Road. The network of centers for processing of data of regional significance will provide services for the whole region. The created digital infrastructure will allow to connect the information and communication spaces of the Central Asia, Eurasian Economic Union (EAEU), Middle East, China and Europe.⁵⁴
- Widespread application of digital technologies in the area of education.⁵⁵
- Digitalization within an integrated development of the whole economy and functioning of the transport system of the KR.⁵⁶
- Transition to an open service model, the main role of which is, inter alia, in the staged transfer of functions on provision of services to social and private organizations. Review of the structure and functions of executive authorities, changes in regulations and process of adoption of managerial decisions, their conversion to digital technologies. Outsourcing of a part of the functions and services provided by the state, including provision of services, business and agency functions.⁵⁷
- “Taza Coom” as a National Program of Digital Transformation to create an open, transparent and high-technology society at the level of a citizen, competitive business, stable state and reliable international relations.⁵⁸ Mandatory inclusion of digital transformation component into all conceptual and strategic documents prepared in compliance with the National Strategy. The long-term goal is to attract international companies' production located in the EAEU countries to the KR, the effectiveness of the work of which significantly depends on practical application of customs and technical regulation (pharmacy, production of consumer products, industrial assembly). For this it is necessary to focus on consolidation of transit assets, adopt and implement programs of forward-looking development: early introduction of B2B2C digital platform (development of a national one or localization of one of the leading global platforms); implementation of smart contracts; acceleration of easy and transparent procedures of pre-judicial and judicial settlement. “Taza Coom” is to accelerate the digital economy. It is necessary to implement the program of transformation of state, social and business environment to achieve the set goals.

⁵³ Introduction to the National Strategy.

⁵⁴ Chapter I, “Picture of the Future. Goals of Development”, of the National Strategy.

⁵⁵ Chapter II, “Human – Family – Society”, of the National Strategy.

⁵⁶ Chapter III, Economic Well-Being and Quality of the Environment for Development”, of the National Strategy.

⁵⁷ Chapter IV, State Governance, of the National Strategy.

⁵⁸ Chapter IV, State Governance, of the National Strategy.

- In 2021 all state and municipal services are expected to be provided in digital format with the possibility of access in real time.⁵⁹
- One of the tasks is automation of the judicial system. The automated information court system is to be launched. The simplified procedures of filing of lawsuits with courts in electronic form for civil, economic and administrative cases, complaints in electronic form, receipt of documents and review of case materials are to be implemented.⁶⁰

Within the digital transformation of the country there are three tasks:

- Task 1 – Creation of Modern Information and Communication Infrastructure;
- Task 2 – Creation of Open Digital Society;
- Task 3 – Capacity and Partnership Building.⁶¹

Any strategic or conceptual document adopted at the state, regional or municipal level shall include digital development as a key element. Change of principles of budgeting provides staged transition from financing of development projects principally on account of international donors' funds to the parity of own funds for these purposes.⁶²

The Concept of Digital Transformation, "Digital Kyrgyzstan 2019-2023" (Concept) approved by the Resolution of the Security Council of the KR on 14 December 2018 No. 2 was adopted in the KR. In order to implement the Concept, the Government of the KR has approved the Road Map.⁶³

The Concept provides for improvement of legal regulation in order to protect intellectual property, create flexible mechanisms of piloting of innovations through regulatory sandboxes, support small and medium-sized businesses, especially in information and communication technologies (ICT) sector, attract foreign highly qualified specialists as well as promote national ICT market and provide access to ICT affordable for all citizens. The Concept provides for necessity of flexible legal regulation in the area of electronic commerce and data protection, creation of legal framework for functioning of labour market in the digital economy, introduction of blockchain technologies into the state governance system and economy, artificial intelligence technologies in the work of digital applications.

Note

According to the Concept improvement of legal regulation is necessary in the following areas:⁶⁴

- Personal data protection, including creation of an independent authorized state body, introduction of responsibility for violations;
- Use of electronic signature, including issues of reliable identification/ authentication in the digital environment, accounting and reporting in digital form in the tax sphere, formalization and control using digital facilities in the customs sphere as well as creation of a national certification center;
- Public service – issues of digital competencies and digital skills of public officers, their professional re-training and competence development;

⁵⁹ Chapter VI, Priority Steps of the Midterm Stage, of the National Strategy.

⁶⁰ Chapter VI, Priority Steps of the Midterm Stage, of the National Strategy.

⁶¹ Chapter VI, Priority Steps of the Midterm Stage, of the National Strategy.

⁶² Chapter VII, Management of Development, of the National Strategy.

⁶³ Order of the Government of the KR dated 15 February 2019 No. 20-r.

⁶⁴ Chapter 4.2 of the Concept.

- State governance – issues of electronic governance, provision of state and municipal services and performance of state and municipal functions in digital form, electronic document flow, electronic participation; creation of a state system of electronic messages;
- Access to information, including data turnaround, inter alia, personal data, in digital format – issues of dissemination of information and access to this, inter alia, in the form of open data, personal data processing, use of information resources and systems, including distributed and cloud technologies, artificial intelligence, data processing centers and communication channels connecting them, digital data protection;
- Telecommunication infrastructure – technical regulation issues, including digital and telecommunication infrastructure, connection, net neutrality, antimonopoly regulation;
- Separate types of activity in the digital sector – issues of cybersecurity, use of digital evidence, creation of normative possibilities for internet services, mobile applications, electronic payments, etc.;
- Civil legislation – issues of conclusion and performance of contracts and unilateral transactions in digital form, establishment of rights to digital assets, operations with such assets, payments in electronic form.

The Concept also emphasizes the role of state bodies for accelerated digital transformation, including:

- Jogorku Kenesh -ensures the adoption of legal acts in the field of digital transformation;
- Government - ensures the implementation of the adopted legal acts;
- State Digital Development Ministry - developing and submitting proposals for the formation of a unified state policy in the field of informatization, electronic management, electronic services and communications, as well as implementing it - the SSCR. It is the efficiency and sufficient level of competence of the staff of the SSCR that can qualitatively affect the success of the implementation of digital transformation processes in the country;
- Prosecution authorities - ensuring effective digital transformation by overseeing the accurate and uniform implementation of laws aimed at digital transformation;
- Judicial bodies - are the guarantors of the protection of intellectual property rights and innovations;
- National Bank of the Kyrgyz Republic – ensures the development of the payment system and the introduction of financial technologies.

One of the last important documents providing for strategic directions of the digital transformation is the Decree of the President of the KR “On Urgent Measures to Activate Introduction of Digital Technologies into State Governance of the Kyrgyz Republic” dated 17 December 2020 No. 64 (Presidential Decree). For the purposes of digitalization of all economic sectors and transition of the state governance system into electronic format the Presidential Decree provides for the main tasks for creating sustainable digital interaction between state, business and citizens.

Note

The Presidential Decree provides a set of measures to be implemented by the Government in 2021:

- Amendments to standards and administrative regulations on state and municipal services due to their conversion into electronic format, full re-engineering of administrative procedures

of their provision via the state portal through the Tunduk system of inter-departmental electronic interaction;⁶⁵

- Reconsideration of the legislation on state and municipal services according to the following principles:
 - Priority of provision of state/ municipal services in electronic form;
 - Priority of digital recording in information systems over paper documents;
 - Exclusively electronic interaction of state/municipal bodies when providing services;
 - Refusal to receive state services via visiting state/ municipal bodies and transition to their provision through the population service centers and in electronic form;
 - Extraterritoriality, that is the possibility to receive state and municipal services, including the result of their provision regardless of place of residence/ stay of individuals or location/ place of registration of a legal entity, etc.
 - Establishment of unified governance of state enterprises in the area of digitalization under the authorized state body in the area of electronic governance due to creation of competitive remuneration of employees of such enterprises in comparison with private sector;
 - Increase of remuneration of specialists of state bodies and local self-government bodies engaged in digital transformation, introduction of information and communication technologies in the state/ municipal governance;
 - Providing the possibility of receipt of state services by citizens and interaction with authorized state bodies, banks, financial and credit institutions, private sector organizations, inter alia, by using biometric data when identifying them, keeping current forms of identification of information on participants of information interaction provided by the legislation of the KR;
 - Launching the system of control of import of the EAEU member states via the Tunduk system of inter-departmental electronic interaction due to integration with the system of weight and dimensional control and possibility of its further scaling within traceability of goods, works and services;
 - Introduction of the electronic document flow system within the activity of state bodies and local self-government bodies taking necessary measures to exclude paper document flow until 31 December 2021;
 - Preparation of a programme for training and competence development for state and municipal officers on digital skills and cybersecurity, services provision within the digital economy;
- Other measures to improve state governance on G2C and G2B directions.

The Government adopted the Order dated 10 March 2021 No. 50-r approving the Action Plan to implement the Presidential Decree. The Digital Transformation Division of the Office of the Government of the KR shall exercise control over execution of the Order of the Government. The SSDD is responsible for combining the information on implementation of the action plan.

Digital Agenda of the EAEU until 2025

The Kyrgyz Republic is a member state of the EAEU. The Supreme Eurasian Economic Council (EEC), by decision No. 12 of October 11, 2017, approved the Main Directions for the Implementation of the EAEU Digital Agenda until 2025. (Main directions). The Main directions were developed in

⁶⁵ <https://www.tunduk.gov.kg/ru>

accordance with the Statement of the Heads of the EAEU Member States (including the Kyrgyz Republic) dated December 26, 2016 (Statement on the Digital Agenda) and the Decision of the EEC dated December 26, No. 21 “On Forming the Digital Agenda of the Eurasian Economic Union” with the aim of further development economic integration of the EAEU member states in a situation when the world economy is at the stage of deep structural transformations and development of the digital economy, when there is a digital transformation of everyday life, business environment and public administration.

Note

The Main directions are a medium-term document that defines the goals, principles, objectives, directions and mechanisms of cooperation between the member states on the implementation of the digital agenda of the EAEU until 2025 (digital agenda), in accordance with the Treaty on the EAEU of May 29, 2014.

The Main directions contain definitions and concepts used in the digital agenda, including the following concepts:⁶⁶

- “regulatory sandbox” - a specially coordinated mode of elaboration and piloting of decisions, including regulatory ones, to determine an effective model of interaction and build business processes in any new area. It is advisable to use the “regulatory sandbox” to develop mechanisms and rules for regulating economic processes within the framework of digital initiatives and projects;
- “digital agenda” - a range of issues relevant to the EAEU on digital transformation as part of the development of integration, strengthening the common economic space and deepening cooperation between the member states, as defined in the Statement on the Digital Agenda and the Main Directions;
- “digital transformation” is a manifestation of qualitative, revolutionary changes that consist not only in individual digital transformations, but in a fundamental change in the structure of the economy, in the transfer of value-added centers to the sphere of building digital resources and end-to-end digital processes. As a result of digital transformation, a transition to a new technological and economic structure is taking place, as well as the creation of new sectors of the economy;
- “digital economy” - a part of the economy in which the processes of production, distribution, exchange and consumption have undergone digital transformation using ICT;
- “digital transformation” - a set of measures aimed at transforming business processes in accordance with their digital model.

Recommendations

1. *The Cabinet of Ministers should conduct a thorough monitoring of the implementation of the items of the Roadmap for the implementation of the Concept of digital transformation “Digital Kyrgyzstan 2019-2023”;*
2. *The Cabinet of Ministers should ensure the full, consistent and constant work of the Ministry of Digital Development of the Kyrgyz Republic, including the Department for Personal Data Protection, taking into account the appointment and selection of highly qualified personnel for positions according to specific requirements, the continuity of personnel, their competitive*

⁶⁶ Chapter 15 of the Main Directions

remuneration and continuous professional development, as well as provide the Ministry with the necessary information infrastructure.

- 3. Active involvement and interaction of all authorized bodies in the development of the digital economy is necessary, and an important role here is assigned to the activity of the heads of the relevant departments and divisions, which will directly promote the process at all levels. In order to actively engage and interact with all authorized bodies in the development of the digital economy and stimulate the activity of the heads of the relevant departments and divisions, it is necessary to establish a system of incentives / rewards for the heads and employees of departments and divisions for the implementation of projects in the field of the digital economy.*

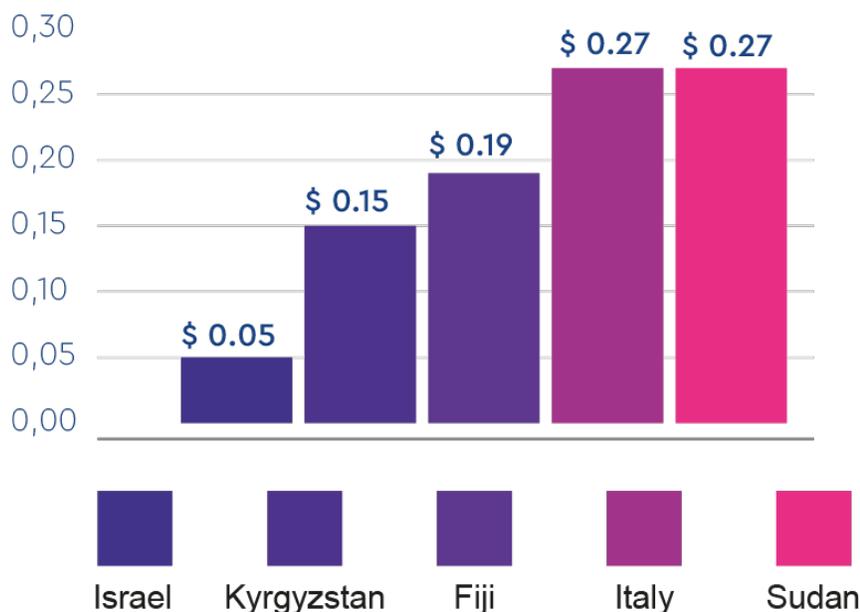
Main conclusions

- Kyrgyzstan is taking active steps to develop the digital economy. Almost all the main issues of the digital economy are reflected in the National Strategy and Concept. Taking into account the provisions, goals and objectives in these documents, it seems that the country is actively moving towards becoming a digital hub for Central Asia.*
- In practice, problems arise, some of which are indicated in the relevant sections of this White Paper. In particular, the Ministry of Digital Development of the Kyrgyz Republic is responsible for monitoring the implementation of the Order on the Roadmap. Given the frequent change of leadership and reorganization of the department, such monitoring cannot be carried out effectively, and some processes are delayed. For example, the Department for Personal Data Protection was created only in 2021, despite the fact that its creation, according to the Roadmap, was planned in 2019. This state of affairs is observed not only in terms of the implementation of the Concept, but also in terms of other strategic documents in the field of the digital economy.*
- The legislation of the Kyrgyz Republic provides for a set of measures for the development of the digital economy. At the same time, the definition of the concept of "digital economy" and some other relevant concepts is absent in the legislation of the Kyrgyz Republic. To disclose concepts in the field of the digital economy, the Kyrgyz Republic can use documents within the framework of the EAEU law, including the above-mentioned Main Directions. In addition, the adoption of a new Law of the Kyrgyz Republic "On Electronic Commerce" is expected, which also contains clarification of some concepts in the field of the digital economy, including the concepts of "electronic commerce", "electronic transaction", etc.*
- The Kyrgyz Republic does not yet have a single document regulating general issues of the digital economy. In this regard, within the framework of this document, general and related laws and regulations adopted in various sectors of the digital economy were considered and analyzed.*

PUBLIC ADMINISTRATION IN DIGITAL ECONOMY

Note: detailed legal analysis of the digital economy is attached separately.

Effective management and consistent policy in the information and telecommunications sector as the main element of the digital infrastructure is one of the main factors for the stable development of the country's digital economy. Kyrgyzstan ranks 2nd among the countries with the most affordable mobile internet in the world.⁶⁷



According to experts, today there is no long-term plan for the development of the sector, there is a shortage of professionals in government agencies and inconsistent personnel and regulatory policies, which ultimately may affect the expectations and investment climate among domestic and foreign investors.

Law on Land Use for Communication Needs

Uneven development of the telecommunications infrastructure of the regions directly affects the weak Internet penetration and information inequality of the regions. Meanwhile, specific barriers to the development of telecommunications infrastructure, making it impossible to implement socially significant tasks facing the communications industry to provide the population of the regions of the country with communications, are the norms and provisions of a prohibitive and restrictive nature established by the Land Code of the Kyrgyz Republic, the Water Code of the Kyrgyz Republic, the Forestry Code of the Kyrgyz Republic, The Law of the Kyrgyz Republic "On Pastures", the Law of the Kyrgyz Republic "On the Transfer (Transformation) of Land Plots", the Law of the Kyrgyz Republic "On Specially Protected Natural Areas", the Law of the Kyrgyz Republic "On Electrical and Postal Communications".

In this connection, on August 6, 2019, the President of the Kyrgyz Republic signed the Law of the Kyrgyz Republic "On Amendments to Certain Legislative Acts on Land Use Issues."

⁶⁷ [Worldwide mobile data pricing 2021](#)

The purpose of this law is to solve existing problems related to the procedure for obtaining land plots for the placement of communication facilities and its simplification.

Simplified procedure for obtaining a permit for the construction of communication facilities

Simplifying the procedure for issuing permits for the construction and installation of communication facilities should be a major challenge ahead of the implementation of the transition to next-generation 5G networks.

The draft Procedure for the issuance of documentation for the design, construction, installation and other changes of communication facilities, conformity assessment, classification of characteristics, the conduct of state architectural and construction supervision of communication facilities in the Kyrgyz Republic, according to experts, should be significantly revised towards de-bureaucratization, simplification and reduction terms of consideration and obtaining permission.

Sharing economy

One of the best practices and trends in the world is the principle of sharing economy. The term is used to describe an economic model based on the sharing of goods and services, barter and rent instead of ownership.⁶⁸ Sharing consumption is based on the idea that it is more convenient to pay for temporary access to a product than to own the product.

The idea of a sharing economy is also applicable in telecommunications. Thanks to the sharing model, it becomes possible to significantly increase the utilization of resources. For example, during the transformation, registration, land lease, obtaining permits and construction of communication facilities, purchase and operation of equipment - you can share all capital costs among several participants and thus reduce the investment of each. These relationships can achieve significant economic benefits: capital and operating costs are reduced, labor productivity is increased, and the overall usefulness of the equipment service increases. As a result, the optimization of the use of technical, human, financial and other resources is developing. The practice of joint consumption in many cases turns out to be a more effective form of economic organization than individual and private ownership and use.

Reduce tax and non-tax levies in the telecommunications sector

The telecommunications sector brings about 3-5% of the contribution to the country's GDP annually, tax deductions, despite the lowest prices in the world (see above), annually amount to about 18 billion KGS. Instead of stimulating the development of the sector with benefits and preferences:

- Telecom operators pay an increased sales tax of 5% instead of 1-2%;
- Telecommunications operators pay 12% VAT on the export of services, although this is contrary to international treaties;
- Telecom operators pay double VAT for roaming services, although this is also contrary to international agreements;
- Telecom operators pay for also the so-called non-tax fees: for temporary use of frequencies, for the issuance of frequency assignments, fees for the development of the sector in the amount of 0.09% from the operators' revenue;

⁶⁸ [Joint consumption Wikipedia](#)

- As well as fees for permits for the lease of land, design documentation and construction of communication facilities, the cost of renting poles, purchasing traffic, updating equipment in foreign currency, and much more.

The state needs to create favorable, transparent, stable conditions for the operation of telecom operators and attracting investors to the sector.

On May 13, 2020 the NBKR approved the Procedure for identifying and verifying clients remotely, which determines the procedure for banks to identify and verify individuals - citizens of the Kyrgyz Republic using client data received in electronic form without personal presence. Currently, 5 commercial banks have introduced such identification into practice. The practical experience of these financial institutions shows that the introduction of remote identification largely depends on the quality of the formation of databases of state bodies and the efficiency of the process of interdepartmental electronic interaction in order to obtain information by financial and credit organizations for subsequent remote identification. In 2018, the Government of the Kyrgyz Republic established a state enterprise "Center for Electronic Interaction" Tunduk "under the State Committee for Information Technologies and Communications of the Kyrgyz Republic. The purpose of the Enterprise is to ensure technical coordination in the implementation of an electronic government system in the Kyrgyz Republic and electronic interaction between state bodies, local self-government bodies, state institutions and enterprises, as well as legal entities and individuals, including in the provision of state and municipal services in electronic format. Tunduk has done significant work since its inception, however, there are still significant bureaucratic problems, preventing financial institutions from effectively using the system. For example, in order to gain access to information, financial institutions need to sign bilateral individual agreements with all government agencies involved in the electronic interaction system. This factor prevents the rapid receipt of information and, accordingly, an increase in the possibilities for remote servicing of banks by the client.

The state bodies of the Kyrgyz Republic provide information services through their websites; however, the sites are, for the most part, not interconnected, which leads to duplication of efforts in the field of e-government. It is necessary to use common services and platforms for interaction between citizens and the state to reduce the resources and time spent on maintaining state bodies. The first steps have been taken by introducing the Tunduk interaction platform and the State Electronic Services Portal. Further integration and expansion of such digital platforms would allow line ministries to focus on their core competencies, such as developing new digital services.

The Kyrgyz Republic is only introducing digital transformation for the development of the digital economy, while having the potential to become a digital hub among the countries of Central Asia. The Government of the Kyrgyz Republic is seeking to transform the country by leveraging its competitive advantages - such as a young workforce, hydropower resources, tourism development, and relative proximity to Russian and Chinese markets - through a number of regional integration organizations. The Kyrgyz Republic is a member of the Eurasian Economic Union (EAEU), the Shanghai Cooperation Organization (SCO), the Economic Cooperation Organization (ECO), the Organization of Islamic Cooperation (OIC), the World Trade Organization (WTO) and other organizations. In the light of the above allied and partnership relations, it is necessary to promote the digital agenda of the EAEU, SCO and other organizations, taking into account national interests.

The management of the Kyrgyz Republic is making great efforts to use information and communication technologies (ICT) to reduce corruption, increase transparency and ensure wider access of citizens to public services. To National Development Strategy of the Kyrgyz Republic for 2018-2040⁶⁹ involves the creation of an effective and transparent system of public administration, by building interaction with society based on free access and use of modern digital technologies, which, in turn, will become an effective tool for eradicating corruption in the public sector by minimizing the influence of the human factor. Digitalization will also have a positive effect not only on the public administration system and economy, but also on education and health care systems, the provision of social services, and ensuring the effectiveness of the judicial and law enforcement systems.

Public administration in the field of information and cyber security

The Kyrgyz Republic has adopted the following strategic documents in the field of information and cyber security:

- Concept of information security of the Kyrgyz Republic for 2019-2023 (annex to the Decree of the Government of the Kyrgyz Republic of May 3, 2019 No. 209) (Concept of information security);
- Cyber security Strategy of the Kyrgyz Republic for 2019-2023 (Appendix to the Decree of the Government of the Kyrgyz Republic dated July 24, 2019 No. 369) (Cyber security Strategy).

The Concept of information security is a set of official views on ensuring the national security of the Kyrgyz Republic in the information sphere. The purpose of the Information Security Concept is to develop and implement measures aimed at protecting the interests of the individual, society and the state in the information sphere and to create an effective national information security system for the Kyrgyz Republic, which is a combination of legal, organizational and economic methods for implementing state policy in this area. The concept contains definitions of the relevant concepts, including concepts: information security - the state of protection of the individual, society and the state from information threats; information infrastructure - a set of information systems, information and telecommunication networks and automated control systems for technological processes used to form, create, transform, transfer, use and store information, as well as to control technological processes.⁷⁰

Note

The Concept of information security identifies the legal, organizational, technical and economic methods of ensuring information security, which should be used in a complex. Thus, legal methods for ensuring information security include the development of legal acts, regulatory and methodological documents governing the relations and actions of all subjects in the information sphere of the Kyrgyz Republic, and the intensification of targeted activities of the competent law enforcement agencies of the Kyrgyz Republic to prevent and suppress offenses in the information sphere of the state.

⁶⁹ [National Development Strategy of the Kyrgyz Republic for 2018-2040](#)

⁷⁰ Clause 4 of Chapter 2 of the Concept of Information Security.

The Information Security Concept provides for the following main directions in the field of information security in information and telecommunication systems:⁷¹

- adoption of a strategic document in the field of cyber security;
- organization of a unified system of measures to ensure cyber security;
- determination of the authorized body in the field of cyber security;
- definition and categorization of critical information infrastructure of the Kyrgyz Republic, development of legal, organizational and technical measures to ensure its security;
- formation of a national system for warning, response and management of computer incidents;
- criminalization and counteraction to computer crime;
- creation of a national information protection system, including cryptographic information protection;
- determination of a unified approach to ensuring cyber security in the public sector of the Kyrgyz Republic;
- technical standardization in the field of cyber security;
- study of positive foreign experience and implementation of mechanisms of public-private partnership in the field of cyber security.

The legislation of the Kyrgyz Republic provides for liability for misconduct / crimes in the field of information security. Thus, the legislation of the Kyrgyz Republic provides for responsibility for:

- Offenses against information security (chapter 29 of the Misdemeanor Code): unlawful access to computer information (art. 159 of the Misdemeanor Code) and mass dissemination of telecommunication messages (art. 160 of the Misdemeanor Code);
- Violation of privacy (Article 186 of the Criminal Code of the Kyrgyz Republic (Criminal Code of the Kyrgyz Republic), including illegal collection, storage, use and dissemination of confidential information about a person's private life without his consent, except in cases established by law, as well as illegal use or dissemination of personal or family secrets in a work, when speaking in the media or in any other public appearance;
- Illegal receipt of information constituting a commercial or bank secret (Article 220 of the Criminal Code of the Kyrgyz Republic), namely, the collection of information constituting a commercial or bank secret by stealing documents; bribery or threats against persons holding commercial or banking secrets, or their relatives; interception of information in the means of communication; illegal entry into a computer system or network; use of special technical means, as well as in any other illegal way;
- Crimes against information security (Chapter 42 of the Criminal Code of the Kyrgyz Republic): unlawful access to computer information (Article 304 of the Criminal Code of the Kyrgyz Republic), creation of malicious computer programs (Article 305 of the Criminal Code of the Kyrgyz Republic) and computer sabotage (Article 306 of the Criminal Code of the Kyrgyz Republic), that is, deliberate modification, destruction, blocking, rendering computer information or programs unusable without the right to do so, or interfering with the operation of computer systems with the intention of interfering with the functioning of a computer and

⁷¹ Clause 40 of Chapter 5 of the Concept of Information Security.

telecommunication system, as well as disabling computer equipment or destroying a computer system or network.

The Kyrgyz Republic adopted the specified strategic document in the field of cyber security. The goal of the Cyber security Strategy and the Action Plan for it is to form a domestic cyber security system and policy to ensure an appropriate level of security for citizens, businesses and the state, which allows them to protect their vital interests in cyberspace and ensure sustainable socio-economic development of the Kyrgyz Republic, including the digital transformation of the economy. The implementation of the Cyber security Strategy will be carried out in conjunction with the set of activities of the Roadmap for the implementation of the Concept of digital transformation "Digital Kyrgyzstan 2019-2023".

Note

The Cyber security Strategy contains definitions of related concepts, including concepts:

- information space - a complex field of activity associated with the formation, creation, transformation, transmission, use, storage of information that affects the information infrastructure and information, including the individual and public consciousness;
- cyberspace - a sphere of activity in the information space, formed through any forms of interaction between people, software and services, carried out using information and telecommunication networks (including the global information and telecommunications network Internet) and any other types of information infrastructure;
- cyber security is the preservation of the properties of integrity (which may include authenticity and fault tolerance), availability and confidentiality of information of information infrastructure objects, ensured through the use of a set of tools, strategies, security principles, security guarantees, approaches to risk management and insurance, training, practical experience and technology;
- critical information infrastructure of the Kyrgyz Republic - a set of state information systems, state information and telecommunication networks and automated process control systems operating in the sector of public administration and state electronic services, healthcare, transport, telecommunications and communications, credit and finance, the defense sector, the fuel industry, power generation and distribution, food processing and mining.

In May 2020, the State Committee for National Security of the Kyrgyz Republic (GKNB)⁷² was appointed as the authorized state body in the field of ensuring cyber security of the Kyrgyz Republic. The GKNB Coordination Center for Cyber security was established.⁷³ This is a structural subdivision of the State Committee for National Security, coordinating the activities of state bodies, local governments, state enterprises and institutions, as well as business entities with a state share of more than 50% on issues of cyber security, responding to computer incidents, as well as identifying, warning and suppressing causes and conditions contributing to the preparation and implementation of computer attacks.⁷⁴

Note

⁷² Clause 2 of the Decree of the Government of the Kyrgyz Republic dated May 21, 2020 No. 266 "On some issues in the field of ensuring the cyber security of the Kyrgyz Republic" ("Decree on cyber security").

⁷³ Paragraph 1 of Chapter 1 of the Regulation on the Coordination Center for Cyber security of the State Committee for National Security

⁷⁴ Clause 1 of Chapter 1 of the Regulation on the Coordination Center for Cyber security of the State Committee for National Security (Regulation to the Resolution of the Government of the Kyrgyz Republic of May 21, 2020 No. 266).

According to the Cyber security Strategy, its adoption and timely implementation will allow, among other things:

- create institutional and basic conditions for the development of sectorial programs and work plans of the authorized state body, competent state bodies of the Kyrgyz Republic, involved public organizations, business initiatives and citizens;
- create a unified conceptual framework and a special legal framework that defines the norms and rules of lawful behavior in the field of cyber security, as well as regulating the activities of state bodies in this area;
- introduce into the legislation of the Kyrgyz Republic responsibility for crimes in the field of cyber security, including cross-border computer crimes, introduce and improve methods of detecting, collecting, recording and presenting evidence of illegal activities using computer technologies;
- harmonize legislation, unify terms and concepts, as well as international standards in the field of cyber security in order to remove barriers and develop international scientific, technical and legal cooperation, ensure the full participation of the Kyrgyz Republic in international mechanisms for regulating relations related to cyber security;
- in cooperation with regional and international partners form and launch a program of professional training and advanced training for employees of special services, law enforcement agencies, prosecutors, as well as judges, in terms of improving the skills of investigating and conducting criminal proceedings on the facts of computer crimes.

State Administration for Digital Competencies and the Application of Digital Technologies

The Kyrgyz Republic is facing a number of difficulties not only in implementation, but also in increasing the capacity of state bodies on digital competence and the application of digital technologies.

Many business processes are automated and the need for human resources is reduced with the growth of technological progress,. Old professions disappear and new ones appear, which require the development of new skills. The polarization of the labor market speaks of growing inequality in the market due to the growth of highly paid highly skilled professionals and the growth of low-paid low-skilled specialists, while the middle class is gradually disappearing. This trend is already seen in developed countries such as the United Kingdom, the United States and Europe, and, as noted in the World Bank's report on Digital Dividends, is also reflected in developing countries. A middle class with low digital skills is at risk of becoming a low-skilled in the near future, which in turn will affect future incomes. According to forecasts of some studies the new employment will attract specialists in cognitive technology, IT and Big Data specialists and specialists in machine learning. The development of digital skills of the population is becoming a strategically important task for the state, since the development of human capital is the main goal of sustainable economic growth. To improve the well-being of the population, it is important not only to create new jobs, but also to create new opportunities and types of economic activity for additional earnings and increasing the income of the population using the latest technological innovations.

Today, one of the big challenges in the development of the country's digital economy is the insufficient level of digital competence and skills of the population of the Kyrgyz Republic. E-commerce opens up the opportunity to realize potential for every person, regardless of gender,

income level, social status and age. The digital divide is slowing down opportunities to take advantage of the benefits of e-commerce. New business models require new competencies and digital skills. It is important to create all conditions for the development of e-commerce in the Kyrgyz Republic, which will stimulate the technological development of the country with the participation of all segments of the population. Ensuring inclusiveness and developing a favorable environment for the growth of online entrepreneurship should become one of the important tasks of the state and the business sector.

With digital skills, creative industry professions will be able to monetize and enter new markets through e-commerce. So, artists, writers, designers, artisans, graphic designers, app and mobile game developers, etc. can sell their products and creativity far outside their country.

For example, an interactive museum of miniatures and culture of the Kyrgyz people with digital multimedia content was opened in Bishkek on the basis of the Supara ethnographic complex in April 2021. The museum is interesting in that it gives the visitor the opportunity to get acquainted with the culture, tradition, customs and history of the Kyrgyz people and see colorful models of various themes (“Village of Crafts”, “Great nomadism”, “Kok Boru”, the legend of the epic “Manas”, etc.) not only in the form of miniatures made of polymer clay, but also their digital images on the screen. This approach undoubtedly contributes to the development of digital tourism and the creative economy (see below illustrations)⁷⁵



For a faster transition to the digital economy, it is necessary to popularize e-commerce and motivate entrepreneurs to diversify their sales channels and go online. It is necessary to create conditions for the development of digital skills of entrepreneurs through business incubators, mentoring and training in e-commerce skills.

⁷⁵ [An interactive miniature museum was created for the first time in Kyrgyzstan Kabar](#)

Recommendations:

1. Take measures to modernize and improve the functioning of state electronic portals further, as well as to bring in compliance with the legislation on working with open and personal data:

- *improve the efficiency of electronic interaction between government agencies for the timely and convenient provision of electronic services to citizens and businesses;*
- *continue to ensure the appropriate security of the transferred personal data;*
- *eliminate gaps in industry regulations in terms of disclosure and protection of personal data transmitted through the "Tunduk" system, taking into account the best international practices and standards;*
- *ensure greater synchronization between departments in terms of creating business processes for managing data submitted for exchange through Tunduk, fixed by departmental regulations;*

2. Bring in line with international practice on regulatory requirements in the field of information security and responsibility for their observance, especially in the field of personal data protection.

Key parameters and principles of privacy protection were defined in the Universal Declaration of Human Rights of December 10, 1948, to which the Kyrgyz Republic joined back in 1994. One of the benchmarks in the world is the General Data Protection Regulation (GDPR) of the European Union, which is distinguished by unprecedented penalties for violating the requirements of the law. It is necessary to study and apply the principles and mechanisms for data protection:

- *implementation of a unified approach to the provision of personal data by government authorities for exchange in the Tunduk system (for example, development and posting on the agency's website and the Tunduk website of standard model agreements for private organizations interested in obtaining data in accordance with the law).*
- *ensure that agencies digitize existing information on paper in order to provide access to the necessary data. It is also necessary to promote the use of the Tunduk mobile application on the websites of state bodies in order to popularize the receipt of online access to the Tunduk system.*
- *ensure a clear regulation of the interaction of state bodies through the "Tunduk" system, to eliminate conflicts in normative regulation in matters of providing information of a personal nature. Together with the requirement of strict observance of such regulations, this will eliminate the desire of individual departments, observed in some cases, to provide information of a personal nature directly to citizens and businesses on a paid basis, which does not correspond to the "one-stop shop" principle.*

3. Build a system of training of civil servants in the following areas: skills of interpersonal and public communication (verbally and through electronic means), the ability to quickly adapt and increase the level of emotional intelligence (work in agile mode and psychological preparation), skills for building cooperation and interaction with everyone:

- *low level of skills and competencies of government officials impedes the introduction of digital services, as well as does not allow them to sufficiently educate the population on the*

benefits of using digital services, as well as to make proposals to rationalize business solutions for ease of use.

- *lack of understanding on the part of the majority of civil servants of the characteristics and factors of change in the behavioral environment of a citizen (habit, character), thinking and psychological characteristics in the digital world, because digital skills are not only the ability to work with office or personal equipment, it is the ability to adapt to new business processes, new requirements and preferences of the citizen when it comes to the provision of public services.*

4. Ensure the opening and operation of digital competence and skills centers, digital training centers, where interactive training (offline) and webinars (online) for the general population will be held:

- *dynamically developing digital world has changed the rules of interpersonal relationships. Completely new types of communications are being built, the value line of the planet's inhabitant is also changing dramatically. How well does the general public understand the depth of these issues?*
- *low level of skills and competencies in the field of DE is one of the most painful and priority issues for the government to address. The low level of skills and competencies delays the introduction of the digital economy, often citizens do not use possible digital public services due to ignorance or inability to use them, and instead use physical methods of obtaining, which creates a load on the system and increases health risks of citizens during a pandemic through queues. It also creates conditions for abuse of authority by individual employees of state bodies.*

Recommendations in the field of information and cyber security, digital and cyber resilience:

- *the Cabinet of Ministers should to provide funding for projects related to the implementation of the Cyber security Strategy, as well as to conduct training courses for government officials and heads of relevant departments on cyber security and other applicable ICT areas in cooperation with the Ministry of Digital Development of the Kyrgyz Republic, the Hi-Tech Park and other stakeholders public and private sector.*
- *the Cabinet of Ministers should ensure the improvement of the legislation of the Kyrgyz Republic in the field of responsibility for offenses / crimes in the field of information security, taking into account the development of information technologies, including using the experience of foreign countries (European Union, USA, Russia, etc.).*
- *the Cabinet of Ministers should develop and implement measures and mechanisms for digital resilience, cyber resilience and continuous operation of government bodies*
- *ensure close interaction of the state, private and civil sectors on cyber security, cyber resilience and create the necessary conditions for digital transformation and digital sustainability of government agencies, including through ensuring the country's energy security.*
- *consider the possibilities of developing alternative sources of electricity at the national level in the implementation of digital projects, digital integration of electronic platforms and digital transformation of the state.*

Recommendations for the creative digital economy:

- *Take measures for state support and the formation of a favorable regime for the creative industry, including through the creation of the Park of the Creative Industry of the Kyrgyz Republic*
- *Consider the possibility of introducing special simplified visas for international digital nomads (Digital Nomad Visa) with the aim of their work in the country to exchange experience and qualifications*

Conclusions:

- *As indicated above, the GKNB Coordination Center for Cyber security was established in May 2020. This body was recently established and has yet to develop practice in the field of cyber security. As noted in the Cyber security Strategy, in the process of its implementation, government agencies may face such risks as lack of understanding of the significance of the transformations being carried out, delaying the adoption of certain initiatives and decisions, and deliberately blocking them; insufficient literacy of state civil servants in the field of ICT, heads of state bodies in matters of cyber defense and cyber security; shortage of professional staff with high-quality knowledge and experience in the field of ICT; limited or untimely financing of projects related to the implementation of the Strategy.⁷⁶*
- *The types of liability for offenses in the field of information and cyber security are listed above. However, there is no responsibility for violations in the field of personal data protection with details of unlawful acts and the level of responsibility, including for state bodies. There is only a general rule on liability for violation of privacy. In addition, it is necessary to generally improve the legislation of the Kyrgyz Republic in the field of responsibility for these offenses, taking into account the development of information technologies, including using the experience of foreign countries (European Union, USA, Russia, etc.).*

⁷⁶ Paragraph 35 of Chapter VI of the Cyber security Strategy.

FISCAL REGULATION OF DIGITAL ECONOMY

It is important to review the proposed tax credits for digital payments for their effectiveness

The tax authorities recently introduced a three-year tax break for e-commerce firms of 0.1 percent of turnover (only applicable to non-cash transactions). After three years, the rate will return to 2 percent of turnover (previously, 12 percent VAT and a separate income tax were applied). The E-Commerce Association of the Kyrgyz Republic is currently seeking private sector input and assessing whether such a 2% rate contributes to growth. Initial findings (including from a poll conducted by the association) point to a split in the private sector in terms of support, as well as some concerns that while larger companies will benefit, smaller companies may be able to do everything. It will be difficult to cope with the taxation of turnover.

The proposed incentive period of 0.1% for e-commerce firms is three years. However, small and medium-sized enterprises and especially digital startups take longer to reap tangible benefits from this. To ensure the long-term development of e-commerce, the grace period should be at least 5, 10, not 3 years.

Considering that the 0.1% incentive is tied to a special bank account that receives digital payments revenues, it should be borne in mind that due to financial and digital literacy (and trust) issues, in any case, consumers will need more than three years to start increasing participation in digital payments. Thus, a 3-year period may not bring tangible results.

2% of turnover may be particularly unacceptable for e-commerce firms that are growing. Firms that made capital investments during the year may have high turnover, but their margins will be reduced due to costs. Taxation of turnover will further strain the company's finances, given the low net income for this year. A negative consequence may be that businesses will be deprived of the incentive to invest in expanding their activities, even when opportunities arise.

The impact on market-type platforms will also be significant given that these platforms only profit from their commissions and have a significant number of providers. Merely using turnover as a basis rather than profit creates a strong risk that companies will wind up..

It should also be noted that in the EU taxation is 3% on sales in US dollars in excess of 750 million. For a still immature economy like the Kyrgyz Republic, levying a 2% tax is a rather “drastic maneuver”, the consequences of which needs to be carefully scrutinized.

Policymakers need to scrutinize the role, benefits and threats associated with international markets (and other multinational digital service providers)

Initial research shows that there are currently no international markets (directly active) in the Kyrgyz Republic. The draft law on electronic commerce may require international markets for the sale of goods and services to consumers in the Kyrgyz Republic to be registered as taxpayers with the authorities of the Kyrgyz Republic and pay the relevant taxes, which could affect the number of markets created in the country and limit their development. This can affect the number of markets created in the country. Such markets, especially those that open their doors to Kyrgyz SMEs and provide export opportunities, may be necessary to stimulate growth in this sector. This is an undefined area that should be assessed by politicians

The Kyrgyz Republic seeks to capitalize on the presence of international markets in the country by introducing tariff measures for individual parcels. The draft law on electronic commerce provides for the registration of international trading platforms for the sale of goods and services to consumers in the territory of the Kyrgyz Republic as taxpayers in the authorities of the Kyrgyz Republic and the payment of appropriate taxes by them. This situation should be controlled, as this may limit the number of trading floors created in the country.

A debate is currently underway in the Kyrgyz Republic on the taxation of multinational corporations providing digital services. This includes both social media companies and search engines. The intention to tax large multinationals such as Facebook and Google is partly prompted by the example of Russia, which began to apply a digital tax on services consumed in the country starting in 2017. Other Central Asian countries are currently looking at the example of Russia. For example, recently Uzbekistan has also adopted a Digital Tax code. Local businesses do not support this innovation, as they believe that it will lead to higher prices for Google, Facebook services (for example, marketing and advertising services). In addition, the Kyrgyz tax authorities do not have sufficient capacity to administer the collection of taxes on such transactions, and the costs of tax administration may outweigh the tax benefits for the state budget. The leadership of the Association of Electronic Commerce of the Kyrgyz Republic adheres to the same opinion.

Most countries provide tax incentives and subsidies to create a more favorable environment and to stimulate online entrepreneurship. For example, in neighboring Kazakhstan, e-commerce market participants were exempted from corporate tax and income tax, subject to basic rules such as:

- sale of goods via the Internet;
- delivery of goods through our courier services or through outsourcing;
- cashless payments;
- more than 90% of the company's revenues should come from e-commerce.

There are many examples of supporting the development of e-commerce in world practice, it is also important here, in the Kyrgyz Republic, to start active interaction between the government and business associations. Start discussing the possibilities and prospects for the development of e-commerce, conduct high-quality research.

It is important to remain flexible in the digital age and quickly adapt to the new realities of the digital economy. It is necessary to constantly develop a favorable environment for the growth of e-commerce, establish trade corridors with other countries and thereby develop the country's export potential through cross-border e-commerce.

Main conclusions and key challenges:

- 1. The current regime of registration of e-commerce subjects, current work, collection of statistical data, administration, including tax administration, are not adapted to the realities of the digital economy.***

A set of measures is needed aimed at a simplified, affordable, technological process of providing convenience for domestic consumers, manufacturers and exporters, as well as the administration of the sector by government agencies.

- 2. Often, starting a business, especially in terms of export, is associated with increased requirements, a large number of subcontractors and outsourcing services (payment services, delivery, call centers, hosting and Internet providers, etc.), large investments and costs.***

The state needs to ensure a simplified tax administration, simplified in terms of calculations, as well as in the format and frequency of reporting, and preferential tax administration so that entrepreneurs can invest in knowledge, skills and intangible assets (IT, high-quality photo, video content, CRM, ERP systems, digital marketing, etc.).

- 3. Products and services from the Kyrgyz Republic often do not withstand price competition; domestic exporters, when trading with some countries, pay double taxes.***

It is necessary to re-prioritize and audit the current list of countries with which the Kyrgyz Republic has signed agreements on avoidance of double taxation, since the list does not meet the requirements and needs of modern exporters (IT, export of services and creative economy), such as Ireland, USA, UK, etc.

DIGITAL ECONOMY OF THE KYRGYZ REPUBLIC: ANALYSIS OF SECTORS

PAYMENT SYSTEM

The NBKR together with the Government of the Kyrgyz Republic initiated the development and adoption of the State Program to increase the share of non-cash payments and settlements in the Kyrgyz Republic for 2003-2005, 2012-2017 and 2018-2022 (third stage) to increase the turnover of non-cash funds. In addition, the NBKR systematically develops the payment system by adopting the Main directions for the development of the payment system for 2012-2014, 2015-2017 and 2018-2022, and in 2020, the NBKR approved the Concept for the development of digital payment technologies in the Kyrgyz Republic for 2020-2022. The NBKR is carrying out a phased modernization of the EIPC - the operator of the national system "Elcard" to increase capacity and ensure uninterrupted operation. In addition, NBKR also initiated the creation on the basis of CJSC "IPC" of a single center for processing retail transactions with bank payment cards and the transfer of government servants' salaries, pensions and benefits to the national card "Elcard". In 2016, CJSC "IPC" introduced a new card with a microprocessor - a chip card "Elcard" to increase the level of security. Chip cards "Elcard" comply with international standards, which also facilitates the implementation of the possibility of servicing cards both on the territory of the republic and abroad in the future. The Kyrgyz Republic, as a member of the EEU, is implementing integration projects with the Russian national system of payment cards (NSPC) and the beginning of the study of issues of integration of national card systems of countries, which will ensure the acceptance and maintenance of cards of the national system "Elcard" abroad, as well as cross-border payments and the development of electronic trade for which the NBKR joined the Agreement on the establishment of a working group to coordinate the development of national payment systems in order to ensure the efficient and safe functioning of payment systems within the EEU.

The Interbank Processing Center (hereinafter referred to as the IPC), along with the batch clearing system and the gross settlement system, forms the basis of the country's payment system, which facilitates payments. This system is aimed at performing settlement functions in the market for retail payments for goods and services, which reduces the need of cash payments and expands the widespread access of the general population with low incomes to banking services (through the use of ELCART payment cards). In 2020, the IPC became an operator of interaction for making payments using two-dimensional QR codes. Despite the significant achievements of the IPC, in conditions when modern technologies in the field of cashless payments are developing rapidly and need of constant development and investment in technologies, the corporate structure of the IPC, where a significant block of shares belongs to the NBKR (other shareholders are also commercial banks) does not allow flexible and quick acceptance solutions, especially in terms of introducing new services and investments in technologies. The low level of financial literacy of the population also affects the level of pervasion of remote financial services, since due to low literacy, a significant part of the population is prejudice toward non-cash instruments, while trusting to cash more.

The Decree of the President of the Kyrgyz Republic dated February 02, 2021 provides for measures for the further development of the financial market, including a number of initiatives:

- setting threshold amounts for making cash payments to increase the share of non-cash turnover and reduce the level of the shadow economy;

- measures to stimulate legal entities and individual entrepreneurs to provide an opportunity for buyers / consumers to pay for goods / services by non-cash method, including using a QR code;
- development of bills to introduce regulation of the turnover of cryptocurrencies to create a legal basis for their turnover, protect consumer rights and reduce risks;
- formation of databases of state bodies and local self-government bodies in order to obtain information by financial and credit organizations for the implementation of lending through remote service channels, as well as to include financial and credit organizations in the process of interdepartmental electronic interaction.
- introduction of online lending;
- ensuring the issuance of contactless cards, as well as widespread acceptance and maintenance of contactless cards of the national payment system "Elcard" in all its peripheral devices on the territory of the Kyrgyz Republic via a contactless interface;
- mutual integration of their electronic money settlement systems together with operators of electronic money settlement systems operating in the territory of the Kyrgyz Republic to ensure interoperability (interoperability) and create a single ecosystem of electronic money throughout the territory of the Kyrgyz Republic;
- expansion of banking and payment infrastructure in the regions.

All statistical data indicate that non-cash payments occupy an insignificant part in the money turnover in the country and settlements between entities, both physical and business entities. According to the NBKR, despite the fact that there is a tendency towards an increase in the share of non-cash funds in the banking system, the situation in which the bulk of financial settlements is carried out outside the banking system continues to persist. There is also a lack of transparency in cash flows, and, as a result, the level of the shadow economy remains high and the problem of the prevalence of cash in settlements remains quite acute.

A combination of factors such as a relatively small population, insufficient access to international capital markets, high operating costs, and a low level of financial literacy of the population determine the low indicators of financial intermediation in the country as a whole, including non-cash payments. Significant operating costs also affect the level of fees charged by banks on new technology products.

Ensuring interoperability and creating a single ecosystem of electronic money throughout the country will significantly accelerate the development of digital financial services. Today, there are already quite a lot of local payment instruments and the rapid introduction of interoperability will contribute to the use of electronic wallets by the population and the growth of non-cash payments. According to the Concept for the Development of the Payment System, there are currently a number of reasons that impede the further development of digital payment technologies in the Kyrgyz Republic, especially in the regions, the main of which are:

- a limited number of operations available for legal entities and individuals through existing remote service channels due to the lack of a remote customer identification system;
- lack of intersystem integration between all participants in the payment market;
- comparatively low level of customers' use of digital channels when interacting with participants in payment systems;
- imperfect legal framework that does not regulate the use of innovative digital payment technologies and products;
- lack of high-quality Internet infrastructure in the regions of the republic.

Ratio of cash and non-cash money in the banking system (million KGS)

Indicators	as of 31.12.2015		as of 31.12.2016		as of 31.09.2017	
	million soms	%	million soms	%	million soms	%
Cash in circulation (money outside MO banks)	53118,0	64,6	69338,8	60,1	81402,8	59,7
Non-cash money (money in the banking system (M2-M0))	29149,3	35,4	46105,3	39,9	54884,0	40,3

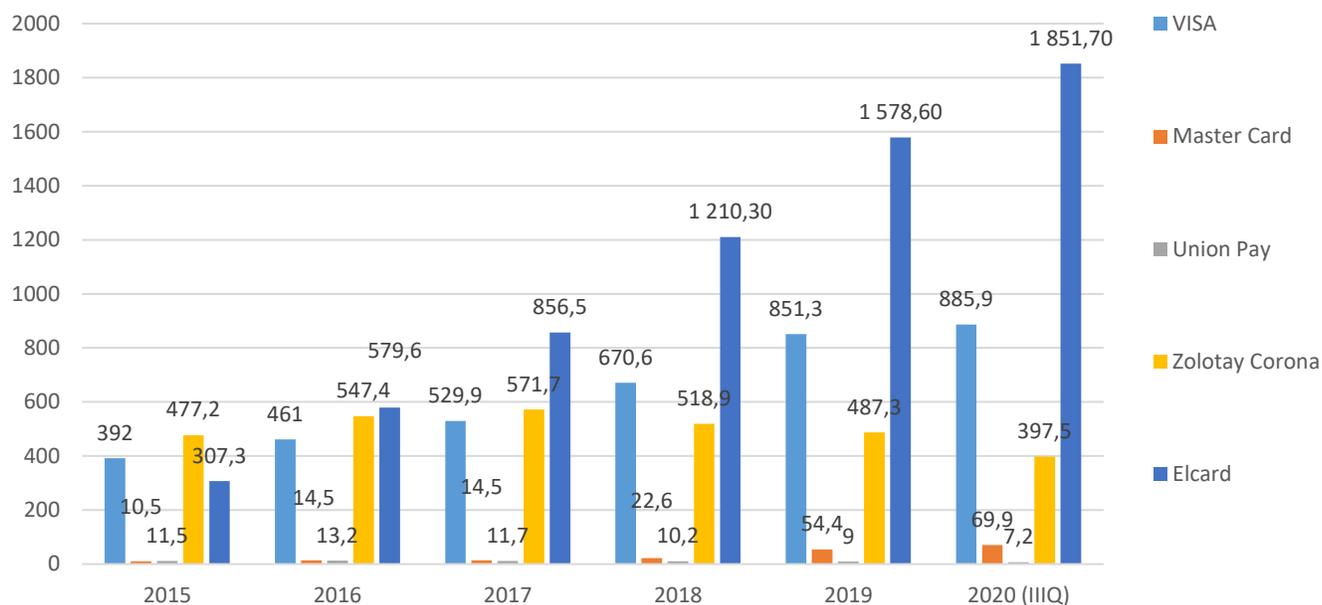
The National Bank carries out intensive work in an effort to respond to modern challenges, as well as problems caused by the specifics of the economy. In 2019, the NBKR approved the Main Directions for the Digital Transformation of Banking Services of the Kyrgyz Republic for 2020-2021. The document reflects a number of principles for implementation in the process of digitalization of banking services in the long term in organizing the activities of banks, including the availability of banking services (price and geographic); information security of the services provided; protection of personal data of users; sustainability and continuity of operations.

It is necessary to accelerate the implementation of the planned tasks taking into account the above factors and current trends in the development of the banking system. Open Banking is a technological evolution of banking that allows customers to use banking services in the context of other services (for example, services provided by Fintech), thereby integrating the innovative functions of banks and non-banks. Open Banking provides an efficient financial ecosystem for doing business as needs and solutions are linked. Open Banking provides an opportunity for enhanced interaction between banks and third-party providers such as Fintech, ultimately resulting in an integrated, customer-centric service delivery and value creation for all parties involved. The Open Banking Initiative is breaking down pre-existing boundaries in the banking industry by transforming relationships between key industry stakeholder groups. This approach provides both the creation of new models of cooperation and the improvement of the quality of customer service as the basis of the Open Banking Initiative.

Payment card market

The payment card market has changed significantly over the past 4 years. The total number of bank payment cards in circulation as of October 1, 2020 amounted to 3,212.4 thousand cards, an increase of 3.7 times compared to October 1, 2014, when there were 847,253 cards in circulation. More than 50% of the cards on the market belong to the national Elcard card. The presence of China's Union Pay and Master Card is still negligible.

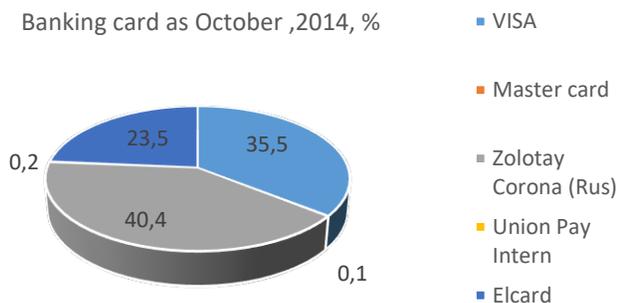
Dynamics of the number of payment cards, thousand pieces.



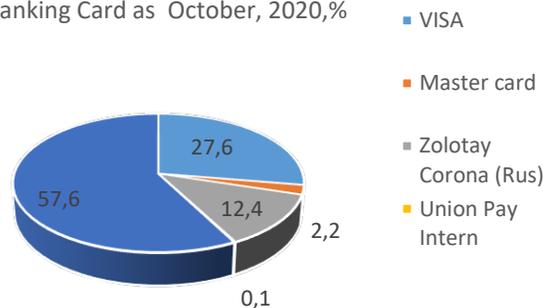
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The ratio of the number of payment cards

Banking card as October ,2014, %



Banking Card as October, 2020,%



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Elcard is a debit card issued mainly for salary and social projects, and is not used for e-commerce and international purchases. Since 2016, it has been released as a more reliable chip card. In 2019, The Elcard mobile application realized making instant transfers to the Elcard card of any bank in Kyrgyzstan, replenish the mobile phone balance, pay for various services, receive a mini-statement, payment history, etc.

In 2019, work was carried out to implement the intersystem integration of the national payment system Elcard with the Russian national payment card system Mir, as a result of which, at the end of

⁷⁷ Annual Report of the NBKR 2019, as well as the NBKR Report on the state of the payment system for Q3 2020

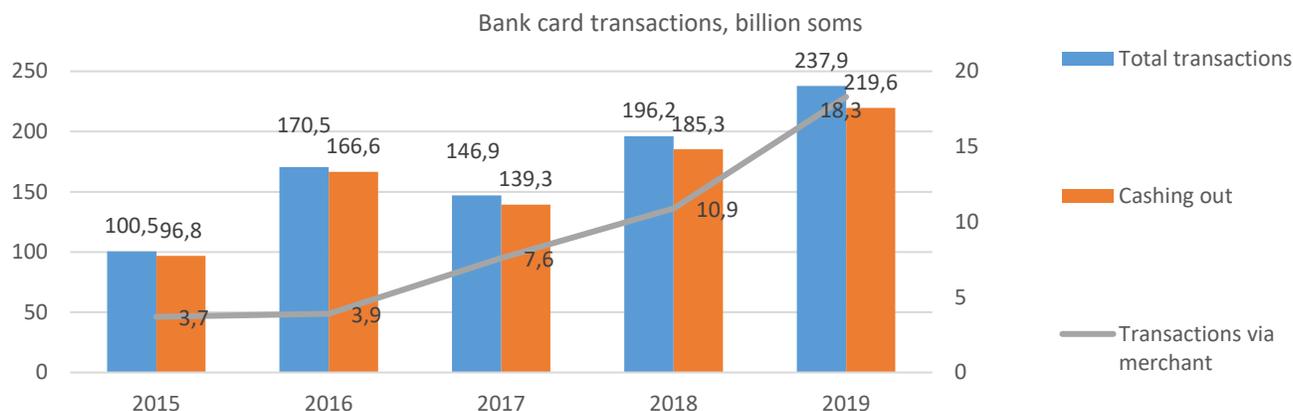
⁷⁸ Annual report of the NBKR, 2014, as well as the NBKR Report on the state of the payment system for the 3rd quarter of 2020.

⁷⁹ Annual report of the NBKR, 2014, as well as the NBKR Report on the state of the payment system for the 3rd quarter of 2020.

2019, ATMs and terminals of most commercial banks of the Kyrgyz Republic have started to accept Mir cards (ATM 18 banks and terminals of banks).

The main operations carried out with bank cards are cash withdrawals (more than 80% of the volume of all transactions), which is associated with both the demand for cash, low income, and the insufficient number of POs terminals at service points, especially in regions, as well as the lack of long-term and sustainable skills of the population in the use of cashless payments.

Operations using bank cards



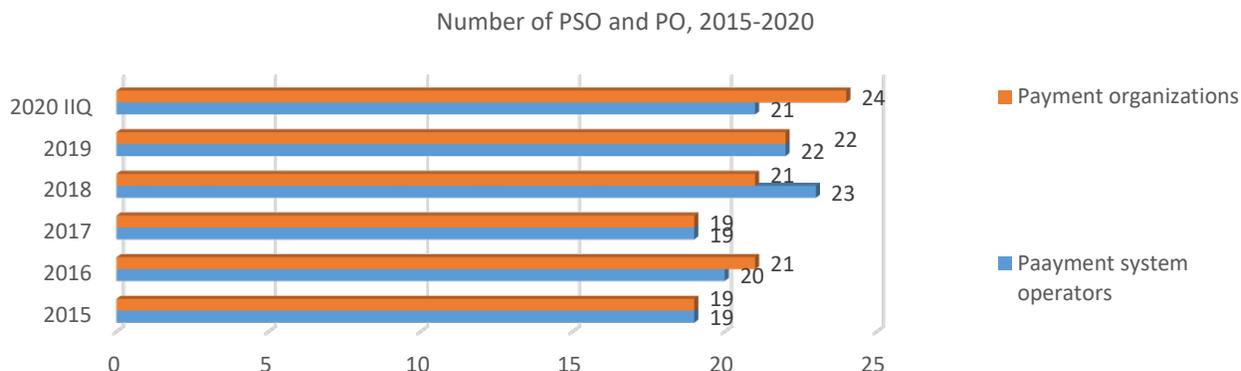
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Payment system operators (PSO) and payment organizations (PO)

It should be noted that non-banking institutions play a significant role in the market of payment instruments in Kyrgyzstan, which turned out to be more flexible and responsive to the demands of service consumers, providing them with innovative, convenient and affordable services.

Since 2015, the activities of the PSO and software have been licensed by the National Bank. During this period, 4 POs had their licenses revoked, and 5 POs ceased their activities. Today there are 21 PSOs and 24 POs on the market.

Number of PSOs and POs in 2015-2020

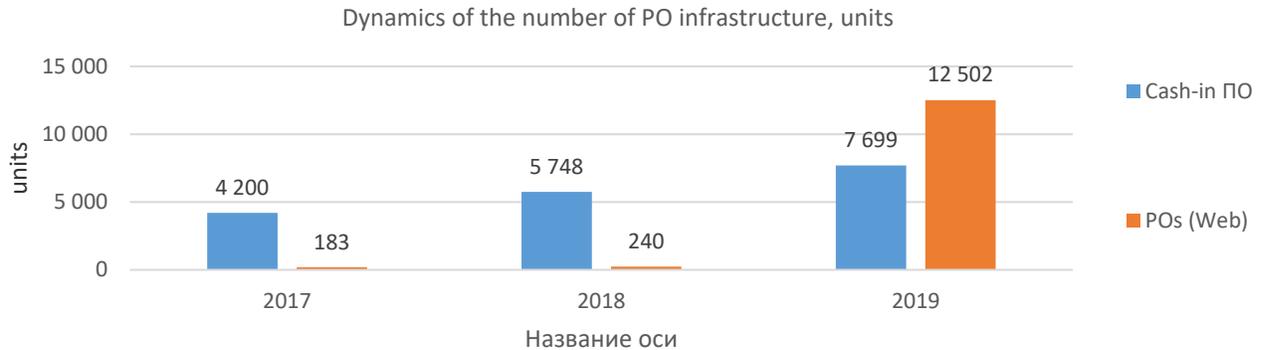


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⁸⁰ Annual reports of NBKR, 2015- 2019

Payment organizations accept payments in favor of third parties (about 23 types of payments in total) using payment terminals, agent network.

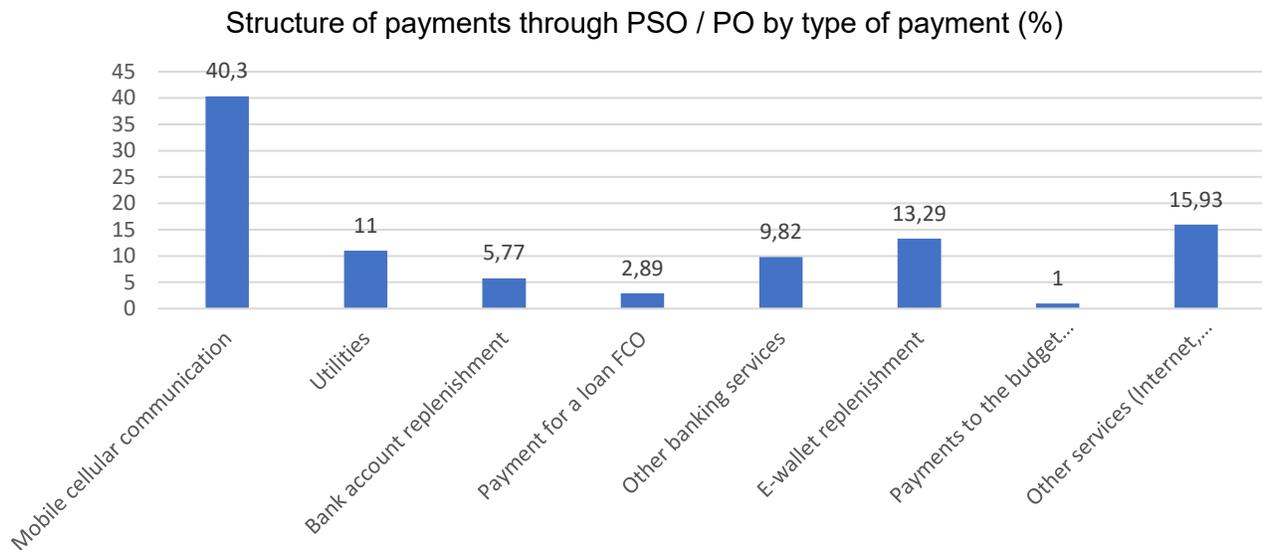
Infrastructure (cash-in, POs, web) 2017-2019



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The main share in the volume of payments is occupied by settlements for mobile communications, replenishment of electronic wallets, payments in favor of state and utility suppliers of goods / services (utilities, tax fees, fines to the Traffic Police, other payments to the state budget).

Structure of payments through PSO / PO by type of payment (%) in IIIQ 2020.



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Despite the fact that the number of payments is decreasing, the volume of payments is increasing.

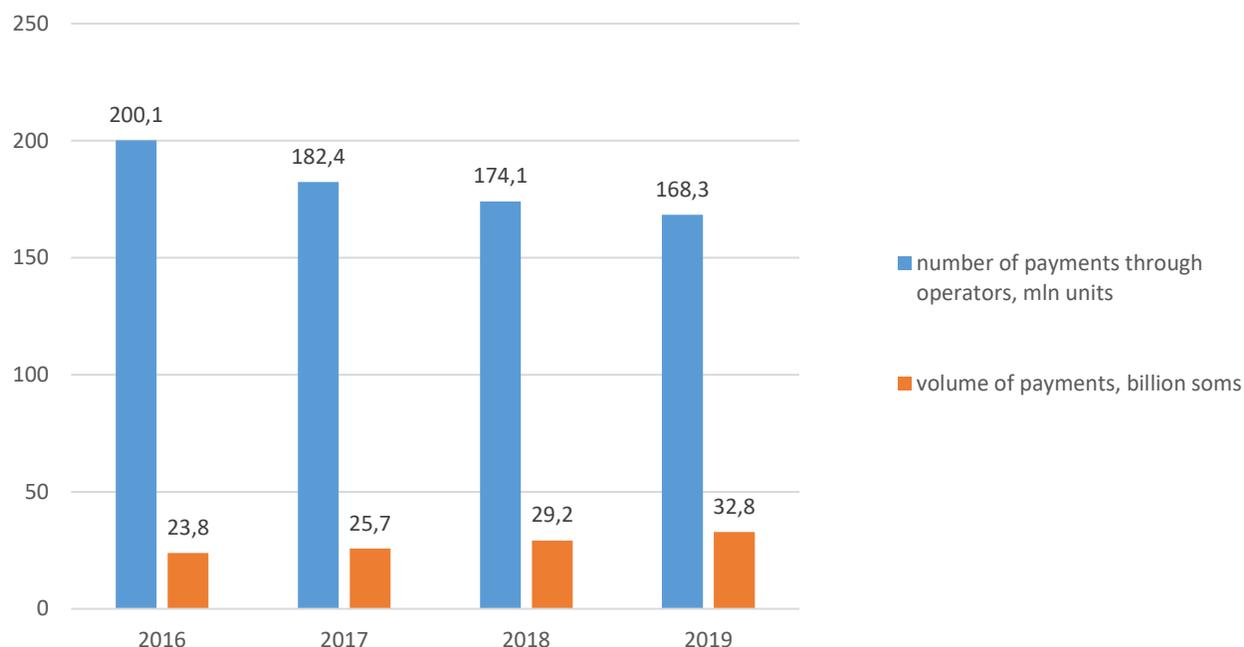
Dynamics of the number and volume of payments made by PSO/ PO

⁸¹ NBKR Report on the state of the payment system for Q2 2020, Annual reports of the NBKR 2016-2019.

⁸² NBKR Annual Reports 2016-2019.

⁸³ NBKR, Information on the state of the payment system for Q3. 2020

The number and volume of payments made by payment institutions



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Main conclusions and key challenges:

1. *The statistical data announced by the NBKR in the field of the development of non-cash payments unambiguously indicate a significant step forward over the last decade in the development of payment infrastructure and non-cash payments by adopting the appropriate regulatory acts, creating a payment infrastructure and popularizing them within the framework of the implementation of State programs to increase the volume of non-cash payments. However, the observed results indicate the insufficiency of these measures: cash transactions still prevail over non-cash transactions. these indicators are due to the presence of the shadow economy. One of the measures to increase non-cash transactions, which will also have a positive effect on the revenue side of the country's budget and the fight against corruption, is the introduction of a uniform requirement to establish a threshold transaction amount above which transactions must be carried out only in non-cash form, and its strict observance. It is also possible to consider further stimulation of non-cash payments in the form of lowering some local taxes.*
2. *Taking into account such factors as the small size of the state economy, a relatively small population, insufficient access to international capital markets, investments in new technologies, including in the banking sector, are significant, which create high operating costs for financial institutions, it is necessary at the state level consider the possibility of implementing solutions based on interoperability (interoperability) in the banking sector. this approach will reduce the operating costs of banks and other payment organizations when introducing new technologies to provide new innovative digital payment technologies and products.*

3. *The presence of the NBKR as the main shareholder causes a conflict of interests in the corporate structure of the Interbank Processing Center, and the limitation of the NBKR's ability to make flexible investment decisions as a state body does not allow the MPC to develop so quickly as required by modern technology*
4. *It is necessary to accelerate the implementation of modern approaches based on the adoption of open APIs in banking by raising awareness in the banking sector about Open Banking for all stakeholders: the regulator, banks, financial technology, consumer protection, banking and the financial technology association; it is also necessary to define, test and implement a set of user experience standards for different use cases in order to standardize for different use cases based on customer feedback.*
5. *The challenges of the modern world in digital finance, associated with the rapid development of technologies and high competitiveness, can be timely adapted only with sufficient flexibility in decision-making and constant study of advanced international practices with their subsequent implementation by the regulator. The National Bank and the Ministry of Digital Development need to pursue a more flexible policy of making regulatory decisions in order to provide opportunities for the introduction of innovative financial products in the country's market.*

FINANCIAL SERVICES

Accounts

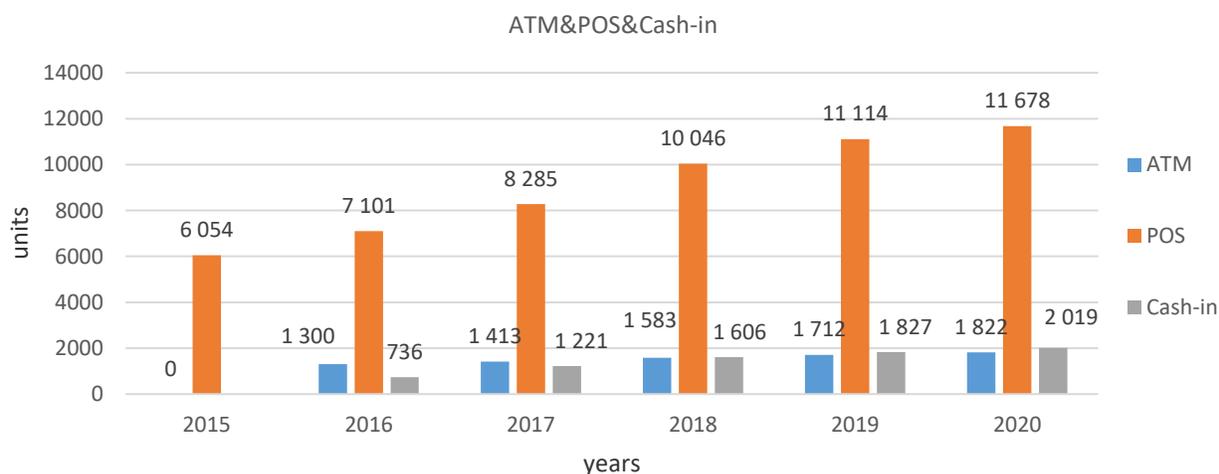
Account ownership has grown significantly since the start of the project from 327 accounts per 1000 adults to 684 accounts per 1000 adults in 2020. The share of the population with bank accounts in 2020 was over 65% versus 18% in 2014. This growth is largely due to the fact that starting from 2016, according to the joint Resolution of the Government of the Kyrgyz Republic and the NBKR dated February 29, 2016 No. 92/76/4⁸⁵, all payments to employees of budgetary organizations, pensioners, recipients of social benefits are gradually transferred to the national card "Elcard".

To date, all public sector employees receive their wages by transferring to the Elcard payment card. Social payments to bank cards are received by 55.6% of the total number of recipients, and pensions - 55.1% of the total number of pensioners⁸⁶. It is assumed that within 2 years, this category of recipients will completely switch to card service.

The availability of branches (savings points) of commercial banks in the Kyrgyz Republic, in terms of their geographical coverage, measured by the number of branches per 1000 square meters, and population coverage, measured by the number of branches per 100,000 adults, has significantly increased compared to 2014, but still insufficient to meet the demand for banking services, especially in the regions. The high cost of servicing bank branches prevents them from opening in remote, sparsely populated or hard-to-reach areas.

The measures taken by the NBKR and the Government aimed at the development of the banking infrastructure (exemption from VAT when importing ATMs, terminals, as well as a zero Sales tax rate when paying by card), and the obligations of banks to install them in this regard, influenced the growth in the number of ATMs and other banking payment equipment.

Dynamics of the number of ATMs and Pos-terminals, banking terminals



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⁸⁵ <http://cbd.minjust.gov.kg/act/view/ru-ru/99036?cl=ru-ru>

⁸⁶ <https://www.nbkr.kg/DOC/17042020/000000000054456.pdf>

⁸⁷ Annual report of the NBKR, 2019

However, despite the progressive increase in ATM penetration in terms of geographic coverage and in terms of the number of ATMs per 100,000 adults, Kyrgyzstan has not reached the level of ATM prevalence in developed countries. At the same time, most of the ATMs and terminals are concentrated in large cities and towns.

Financial services availability

Year	Number of branches (savings bank) per 1000 sq. km		Number of ATMs per 1000 sq. km		Branches per 100,000 adults		Number of ATMs per 100,000 adults	
	2014	2020	2014	2020	2014	2020	2014	2020
Kyrgyz Republic	1.8	5.7	6.4	8.8	8.4	30.5	30.7	47.3

Agent network

Agency (branchless) banking is a model for the provision of financial services with the involvement of third parties (agents). Organizations such as chain stores, cell phone stores, and so on can act as agents. Attracting agents allows one to expand the geography of a financial institution's presence without additional costs for organizing the work of branches, which increases financial inclusion, and is mutually beneficial, since clients get access to financial services, and financial institutions get access to clients without significant costs.

Banking agents play a special role in improving the financial inclusion of the payment services market. Attracting agents allows commercial banks to expand the provision of financial services to the population for accepting and making payments and settlements for goods and services, repaying loans, replenishing a bank account, replenishing electronic wallets, issuing cash from bank cards from a payment card to merchants' cash desks through POS terminals, accepting payments to the budget, etc., especially in the regions.

Banks attracted 71 agents⁸⁸ providing an extended range of services and 456 agents providing a limited range of services in 2020.

The NBKR expanded the list of retail agents that can provide agency services, and subsequently expanded the list of services provided by agents, giving them the right to distribute / redeem electronic money, issue cash from bank cards, accept payments to the budget (fines, taxes, customs duties), including the use of mobile applications and QR codes, withdraw cash from a payment card at the cash desks of trade and service enterprises through POS terminals in 2018.

Almost half of the country's settlements, including remote ones, are covered by an agency project with two banks for the payment of pensions, benefits and wages to the population with bank payment cards using POS-terminals and making payments for utilities, taxes and other payments through 321 postal service branches of the State Enterprise "Kyrgyz Pochtasy".⁸⁹

Electronic wallets

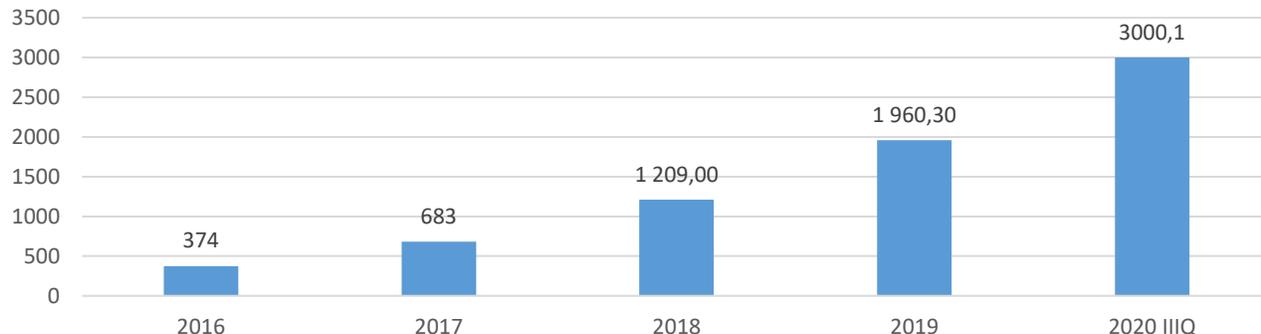
⁸⁸ An agent providing an extended range can repay loans, replenish accounts, issue cash from bank cards, accept payments to the budget, make money transfers through money transfer systems; distribution / redemption of email money, etc.

⁸⁹ [Annual Report 2019 NBKR](#)

Electronic money is gaining more and more popularity in the Kyrgyz Republic, having increased 8.6 times since the beginning of registration of electronic wallets.

Dynamics of the number of e-wallets

Dynamics of the number of electronic wallets (thousand units)

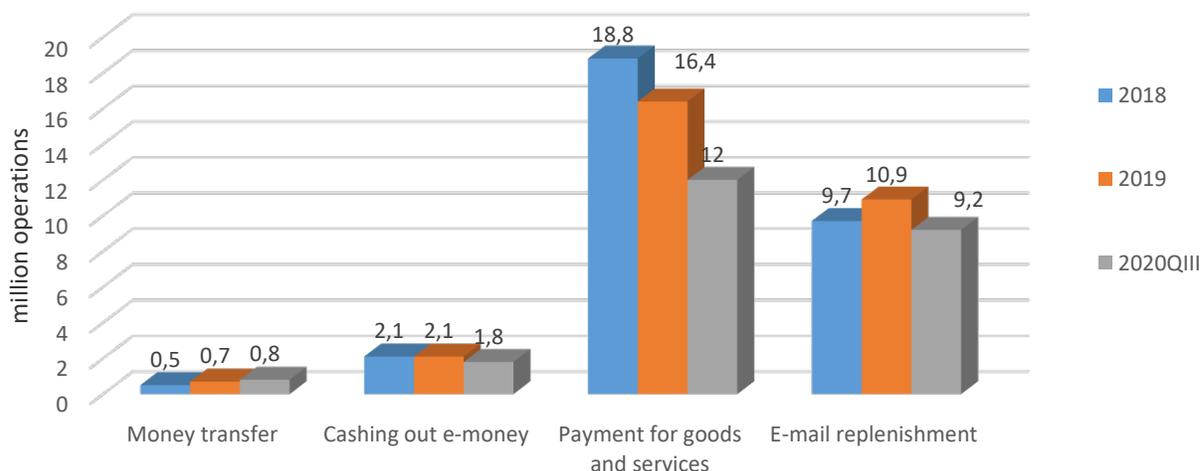


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There is a tendency of indicators growth for electronic money, which is associated with the simplicity, convenience and safety of their use, the ability to make instant payments. Emitters of electronic money are nine commercial banks, and eleven electronic money settlement systems are in operation. The Government adopted a normative act that terminates the effect of “unidentified” ones, which affected certain statistical data for the period, but the identification process is quite active, which emphasizes the convenience of this financial instrument for the population in 2020.

Dynamics of the number of transactions on e-wallets

The number of transactions by e-wallets, million operations



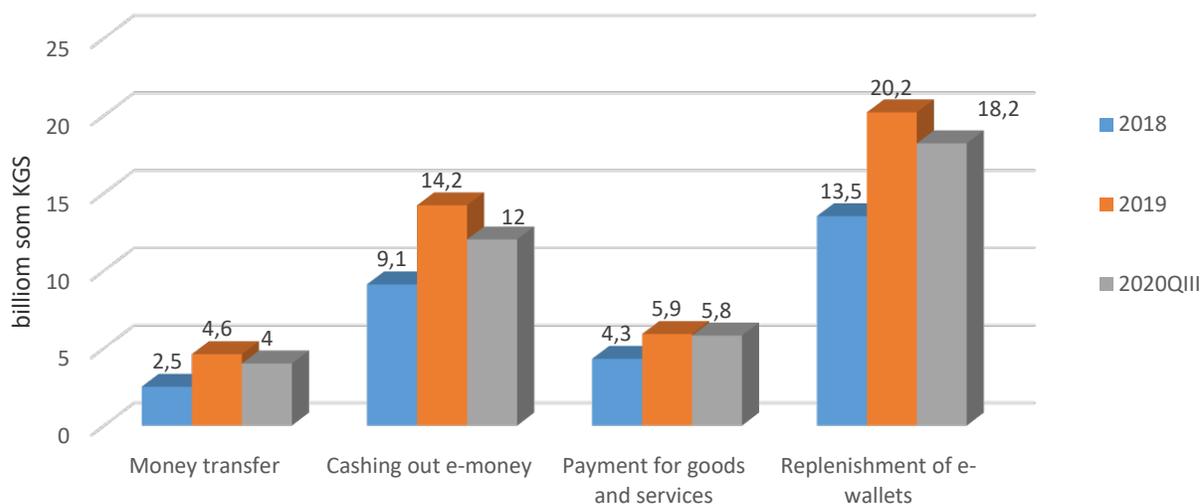
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Volume of transactions by email wallets 2018-2020 IIIQ, billion soms

⁹⁰ Annual report of the NBKR, 2019

⁹¹ NBKR, Information on the state of the payment system for Q3. 2020, NBKR Annual Report 2018-2019

Volume of transactions by e-wallets 2018-2020 IIIQ



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Electronic wallets can be replenished in any terminal and from the bank Elcard. Money from the balance of the wallet can also be transferred to the Elcard card and withdrawn from any ATM, or paid for the purchase. The functionality of e-wallets is constantly expanding. Recently, operations have become available to replenish Russian payment cards VISA, MasterCard and MIR from an electronic wallet with a maximum transaction amount per day - 15,000 RUR. and 200,000 RUR per month. The commission is 2% of the amount, the conversion is carried out at the rate of the Kyrgyz bank. It is also available to replenish the purses of some banks through the QIWI Wallet or QIWI terminals in Russia and Kazakhstan. The maximum transfer amount per day is 100,000 RUR, and per month - 200,000 RUR.

At the same time, with the growing proliferation of e-wallets, there are a number of constraining factors. First of all, this is the underdevelopment of the ecosystem for the development of electronic wallets: an insufficient agent network, a limited number of points that accept payments through an electronic wallet.

⁹² NBKR, Information on the state of the payment system for Q3. 2020, NBKR Annual Report 2018-2019

E-CASH AND E-BANKING

Payment system of the Kyrgyz Republic is regulated by the civil legislation of the KR⁹³ and sectorial Law of the KR “On Payment System of the Kyrgyz Republic” dated 21 January 2015 No. 21 (Law on Payment System) as well as subordinate legal acts of the National Bank of the KR, and laws and regulations of the Government of the KR.

The Law on Payment System provides for the procedure and forms of payments and settlements, money transfers in the KR, determines features of payment systems, procedure for mutual relations between participants of payments and settlements, supervision over payment systems and establishes powers of the NBKR in the payment system of the KR. Clear and precise legislation is of high importance for development of competitive and qualitative payment market.

The NBKR has initiated a set of complex changes in the legislation to encourage non-cash settlements and provide accessibility of banking infrastructure, regulate non-bank institutions, develop electronic payments, protect consumers’ rights, support reliable and secure payment system.

The new Law “On National Bank of the Kyrgyz Republic, Banks and Banking Activity” dated 16 December 2016 № 206 (Law on Banks) entered into force. One of the significant innovations of the Law on Banks were provisions dedicated to protection of clients’ rights and interests, and first of all those of individuals. The Law on Banks prohibits banks from unilateral changing contractual terms if it worsens client’s position. The Law established the main requirements for banking services provision and disclosure of information. Due to large number of payment transactions conducted by non-bank institutions and necessity of adequate control over risks, within supervision activity, provisions on mandatory licensing of the activity of payment organizations and payment system operators and provisions on applying impact measures to payment system participants and applying measures to protect rights of payment services consumers.

New version of the Regulation on licensing of the activity of payment organizations and payment system operators was adopted in 2019. Qualification requirements for officials and participants of payment operators have been strengthened, amount of charter capital has been increased depending on significance of a system.

Some amendments were introduced into the Tax Code in 2018 to expand payment infrastructure, increase non-cash payments, transparency of financial flows providing for exemption of commercial banks from VAT when importing banking equipment (automated banking machine, point-of-sale (POS) terminals, payment terminals and banking stands) until 2022. In order to provide protection of rights of clients – holders of banking cards, in December 2015 the Resolution of the Government of the KR “On Measures to Protect Consumers’ Rights” was adopted. The Resolution provides for mandatory establishment of POS terminals by trade and services enterprises to receive payments for goods and services in non-cash form.

In August 2020 the NBKR adopted the Regulation “On Special Regulatory Regime” to reduce barriers when introducing innovative services/ technologies on the market of banking and payment systems by existing and new participants, in order to increase accessibility of services, develop competition and decrease cost of financial services. Within the mentioned regime participants have the possibility to test a new product/ service which have not existed before in banking and payment

⁹³ Chapter 38 on Settlements of the Civil Code of the KR (Civil Code).

systems, within a limited environment or within a limited volume. If a pilot project is tested successfully within the regime of regulatory sandbox, the NBKR will introduce relevant amendments in laws and regulations in order to eliminate obstacles for provision of services/ technologies which have passed testing. Currently the NBKR is testing a pilot project with a microfinance institution within the regulatory sandbox and is considering potential applications from interested parties.

The NBKR approved the following strategic documents:

- Main directions of development of the payment system of the Kyrgyz Republic for 2018-2022 (Appendix to the Resolution of the Board of the NBKR dated December 13, 2017 No. 2017-P-14 / 51-7- (PS));
- State program on increase the share of non-cash payments and settlements in the Kyrgyz Republic for 2018-2022 (third stage) (approved by the Government of the Kyrgyz Republic and the NBKR dated March 28, 2018 No. 166 / 51-6);
- Concept for the development of digital payment technologies in the Kyrgyz Republic for 2020-2022 (Appendix to the Resolution of the Board of the NBKR dated March 27, 2020 No. 2020-P-14 / 17-4- (PS)) (Concept);
- Main directions of digital transformation of banking services of the Kyrgyz Republic for 2020-2021 (Appendix to the Resolution of the Board of the NBKR dated November 15, 2019 No. 2019-P-12 / 56-2- (BS)).

The Concept highlights the following main directions of development of digital payment technologies between 2020 and 2022:⁹⁴

- Legal regulation;
- Creation of conditions for development of digital payment technologies;
- Development and improvement of payment infrastructure;
- Creation of integrated payment space within the EAEU.

During the last years the KR at the state level has been conducting systematic and consistent work on implementation of measures of State Program for Increase of Part of Non-Cash Payments and Settlements aimed at universal use of non-cash payments, development of infrastructure for receipt of electronic payment instruments and channels of distance servicing. Currently payments may be made in different electronic ways and by different payment instruments. However, high rate of introduction of digital technologies in total requires participants of payment sector to search for ways to increase competitiveness and efficiency of their activity on the payment services market and requires the regulator to create favorable conditions to develop digital interaction and its secure, reliable and effective implementation.⁹⁵

The Concept points out that regulation in the area of digital payment technologies provides for creation of necessary conditions for their application, inter alia, by increasing flexibility in the regulation, improving instruments of protection of rights of digital payment services' consumers, as well establishment of requirements for improving information security and personal data protection.

According to the Concept, it is necessary to create inter-departmental working group to regulate and introduce measures of support of digital payment technologies, which will consist of representatives

⁹⁴ Chapter 2 of the Concept on DPT.

⁹⁵ Chapter 3 of the Concept on DPT.

of state bodies and business community. The work of such a group will allow to identify and eliminate legal issues which make obstacles for development of digital technologies in payment sphere, inter alia, by preparing and approving laws and regulations for development of innovative payment business models, introduction of digital business processes, products and services.⁹⁶ It is important to clarify the status of the above mentioned working group with the state bodies, NBKR and relevant associations.

Conclusions and key challenges:

1. *The main objectives of the special regulatory regime for the introduction of innovative banking operations and services are: reducing legal uncertainty and legal risks for market participants; defining acceptable and accessible rules for the pilot use of innovative banking operations and services; accelerating the selection and entry into the market of innovative banking operations and services; development of legal and other regulatory requirements for new public relations arising from the introduction of innovative banking operations and services; increasing the availability of banking operations and services for consumers and reducing the cost of their implementation. Such regulatory sandboxes can significantly accelerate the development of the digital economy of the Kyrgyz Republic, and the NBKR, as a regulator, has an essential role in this process. It is necessary to further liberalize the legislation of the Kyrgyz Republic in this area to stimulate innovation within the framework of regulatory sandboxes.*

2. *As indicated in the Concept for, there are a number of reasons that impede the further development of digital payment technologies in the Kyrgyz Republic, especially in the regions, the main of which are:*
 - a limited number of operations available for legal entities and individuals through existing remote service channels due to the lack of a remote client identification system;
 - lack of intersystem integration between all participants in the payment market;
 - a relatively low level of use of digital channels by customers when interacting with participants in payment systems;
 - imperfect legal framework that does not regulate the use of innovative digital payment technologies and products;
 - lack of high-quality Internet connection in the regions of the republic.

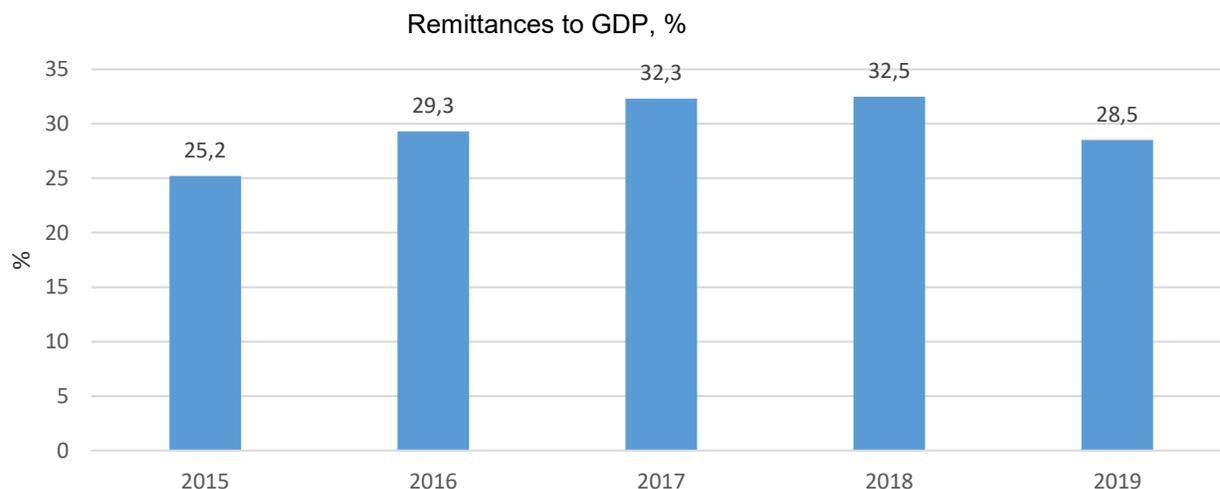
1. *The state bodies of the Kyrgyz Republic and the NBKR have developed a significant number of legal acts in the field of the banking and payment system. Strategic documents have also been worked out in detail and provide for the corresponding tasks, goals and activities in these areas. As indicated above, including in the Concept of Digital Transformation, political will is important for the implementation of innovations, and the NBKR plays a particularly important role in the implementation of digital technologies in the banking and payments sectors.*

⁹⁶ Chapter 3.1 of the Concept on DPT.

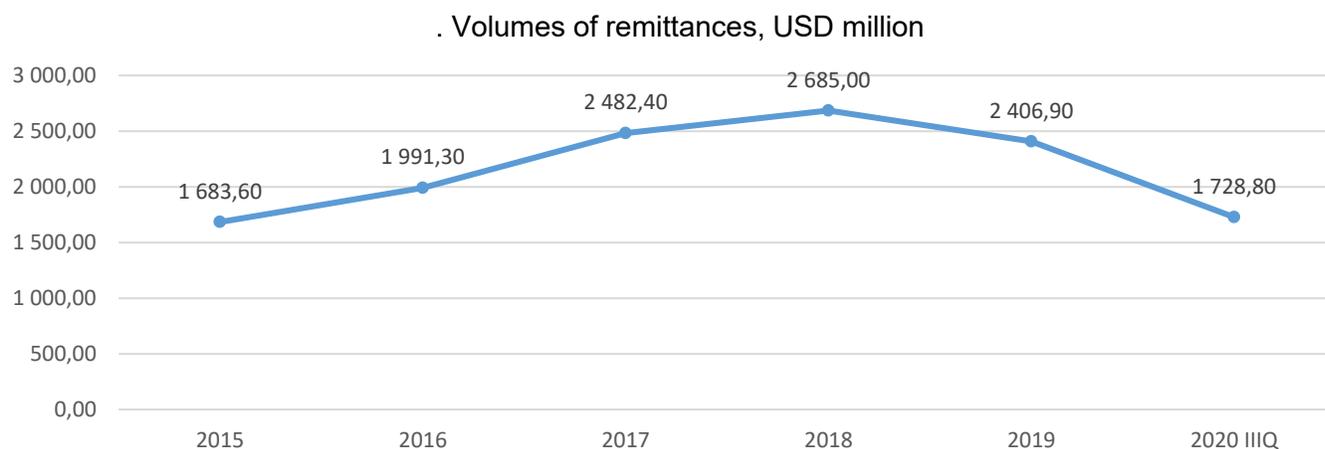
REMITTANCES

Dependence on remittances continues to be an important factor in supporting the country's economy. The share of remittances in the country's GDP remains significant. The influence of remittances is enormous, since the real welfare of the population much depends on them. A decrease in the volume of remittances will lead to a sharp impoverishment of the population.

Ratio of remittances to GDP (%)⁹⁷



In August 2015, the Kyrgyz Republic joined the Eurasian Economic Union (EAEU), after which the situation of Kyrgyz migrants in the Russian Federation has noticeably improved / simplified (abolition of patents and special work permits, equal social security, etc.). Many migrants began to work not only in the construction sector, but also in the service sector (catering, shops, taxi). Thus, it can be assumed that the volume of remittances increased due to the growth of migrants in the Russian Federation and in 2018 reached 2,685 million US dollars.



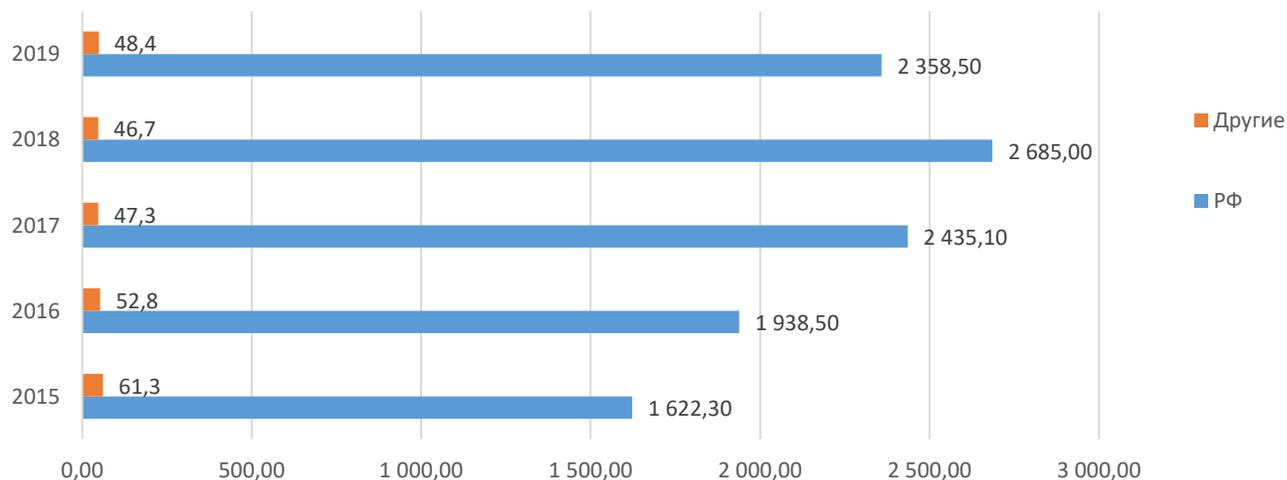
98

⁹⁷ [Personal remittances, received \(% of GDP\) - Kyrgyz Republic The World Bank](#)

⁹⁸ [Individual money transfers made through money transfer systems NBKR](#)

The main country from remittances are transferred is still Russia (about 90%). The amount of one transfer, according to various estimates, varies between 300-500 US dollars.

Remittance inflows by country, USD million



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Changes in regulatory norms in the “donor” country (from which transfers are conducted) or worsening economic situation are reflected in the volume of remittances sent due to such a high concentration of remittances.

In 2019, the Central Bank of the Russian Federation issued a number of recommendations to increase attention to certain customer transactions¹⁰⁰ carried out on money transfers¹⁰¹. As a result, the Russian partners adopted restrictions on the amount of one (one-time) transfer to Kyrgyzstan, not exceeding 100 thousand rubles per month. There was a significant decrease in the volume of remittances. The Central Bank of Russia explained the introduction of such rules by the fight against shadow transactions and with unregistered entrepreneurs, as well as with the assumption that foreign citizens trading in the markets send cash to continue the batch of goods without registering as individual entrepreneurs and creating legal entities. At the end of 2019, after negotiations with the Russian authorities, the monthly limit was increased to 150 thousand rubles. However, the volume of transfers did not recover to the level of 2017.

The recent Covid-19 pandemic and the macroeconomic context have also impacted the remittance market. Since January 2019, there has been a significant reduction in remittance flows from Russia due to a slowdown in economic growth, as well as due to quarantine measures. IMF March 2020 report estimated that weakening oil prices led to a 15 % decline in remittances from the same period last year. The KGS followed the RUR, declining significantly (-14%) against the dollar, but remained more or less stable against each other.

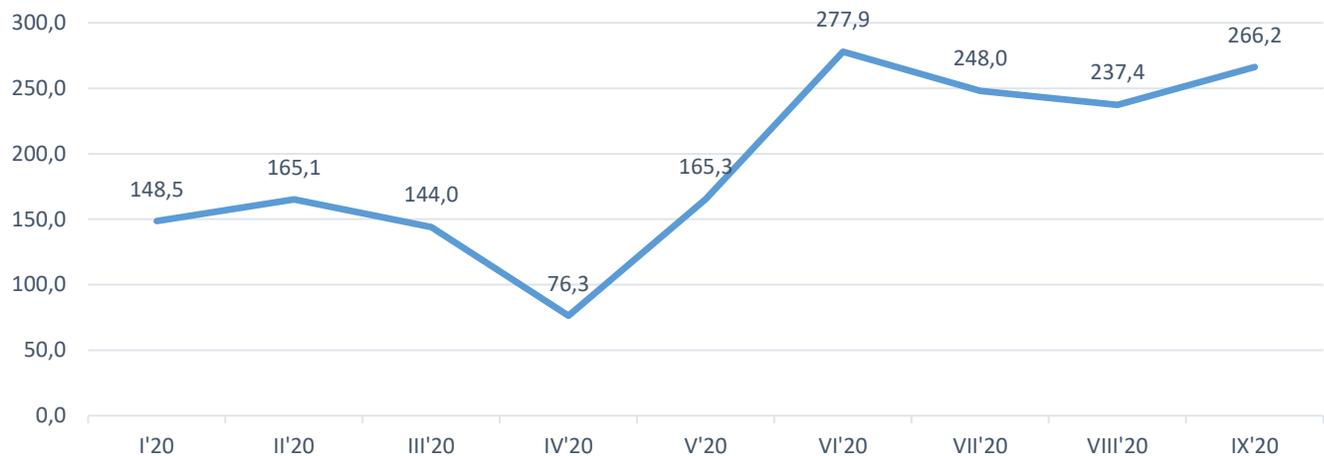
According to the NBKR, there has been a recovery dynamics in the volume of remittances since May 2020. This corresponds to the chronology of the introduction of tough measures in Russia in March and their gradual weakening since May 2020.

⁹⁹ [Individual money transfers made through money transfer systems. NBKR](#)

¹⁰⁰ [BULLETIN BANK OF RUSSIA 2019](#)

¹⁰¹ [CENTRAL BANK OF THE RUSSIAN FEDERATION. Guidelines for improving transparency and ensuring the availability of information on money transfers funds without opening bank accounts](#)

Remittances since the beginning of 2020, USD million



The dynamics of remittances may also be associated with an increased need to receive remittances during the period of exacerbation of Covid-19 in Kyrgyzstan and the consequences of the pandemic. There has been a sharp increase in the number of cases in the country, reaching its peak by mid-July since June 2020.

New financial technologies, innovative solutions are increasingly penetrating all processes associated with the payment services. This contributes to the emergence of both new participants in the payment services market and new payment services. Today, the client's needs are associated with obtaining banking services in the simplest, most affordable and cheapest way.

The pandemic has become a serious test for the country's economy, including the banking sector. Banks are revising their strategies towards reducing production costs, searching for optimal channels of interaction with customers and introducing products focused on saving customers' money and time, transforming some products into remote and digital channels.

The blockage, long-term restrictions on movement, likely pushed many migrants and their families to try digital channels for the first time. Several providers started offering fully digital channels in March and they will likely continue to use them using both MIR-Elcard integration and online services.

A significant increase in the number of electronic transfers (transactions from card to card) is expected, given the significant increase in the number of account and card holders (especially Elcard), as well as the expansion of ATM and point of sale networks, further development of the agent network. Those all will make it easier for recipients to access their money. Such low-cost transfers will replace the previously formal and informal transactions. It is likely that most transactions will end with the withdrawal of money, which is still the main use tool for Elcard and Zolotaya Korona cards.

Key recommendations based on the results of the 2016 WB review of the money transfer market and the role of non-banking organizations in the retail payments sector and the development of the electronic money market. The WB recommendations were used by the NBKR in the development of regulatory legal acts and measures to increase non-cash payments, as well as measures to implement the "Main directions of development of the payment system of the Kyrgyz Republic for 2018-2022".

Conclusions

The dynamics of the assessment of the receipt of remittances emphasizes that the bulk of remittances from migrants falls on the Russian Federation. In this regard, the NBKR should continue actions aimed at ensuring the growth of non-cash payments, raising public awareness of the benefits of the cashless market, as well as further stimulating the payment system participants to introduce innovations and technologies in the money transfer market, allowing them to be the banking system of families whose main income are remittances:

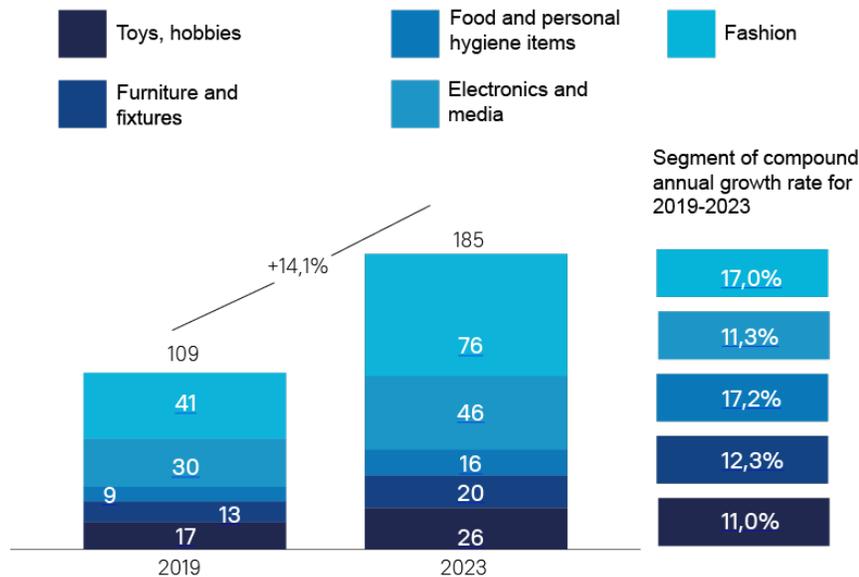
- *ensure an increase in the number of points for cashing out and paying by non-cash methods;*
- *simplify the requirements for banking agents to expand the ability of banks to attract agents, thereby increasing the involvement of the population in the formal banking system through the opening of accounts;*
- *use the possibilities of agreements within the EAEU to create the most attractive conditions for remittances of migrants from the Russian Federation to the Kyrgyz Republic.*

E-TRADE

New areas of employment, clusters and opportunities for the population have appeared not only to purchase and sell goods and services online, but also to sell skills, monetize creativity and creativity with the development of e-commerce in the world.

According to Statista Digital Market Outlook 2019 and the 4 Trade in Central Asia project, International Trade Center, eComConnect, the growth rate of e-commerce in Kyrgyzstan by 2023 will be 14.1% and e-commerce revenue will amount to USD 185 million, including:

- 2019 e-commerce sales totaled \$ 109 million
- expected annual growth of 14.1% as a result, the market size in 2023 will amount to USD 185 million
- the largest market segment is fashion with a market volume of USD 41 million in 2019
- average revenue per user in 2019 is \$ 52



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Export to other / international markets

For Kyrgyzstan, this is a strategically important opportunity to develop cross-border e-commerce and expand markets and opportunities for the export of national products and digital services. Today, trade with other countries is more than US \$ 6 billion, where imports account for US \$ 6 billion and US \$ 2 billion for exports, which indicates a trade deficit of US \$ 4 billion. The development of e-commerce and the necessary ecosystem for e-commerce in Kyrgyzstan will allow our entrepreneurs to enter international markets and increase trade with other countries.

E-Commerce Hub in Central Asia and Transit Potential

China is the major player in the global e-commerce market currently. Neighborhood with such a player gives Kyrgyzstan an advantage as a transit country, as part of the Great Silk Road and one of the strategically important economic corridors. According to Kazakh experts, to date, 670 million different goods / parcels have been transported from China to Europe, of which 6% - 40 million

¹⁰² Statista Digital Market Outlook 2019; ready 4 Trade in Central Asia, International Trade Center, eComConnect.

parcels through the territory of Kazakhstan. Cross-border parcels from China are expected to grow 6 times by 2025 and reach 4 billion parcels. Kyrgyzstan also can become a transit hub for international parcels and receive dividends due to its geographic location. Kyrgyzstan can become a center of logistics and e-commerce for the countries of Central Asia, subject to the development of innovative logistics and distribution centers, as well as the creation of the region's first specialized free economic zone in the field of e-commerce.

Trade logistics problems create uncertainties and costs for both e-commerce firms and consumers. The lack of access to the sea in Kyrgyzstan leads to inevitable costs in terms of trade logistics.

As with its other landlocked Central Asian neighbors (Kazakhstan, Tajikistan and Uzbekistan), Kyrgyzstan depends on land transport and transit routes for the export and import of goods.

The development of international trade logistics centers (TLCs) in Kyrgyzstan is very important for the country, as it can help solve many of the problems associated with its remoteness, geographic location, landlocked, and limited access to transport corridors. The establishment of the TLC allows companies, especially small and medium-sized enterprises, to monitor improved inventory management, efficient packaging and handling, protect against price fluctuations and improve risk management. However, most of the TLCs that have been established are warehouses, and only a few of them handle packaging or provide transport and logistics services. In 2018, the Government developed a new strategy for the development of TLC in the country - the Framework On Creation and Development of Trade Logistics Centers for Agricultural Production for 2019-2023.

There are only a few large logistics enterprises that could provide the full range of logistics services required for small and medium-sized businesses, including warehousing, transshipment, processing of goods and other services using the most innovative technologies, as well as insurance and customs clearance services. Most SMEs do not have access to the modern transport or logistics services required for efficient international trade. In addition, the level of container traffic is insufficient for most companies. Indeed, Kyrgyzstan is one of the most logistically disadvantaged countries, even among landlocked countries, and has not made significant progress in improving logistics over the past decade.

The *de minimis* threshold (import of goods for personal use) has been lowered to 200 euros (compared to the previous value of 500 euros), the weight limit of 31 kg remains unchanged. However, these thresholds will no longer apply for a calendar month, but on a per shipment basis. In addition, the penalties will be reduced to 15% from the cost /value if the threshold is exceeded, or 2 euros per kilogram. Depending on how they are implemented, lowering the *de minimis* threshold may not have a negative impact on customs clearance of e-commerce packages as such, as they remain in line with WTO recommendations.

Cross-border e-commerce increases the frequency of small parcel flows, which has a positive effect on trade volumes. But customs officials in Central Asia report three problems:

- Satisfaction of the volume of flows. Customs officials were overwhelmed by large flows of small shipments using paper-based customs systems. This problem can be solved with a Single Window system. A national "single window" system has been created in Kyrgyzstan to automate customs affairs

- Uncertainty on how to assess the risk for small shipments. Increased imports also pose risk assessment challenges. It is not always clear how the new global anti-terrorism and anti-money laundering rules should apply to small shipments.
- Confusion about how to calculate fees. When assessing customs duties based on the method of delivery of parcels, rather than the nature of the product sold, traditional postal services enjoy preferences enshrined in international agreements concluded decades ago, while express delivery services do not.

With regard to paperless cross-border trade, as noted in the UN Trade Facilitation Surveys, there is scope for significant improvement in this area.

Integration within the EAEU Customs Union entailed great prospects for e-commerce, but the early experience of Kyrgyzstan was fraught with difficulties.

E-SERVICES

Taking into account the geographical features and the lack of access to the sea, as well as from the opinion of many experts about the prospects for the development of exports and the share of services in the turnover of the digital economy, we decided to pay special attention to the analysis - digital services. We will consider digital services in conjunction with services in the field of the creative economy: Design, fashion, cinema, art galleries, media and even crafts - a sector of the economy with a volume of at least \$ 500 billion. In developed economies, their contribution to GDP may exceed 10%, but in Kyrgyzstan so far, according to various estimates, it ranges from 0.5 to 1%.

Creative industries (cultural and creative industries, CCI) in the United States and most European countries are growing rapidly and stimulating the development of other sectors of the economy, analysts EY and Nesta note. The volume of the world market for creative products more than doubled from 2002 to 2015 - from \$208 billion to \$509 billion, according to the report of the United Nations Conference on Trade and Development (UNCTAD) published in early 2019. "The creative economy has both commercial and cultural value," UN experts say.

UN experts classified the creative economy as the fashion industry, cinematography, design, advertising services, crafts, music and other industries based on intellectual activity. The world average contribution of creative industries to GDP is 6.6%, in developed countries - 8-12%, scientists Yerzhan Zharov and Oleg Patlasov pointed out in a study on the development of creative industries in Russia.

Development of a creative economy is directly related to the quality of human capital concentrated in a particular territory. Economist and author of the term "creative class" Richard Florida noted in his book "The Creative Class: People Who Create the Future" in 2005 that one of the key factors in the development of the creative segment is the place. Cities are turning into favorable infrastructure, in which new connections are established, new networks of contacts are established and a fundamentally new mixture of them is formed. "The most valuable characteristics of cities were not basic services or economic opportunities, but the objects of the city's social infrastructure, its benevolence and beauty," wrote Florida.

"There is less and less doubt that the prospects for the global economy depend on creative and innovative projects, as well as the ability of cities and regions to create a favorable environment for such initiatives to be implemented," note the creators of the Creative Capital of Global Cities Index from PwC and the fund Calvert 22.

In October 2019, experts from the World Economic Forum, in their report "Agile Governance for the Creative Economy", noted the importance of progressive regulation - more adaptive, people-centered. This is due to two factors: the development of technology lowers the threshold for entering the creative business, and the cross-border opportunities of the Internet allow attracting a huge number of customers.

The Global Creativity Index looks like this¹⁰³:

Rank	Country	Technology	Talent	Tolerance	Global Creativity Index
1	Australia	7	1	4	0.97
2	United States	4	3	11	0.95

¹⁰³ [Martin Prosperity Institute](#)

3	New Zealand	7	8	3	0.949
4	Canada	13	14	1	0.92
5	Denmark	10	6	13	0.917
5	Finland	5	3	20	0.917
7	Sweden	11	8	10	0.915
8	Iceland	26	2	2	0.913
9	Singapore	7	5	23	0.896
10	Netherlands	20	11	6	0.889

When forming the index, the concept of three "T" was used: technology, talent and tolerance. Kyrgyzstan ranked 111th out of 139 countries in the rating.

The Russian Federation has launched the Federal Project "Export of Services" and, among other things, plans to comprehensively support the sector of the creative economy and bring the export of services to 100 billion a year, the following measures are proposed:

- a mechanism for providing preferential terms to foreign companies from the creative industries for animation, film and television production in the Russian Federation (rebate);
- a program to support co-production projects created on the territory of the Russian Federation.

Exporters of services are expected to partially compensate for the costs of:

- development of design, interface of IT products, taking into account the peculiarities of the mentality of the importing country, types of user devices, etc .;
- dubbing of films, cartoons, online educational courses in foreign languages; adaptation of the text to the video sequence; creating an additional audio track.

A popular example of a successful creative product is the cartoon "Masha and the Bear", which has been translated into 36 languages and shown in more than 100 countries, the number of its views on YouTube exceeds 50 billion. By the end of 2018, Russian films at the international box office, according to Roskino, collected \$ 41 million (in 2015 - \$ 11 million, according to TASS). \$ 14 million of them were brought by the cartoon "The Snow Queen 3: Fire and Ice". It was best watched in China: the local box office was \$ 11 million. Similar campaigns have already been presented in the High-Tech Park of the Kyrgyz Republic.



Creative companies are mainly focused on global markets. This is confirmed by the example of China. It is he who is the world leader in the export of creative products: sales of Chinese goods and services in the field of the creative economy reached \$ 168.5 billion in 2015, 4 times more than the corresponding indicators of the United States, according to UNCTAD data.

The export of services and the creative economy, according to experts, has great potential in the Kyrgyz Republic. The most promising sectors are noted: handicrafts, tourism, architecture, design, film production, work with audio, video materials, animated cartoons and YouTube production, IT services, work with data, machine learning and artificial intelligence technologies and much more. To date, a group of experts with the support of the MEF has developed and is ready for approval of the National Strategy for the Development of the Creative Economy of the Kyrgyz Republic.

The export potential of the industry is huge: in the Kyrgyz Republic, the cost of developing an IT / design product or an animated film is an order of magnitude cheaper than in Europe or the United States, but the development of business in the field of creative industries in the Kyrgyz Republic is at an early stage, experts say. With the development of creative industries, intellectual property issues are becoming very important for creative products, assistance is needed in the language adaptation of products, and the attraction of large international industry events to the country.

The development of the Kyrgyz Republic as a hub for the creative economy (including electronic marketing) is inextricably linked to the creation of absolute advantages and competitive market prices. Therefore, it is strategically important to remove tariff, tax and other barriers so that our domestic companies can buy advertising traffic from such international platforms as Facebook, Instagram and Google without paying double taxes. To date, the Kyrgyz Republic has ratified 28 agreements on the avoidance of double taxation.

The global IT giants - owners of the largest digital ecosystems, are leading in the rating of the companies with the highest capitalization are the following companies¹⁰⁴:

№	Company	Economy sector	Market value, USD bln
1	Saudi Aramco	Oil and gas	1, 880
2	Apple inc.	Electronics / IT	1, 397
3	Microsoft	Software	1, 274
4	Alphabet Inc.	Internet / Advertising	1, 020
5	Amazon Inc.	E-commerce	0, 924
6	Facebook	Internet / Advertising	0, 633
7	Alibaba Group	E-commerce	0, 610
8	Berkshire Hathaway Inc.	Insurance	0, 562
9	Tencent	E-commerce	0, 492
10	Visa Inc.	Finance	0, 441

Thus, seven out of ten companies today represent the information technology and e-commerce sector.¹⁰⁵

№	Company	Revenue for 2019r, USD bln	Country of registration	Avoidance of double taxation agreement
1	Apple inc.	204	USA	No
2	Microsoft	125	USA	No

¹⁰⁴ [TOP 10 most valuable companies in the world in 2021](#)

¹⁰⁵ [Tencent's annual revenue exceeded \\$ 70 billion, of which almost half came from games](#)

3	Alphabet Inc.	134	Ireland	No
4	Amazon Inc.	232	USA	No
5	Facebook	70.7	Germany India	Yes Yes
6	Alibaba Group	56	China	Yes
7	Tencent	73,8	China	Yes

As can be seen from the table, out of five countries in which corporations conduct their economic activities, only three have signed an agreement on the avoidance of double taxation with Kyrgyzstan. It is urgently necessary to initiate and sign these agreements with the aforementioned countries: USA, Ireland.

It is worth noting the importance of cooperation with world leaders - electronic platforms / marketplaces, access to which will open billion-dollar markets for domestic entrepreneurs: Ecosystem and classification of e-commerce marketplaces in the world¹⁰⁶

¹⁰⁶ [Euromonitor International](#)

OTHER SERVICES

Digital education

The development of information technology and ubiquitous digitalization in the world contributes to changes in all aspects of human life. Digital education and digital literacy are becoming the main driver of development and competitiveness. Therefore, in order to increase the level of digital literacy and media and information literacy of the population, the state should update and improve educational standards of both preschool and school and university / higher education.

Technological advances in telecommunications have led to widespread dissemination of the media and other information providers (libraries, archives, the Internet, etc.), which have opened up enormous amounts of information for citizens to share. And the quality of the information received largely determines the choice and subsequent actions, including the ability to enjoy fundamental freedoms and the right to self-determination and development. The consequence and addition of this phenomenon was the desire of citizens to freely assess the relevance and reliability of this information, while fully exercising their right to freedom of expression and the right to receive information. It is in this context that the need for media information literacy should be viewed, which is expanding the scope of the civic education movement, including educators as the main agents of transformation.¹⁰⁷

In modern conditions, media information literacy is understood as a set of knowledge, attitudes, abilities and skills that allow access to information and knowledge, analyze, evaluate, use, create and disseminate them with maximum productivity in accordance with legislative and ethical standards and in compliance with human rights.¹⁰⁸

The Kyrgyz Republic for two years in a row declared the "Year of regional development and digitalization of the country" and after it 2020 was declared the "Year of regional development, digitalization of the country and support for children" - where the task was set for the education system to fully integrate into the educational process information technology and the formation of ICT competence among pupils / students.

Note

The Concept of Information Security of the Kyrgyz Republic for 2019-2023 and the Cyber security Strategy of the Kyrgyz Republic for 2019-2023 set out to revise and update educational standards. In Kyrgyzstan, at the secondary school level, the Smart School program is being introduced, which is a comprehensive program for the introduction of digital technologies into the educational process. The program has four main components:

- Development of IT competencies of teachers;
- Development of digital skills in students;
- Development of digital educational content;
- Development of school ICT infrastructure.

As noted in the official sources of the Ministry of Education and Science of the Kyrgyz Republic, the implementation of the Smart School program will not only increase the efficiency of using information technologies in the educational process, but will also contribute to improving the quality of education

¹⁰⁷ [Media and Information Literacy](#)

¹⁰⁸ [Moscow Declaration on Media and Information Literacy](#)

in general, reducing the gap between the educational achievements of students in the country's regions, villages and cities, schools with different languages of instruction.¹⁰⁹

According to representatives of the Ministry of Education and Science of the Kyrgyz Republic the Covid-19 pandemic led to the transition to online education both in schools and universities in the country. It had exposed many risk zones and at the same time provided opportunities for decision-makers on the speedy improvement of the online learning and retraining system for teachers and professors. Certain steps are being taken to introduce the necessary standards and teaching methods that are strictly focused on the needs of the labor market in modern digital realities. Spot work is underway to introduce and provide a system of academic freedom for higher education institutions. It is also planned to implement projects aimed at creating educational platforms like "unified digital classrooms and digital schools", in which any student from any school, regardless of geographic location, can study online in a digital classroom and keep up with the curriculum.

Well-designed system for digital schools and classrooms may even out the problem of an acute shortage of teachers. So at the beginning of the new 2020/2021 academic year, schools of the Kyrgyz Republic require 2,250 teachers. According to the Ministry of Education, a particularly acute shortage of personnel is noted in Chui, Jalal-Abad and Osh regions, as well as in Bishkek. Least of all vacancies are in Talas and Naryn regions¹¹⁰. In total, about 78 thousand teachers work in public schools (there are more than 2.2 thousand of them in the republic).

Digital medicine

The key characteristics of the health care model of the Kyrgyz Republic within the framework of the health sector reform are multi-structure, the formation of an infrastructure that meets the needs of the population in medical care and financial resources, decentralization of management, and an increase in the managerial and financial autonomy of health organizations. To date, prevention, development of primary health care, family medicine and the free choice of a family doctor are recognized as priority areas.

Note

Digitalization in the health sector at the strategic level dates back to 2016, when the e-health program of the Kyrgyz Republic for 2016-2020 was approved, which was developed in order to effectively implement the Program of the Government of the Kyrgyz Republic on the implementation of e-government ("e-government") in state executive bodies and local self-government bodies of the Kyrgyz Republic for 2014-2017. The main goal of e-health is to improve the quality, accessibility of medical services to the population and the introduction of personalized accounting for the provision of medical care to citizens on the basis of large-scale use of information and communication technology.¹¹¹

Within this Program it is planned to develop and implement standards that determine the possibility of implementing a service-oriented architecture that ensures full compatibility of information systems

¹⁰⁹ [The Smart School program is being introduced in Kyrgyzstan - what will it give? KABAR](#)

¹¹⁰ [There is an acute shortage of teachers in schools in Kyrgyzstan MANAS News](#)

¹¹¹ <http://cbd.minjust.gov.kg/act/view/ru-ru/98405>

involved in supporting healthcare processes. Thus, according to former Deputy Minister of Health Erkin Checheibayev, “Work is underway to provide universal broadband Internet to all health organizations, up to the level of a group of family doctors (FGP). Particular attention is focused on creating a secure infrastructure for collecting, processing, storing and analyzing data. In this direction, in order to accommodate the Unified Data Warehouse System, on the basis of the Electronic Health Center, the server room was repaired and the necessary hardware and software complex was installed to protect information systems, server and engineering equipment that meets international requirements for data processing centers”. In March 2019, the “Assigned Population” information system was launched online in all healthcare organizations providing primary health care (PHC). “In all healthcare organizations providing primary health care, training and implementation of the “ Outpatient CIF ” software was carried out for the implementation of incentive payments to family doctors (general practitioners). Implementation of a medical information system for the introduction of electronic medical history in more than 35 health care organizations. The introduction of a medical information system is nearing completion at the National Center for Oncology and Hematology, the Republican Infectious Diseases Clinical Hospital, and the Children's Territorial Hospital of the Kara-Suu District.¹¹²

Note

Currently, the Ministry of Health of the Kyrgyz Republic uses more than 10 different information systems and databases operating in all regions of the country. Three of them are being translated to work online:¹¹³

- "National Directory of Healthcare Organizations";
- Personalized database "Medical personnel";
- DB "Outpatient CIF". Two databases are put online:
- Database "Assigned population";
- AIS "Medical Certificate" Medical certificate of births and deaths.

Work is underway to equip healthcare organizations of the republic with medical information systems for processing electronic medical records (electronic medical records), which will ensure the formation of a single electronic health card for each patient in the Unified data storage system, and the data integration system between information systems (Tunduk integration bus) will provide the continuity of the treatment process and the provision of healthcare services to patients throughout their lives.

Conclusions

Education:

1. Provide broadband Internet access for all regions of the Kyrgyz Republic:

- *high-speed Internet services continue to be either expensive or unavailable in rural and remote areas. Telecommunication environments currently do not allow fully organizing e-learning in remote and mountainous regions of Kyrgyzstan;*

¹¹² [IAC "Kabar": Implementation of digitalization in the health care system of Kyrgyzstan](#)

¹¹³ [Digitalization of medicine](#)

2. Provide qualified specialists and material and technical equipment:

- *the level of technical equipment to ensure high-quality e-education remains insufficient today. The development of digital learning requires educational institutions to be equipped with modern equipment necessary to introduce new educational programs and ensure their implementation; qualified technical personnel to ensure the smooth operation of the equipment;*
- *provide qualified specialists and teachers, from preschool and school institutions to secondary specialized colleges and technical schools and universities with the main focus of knowledge and competencies required in the market in the digital technological world;*
- *the widespread dissemination of modern information technologies in educational organizations is hampered by an outdated and weak material base, unpreparedness of teaching staff to use information and communication technologies, an insufficient number of Internet access points in the regions, and their absence in rural settlements.*

Healthcare:

1. Ensure further strengthening of the partnership on digitalization measures:

- *The coverage and quality of basic health services should be improved through the use of technology and the involvement of the private sector (including through PPP models)*
- *Collaboration between signatories of the Global Plan of Action for Healthy Lives and Wellbeing for All, other development partners and the Ministry of Health and Social Development is needed to identify current challenges and explore entry points for closer collaboration in support of digital components of national policies in health, and to identify funding gaps and technical assistance needs.*

2. Ensure the continued use of new technologies:

- *Initiatives already underway (electronic patient cards, electronic discharge of statements in primary health care facilities, and electronic prescriptions) should be supported.*
- *Other initiatives include the development of an integrated drug database linked to a public procurement portal, the introduction of electronic medical records and its integration into the primary health care system, and the roll-out of a cashless initiative by the Ministry of Health and Social Development.*
- *It is necessary to develop a strategy for the development of e-commerce, adopt it at the highest level, build effective management, operational control and monitoring, and provide resources for its implementation.*
- *The high cost of delivery of products due to undeveloped air traffic and landlockedness greatly reduces the competitiveness of domestic products in the world market.*
- *The process of exporting products today is very complicated, long and bureaucratic: an entrepreneur must go through many government agencies, collect a number of documents, obtain all kinds of permits, certificates, certificates, etc. There is no single support service for exporters in which a supplier could solve all his questions on the principle of a single window.*
- *The lack of opportunities for domestic entrepreneurs to register on global trading floors as suppliers hinders the growth of exports and cross-border trade.*
- *The share of the creative economy and export of digital services in Kyrgyzstan is negligible, but the potential, according to experts, is very high. There is no approved program for*

supporting the export of services, the creative economy, and a program for state support for the subjects.

Note: A detailed list of countries with which the Kyrgyz Republic has signed agreements on the avoidance of double taxation is attached.

DIGITAL ECONOMY OF THE KYRGYZ REPUBLIC: LEGISLATION

ELECTRONIC DATA INTERCHANGE

The electronic exchange of information is the transfer of business documents in a standard format. It is a standard electronic format which replaces paper documents, such as purchase orders or invoices. By making paper transactions automatic organizations may save time and eliminate expensive mistakes caused by manual handling.

Within the EDI transactions the information is transferred directly from a computer application in one organization to a computer application in another one. The EDI standards determine layout and order of information in the document format. Due to this automated possibility data exchange may be conducted quickly and not within several hours, days or weeks necessary when using paper documents or other methods.

Currently industries use the EDI integration for common use of set of different types of documents, from purchase orders to invoices, request for quotations, credit applications, etc. Mostly these organizations are trade partners who exchange goods and services within their supply chains and B2B (business to business) network.

Note

The KR has adopted the following laws and relevant subordinate legal acts (the list of laws and regulations is in the annex) in the area of electronic exchange of information:

- Law of the KR “On Electronic Governance” dated 19 July 2017 No. 127 (Law on Electronic Governance);
- Law of the KR “On Personal Information” dated 14 April 2008 No. 58 (Law on Personal Data);
- Law of the KR “On Electronic Signature” dated 19 July 2017 No. 128 (Law on ES);
- Law of the KR “On Access to the Information maintained by the State Bodies and Local Self-Government Bodies of the Kyrgyz Republic” dated 28 December 2006 No. 213 (Law on Access to the Information);
- Law of the KR “On State and Municipal Services” dated 17 July 2014 No. 139 (Law on State Services);
- Law of the KR “On Biometric Registration of Citizens of the Kyrgyz Republic” dated 14 July 2014 No. 136 (Law on Biometric Registration).

These laws contain relevant definitions of some concepts used in the digital economy, including the following:¹¹⁴

- information - information (messages, data) regardless of the form of their presentation;
- information technology - processes, methods of search, collection, storage, use, provision, dissemination of information;
- information system - a set of information contained in databases and information technologies and technical means ensuring its processing;
- information owner - a person (natural or legal, including the Kyrgyz Republic and municipalities) who independently created information or received, on the basis of a law or contract, the right to authorize or restrict access to certain information;

¹¹⁴ Law of the KR “On Personal Information

- electronic document - documented information presented in electronic form, that is, in a form suitable for human perception using electronic computers;
- electronic image of a paper document (electronic image) - information in electronic form, which is a scanned or photographic image of a document on paper, converted by technical means into an electronic form as a whole, without changing the content of the scanned document on paper;
- electronic signature - information in electronic form, which is attached to other information in electronic form and (or) is logically connected with it and which is used to identify the person on whose behalf the information is signed;
- signature key - a unique sequence of characters used to create an electronic signature;
- provision of a state or municipal service in electronic form - remote provision of a state or municipal service using the State portal of electronic services;
- information of a personal nature (personal data) - information recorded on a material medium about a specific person, identified with a specific person or that can be identified with a specific person, allowing this person to be identified directly or indirectly by reference to one or more factors specific to him biological, economic, cultural, civil or social identity. Personal data includes biographical and identification data, personal characteristics, information about marital status, financial situation, health status, etc.
- holder (owner) of an array of personal data - state authorities, local authorities and legal entities entrusted with the authority to determine the purposes, categories of personal data and control the collection, storage, processing and use of personal data in accordance with the Law on Personal Data;
- processor - an individual or legal entity, determined by the holder (owner) of personal data, who processes personal data on the basis of an agreement concluded with him;
- biometric data - data that characterize the physiological and biological characteristics of the subject of biometric data, on the basis of which it is possible to establish his identity;
- biometric registration - a procedure for collecting, processing and storing biometric data of citizens of the Kyrgyz Republic living in the territory of the Kyrgyz Republic and beyond.
- the holder of the biometric database is a state body authorized by the Government of the Kyrgyz Republic.

The Ministry of Digital Development is an executive state body implementing state policy and carrying out coordination in the area of digital transformation, electronic governance, use of electronic signature, electronic government, electronic services, personal data protection, electrical and mail communication. The Ministry is a legal successor of the State Committee for Information Technologies and Communication of the KR.¹¹⁵ The objective of this Ministry is to create favorable conditions for development of electronic signature and to build a modern, high-technology, competitive network of data transfer to form and develop computerization, electronic governance, service market in the area of communication, to form digital economy basics, and to integrate to the worldwide information space.¹¹⁶

¹¹⁵ Paragraphs 1, 2 of the Chapter 1 of the Regulation on the SSDD (Annex 1 to the Resolution of the Government of the KR dated 10 March 2021 No. 86).

¹¹⁶ Paragraph 9 of the Chapter 2 of the Regulation on the SSDD.

Note

The Ministry Digital Development performs, inter alia, the following functions:

- Develops and introduces amendments on formation of uniform state policy in the area of digital transformation, electronic governance, electronic services and communication and implements it;
- Prepares draft laws and regulations in the area of computerization, electronic signature, electronic governance and communication, and submits them for consideration by the Government of the KR;
- Prepares and introduces recommendations on formation of uniform state policy in the area of electronic signature;
- Forms and implements mechanisms to create a single national center of data processing, portal of state services in the ICT sector;
- Creates conditions to develop and manage integrated government web-resources, a single system of electronic document flow, single state systems for personnel records, a single system of financial management;
- Provides formation, storage, use and security of state information resources;
- Prepares standards and technical regulations in the area of development and introduction of software and hardware facilities, information systems and networks, including electronic signature;
- Participates in preparation of technical regulations in the area of communication, computerization and electronic governance, and in the area of information security of state information resources.

One of the tasks of the Ministry is the development and implementation of measures to create the necessary conditions for the protection of personal data. It creates the conditions necessary for the implementation of state policy in the field of personal data protection¹¹⁷

Note

Kyrgyz legislation provides for liability for violation of privacy:

- violation of privacy (Article 186 of the Criminal Code of the Kyrgyz Republic (Criminal Code of the Kyrgyz Republic), including illegal collection, storage, use and dissemination of confidential information about a person's private life without his consent, except in cases established by law, as well as illegal use or dissemination of personal or family secrets in a work, when speaking in the media or in any other public appearance.

Recommendations:

- *The Cabinet of Ministers should adopt a resolution approving the regulation on the Department for Personal Data Protection, with a specific list of powers, as well as provide the Department for Personal Data Protection with the necessary information infrastructure.*
- *The Cabinet of Ministers should ensure the improvement of the legislation of the Kyrgyz Republic in the field of responsibility for offenses / crimes in the field of personal data protection, taking into account the development of information technologies, including using the experience of foreign countries (European Union, USA, Russia, etc.).*

¹¹⁷ [The Department for the Protection of Personal Data was established under the State Service for Digital Development TAZABEK](#)

Conclusions:

- *the authorized state body for the protection of personal data was absent in the KP, and, accordingly, the state bodies of the Kyrgyz Republic did not monitor compliance with the Law on Personal Data. At the same time, the Cyber security Strategy provides that in order to ensure cyber security, the supervisory policy in the field of personal data processing will be strengthened, and uniform requirements in the field of personal data processing will be established by creating an authorized state body for personal data. Within the framework of the Cyber security Strategy, it is envisaged to create an authorized state body no later than 2019. In fact, such an authorized body was created only in 2021, two years after the planned date. It can be concluded that digitalization activities in the Kyrgyz Republic are proceeding slowly due to various reasons, including the lack of adequate funding.*
- *the Department for the Protection of Personal Data has been established under the Ministry of Digital Development. However, no document has yet been adopted that provides details of the powers of the Department for Personal Data Protection. The Regulation on the Ministry provides general information on the tasks and functions for the protection of personal data. At the same time, the Law on Personal Data lists the general powers of the authorized state body. So, an authorized state body for personal data means a state body authorized by the Government of the Kyrgyz Republic to exercise the functions and powers to ensure that the processing of personal data meets the requirements of the Law on Personal Data, protection of the rights of personal data subjects, registration of holders (owners) of an array of personal data, maintaining a register of holders arrays of personal data, other tasks, functions and powers provided for by the Law on Personal Data. The authorized state body is entrusted with ensuring control over the compliance of personal data processing with the Law on Personal Data, protection of the rights of subjects of personal data.*
- *Thus, taking into account the creation of the Department for the Protection of Personal Data, the state bodies of the Kyrgyz Republic are entrusted with the task of monitoring the protection of personal data, implementing measures, including the development of infrastructure for protecting personal data, and developing practices in the field of protecting personal data. In this case, a special role belongs to the courts of the Kyrgyz Republic, since it is the courts that will form the law enforcement practice in the field of personal data protection by making decisions on relevant cases and adopting resolutions of the Plenum of the Supreme Court of the Kyrgyz Republic with clarifications of issues in this area.¹¹⁸*

¹¹⁸ part 2 of Article 96 of the Constitution, the Plenum of the Supreme Court of the Kyrgyz Republic provides clarifications on issues of judicial practice, which are mandatory for all courts and judges of the Kyrgyz Republic.

E-COMMERCE/E-TRADE AND E-SERVICES

The draft Law of the KR “On Electronic Commerce” was submitted for public discussion/ hearings on 27 May 2020 (Draft Law).¹¹⁹ According to the explanatory note to the Draft Law, since electronic commerce is a growth driver for digital economy of a country it is important to define borders of electronic commerce for the Kyrgyz Republic and to determine parameters for analytical assessment of this market. The main purpose of the Draft Law is to create legal conditions for electronic commerce in the KR and establish an effective legal mechanism providing implementation and protection of rights of electronic commerce participants. The Draft Law was sent back from the President with some comments on.

The bill regulates public relations between individuals and legal entities in the field of electronic commerce using ICT, and also establishes requirements for the execution and execution of electronic transactions for the sale, purchase and exchange of goods, for the provision of services, performance of work, including exclusive rights to intellectual property.

The draft law contains definitions of the relevant concepts used in e-commerce, including the concepts:

- “e-commerce” and - the implementation by the parties of actions to place advertisements on their Internet resource, to conduct a transaction for the sale, purchase and exchange of goods and / or the performance of work and / or the provision of services, including the transfer of rights to intellectual property objects or actions to extract profits in the process of an electronic transaction in the manner prescribed by this Law;
- electronic transaction - a transaction between e-commerce participants on the conclusion, execution, or termination of civil rights and obligations on the basis of an agreement, through ICT, provided for by the civil legislation of the Kyrgyz Republic and the Law on Electronic Commerce. ,
- smart contract - a program code intended for automatic execution and / or execution of transactions, or other legally significant actions;
- trading platform - a set of software and hardware that ensures the sale of goods and / or works and / or services via the Internet

It is important to highlight the provisions of the Strategy for Development of the Customs Service of the KR between 2019 and 2023 (annex 1 to the Resolution of the Government of the KR dated 22 July 2019 No. 363) (Customs Strategy) in the area of electronic commerce. Thus, the Customs Strategy points out that due to growth rates of trade by individuals via internet resources (Internet trade) and import of international mail items, goods to the EAEU customs territory, purchased via Internet trade, it is important to provide conditions for creation by an appointed operator of the KR of places of international mail exchange and exchange postal offices under airports, depending on type of transport participating in transportation of international mail items and goods bought via Internet trade (inter alia, abroad) as well as to automate the process of customs operations for such goods applying risk management system.¹²⁰

¹¹⁹ [Of the Law of the Kyrgyz Republic "On Electronic Commerce"](#)

¹²⁰ Chapter 4.2 of the Customs Strategy.

The following legal issues are among the most important ones in the area of electronic commerce: issues on consumers' rights protection, including those on their personal data protection, antimonopoly regulation, advertising regulation, intellectual property protection. It is important to develop the legislation of the KR, inter alia, in these spheres. For example, the following laws apply to e-commerce:

- Law of the Kyrgyz Republic of December 10, 1997 N 90 "On Protection of Consumer Rights" (Law on Consumer Protection);
- Law of the Kyrgyz Republic of December 24, 1998 N 155 "On Advertising" (Law on Advertising);
- Law of the Kyrgyz Republic of July 22, 2011 N 116 "On Competition" (Law on Competition).

The Law of the KR "On Consumers' Rights Protection" dated 10 December 1997 No. 90 provides for only one article regulating electronic commerce, Article 24-1, "Distance Selling of Goods". This Article stipulates that an agreement of retail sale and purchase of goods may be concluded based on familiarization of a consumer with description of goods provided by a seller via catalogues, pamphlets, booklets, photos, means of communication (television, mail, radio, etc.), Internet or other ways excluding possibility for a consumer to familiarize directly with the product or sample of a product when concluding such a contract (distance selling of goods). Besides, the Law on Consumers' Protection does not provide for any rules on consumers' personal data protection. Furthermore, there is no practice in application of the Law on Personal Data in the KR. Under these circumstances it is of high importance to improve the legislation of the KR on consumers' personal data protection.

Regarding regulation on the Internet, the Advertising Law provides for the following provisions:

- it is prohibited to send unauthorized advertisements (spam) via the Internet, mobile phones and faxes;
- it is prohibited to advertise alcoholic beverages on the information and telecommunications network Internet;
- advertising of permitted civilian weapons in electronic media is not allowed.

The Law on Competition defines the organizational and legal framework for the protection and development of competition and is aimed at preventing, limiting, suppressing monopolistic activities and unfair competition, as well as providing conditions for the creation and effective functioning of markets in the Kyrgyz Republic. Competition Law does not contain specific provisions governing e-commerce.

ICT sector in the Kyrgyz Republic as part of e-commerce

According to the Law of the Kyrgyz Republic of July 8, 2011 N 84 "On the High-Tech Park of the Kyrgyz Republic", the High-Tech Park (HTP) was created in the Kyrgyz Republic. HTP is a zone with an HTP regime for legal entities and individuals who are HTP residents and carry out their activities in accordance with Article 4 of the HTP Law. The HTP regime is a special legal, tax regime applicable to HTP residents, establishing tax exemptions and exemptions on insurance premiums in accordance with the legislation of the Kyrgyz Republic, valid for 15 years from the moment the HTP was established, valid for HTP residents, subject to their implementation of the types activities of the

HTP listed in Article 4 of the Law on HTP. There is a special preferential tax regime for the HTP of the Kyrgyz Republic, which is applied only to residents of the HTP engaged in economic or foreign economic activity, subject to compliance with the requirements established by the legislation of the Kyrgyz Republic on HTP.¹²¹

The types of activity of the HTP, in particular, are software development, including: analysis, design and programming of information systems, including those ready for implementation, analysis of information needs and problems of users, design, development, delivery and documentation of individual and / or ready-made software. providing, including meeting the orders of specific consumers, adjusting programs at the direction of the user; as well as the export of information technology and software. In this sense, it should be noted that the Law of the Kyrgyz Republic of January 23, 2003 N 30 "On Export Control" (the Law on EC) expanded the concept of export and import. So, according to Article 1 of the Law on EC, the transfer of technology with the help of technical means using ICT from and to the territory of the Kyrgyz Republic is also equated to export (import). In this case, technology is considered to be scientific and technical information and other results of intellectual activity (rights to them), expressed in the form of models, prototypes, drawings, diagrams, projects, instructions, software products, or in an intangible form - training, technical support (maintenance), necessary for the development, production or use of goods.¹²²

It is important to note the requirement for HTP residents, according to which, after one year from the date of final registration, at least 80% of goods and services must be exported and / or at least 80% of the income of an HTP resident must be generated from the export of goods and services.

Civil law in terms of software regulation, intellectual property issues. Software issues in the Kyrgyz Republic are regulated, inter alia, by the following documents:

- Civil Code of the Kyrgyz Republic (Civil Code of the Kyrgyz Republic), including Part II, Section 5 - Intellectual Property;
- Law of the Kyrgyz Republic of March 30, 1998 N 28 "On the legal protection of programs for electronic computers and databases" (Law on Computer Programs);
- Law of the Kyrgyz Republic of January 14, 1998 N 6 "On Copyright and Related Rights" (Law on Copyright);
- The State Program for the Development of Intellectual Property in the Kyrgyz Republic for 2017-2021, approved by the Resolution of the Government of the Kyrgyz Republic dated July 6, 2017 No. 424 (State IP Program).

Computer programs and databases are classified as objects of intellectual property. Currently, in the Kyrgyz Republic and in the world, various programs are actively used, including office programs for work, antivirus programs, programs for video conferencing, etc. To use such programs, you must acquire the right to use them. This right is usually acquired under a licensing agreement. Thus, under a license agreement, the party having the exclusive right to the result of intellectual activity or to the means of individualization (the licensor) grants the other party (the licensee) permission to use the corresponding intellectual property object. The license agreement is assumed to be onerous.

¹²¹Article 2 of the Law "On HTP"

¹²² Article 1 of the Law "On Export Control"

As indicated in the State IP Program, the practice of borrowing technologies in the Kyrgyz Republic has not been widely developed. So, for the period 2012-2016, not a single technology transfer license agreement was registered in the country. The State IP Program notes the importance of using modern IT technologies to empower applicants in obtaining rights to IP objects; using the experience of leading countries in the protection of IP rights in the digital environment; initiation of RLA projects stimulating enterprises of the republic to create and introduce new technologies.

Note

- Offenses against the procedure for carrying out economic activities (chapter 19 of the Misdemeanor Code): illegal manufacture of counterfeit products (article 104 of the Misdemeanor Code), including the illegal manufacture of counterfeit copies of computer programs or databases for marketing purposes, as well as their sale or storage with the purpose of sales;

Recommendations:

- *The Cabinet of Ministers together with the relevant ministries and departments (MEiF, Antimonopoly Authority, ICR) should create a working group to develop a package of amendments to legislation on consumer protection, advertising and antimonopoly regulation, taking into account the development of ICT and the digital economy.*
- *The Cabinet of Ministers should develop a bill to extend the activities of the Park of High Technologies for the next years.*
- *The Cabinet of Ministers together with Kyrgyzpatent, MEiF and ICR should create a working group to develop a package of amendments to civil legislation in the field of intellectual property, including in terms of software regulation and software licensing agreements, taking into account foreign experience, including countries EU and RF.*

Conclusions and key challenges:

1. *The Kyrgyz Republic is taking steps to develop legislation in the field of e-commerce, but additional actions are required. Thus, the legislation of the Kyrgyz Republic in the field of consumer protection, advertising regulation and competition is not adapted to the current realities associated with the active development of ICT. The relevant laws do not contain specific effective regulation in terms of e-commerce. Accordingly, issues such as consumer protection on the Internet, including the protection of their personal data, regulation of online advertising (including the so-called “behavioral targeting”), regulation of competition between online and offline sellers, etc.*
2. *Considering that the HTP was established for 15 years, its validity period will expire in 2026. Due to the vigorous activity of HTP residents, it is advisable to extend this regime for the next years to further stimulate the growth of the ICT sector. Given that at least 80% of goods and services should be exported and / or at least 80% of the income of an HTP resident should be generated as a result of the export of goods and services, 20% of the activities of residents can be directed to the domestic market. In this regard, given the possible high demand for software in the context of the development of the digital economy, government agencies, local companies and other organizations should develop the internal market for the ICT sector by seeking services from local software developers - HTP residents.*

3. *It is necessary to improve and significantly update the civil legislation of the Kyrgyz Republic in terms of software regulation. In the global market, there are various features of the distribution of digital content and the provision of remote access, including through the conclusion of click-wrap agreements (click-wrap agreements), the use of SaaS (Software-as-a-Service) technologies. Taking into account the above, a significant update of the civil legislation of the Kyrgyz Republic and its adaptation to new trends in the digital economy is required.*
4. *As noted in the State IP Program, the weaknesses of the existing intellectual property (IP) system in the Kyrgyz Republic include, inter alia, the lack of legal regulations on the protection of IP rights in the digital environment; lack of the necessary infrastructure (technopolises, technoparks, business incubators, start-ups); lack of motivation of the business environment to use innovations, leading to low competitiveness of the products of domestic enterprises in the domestic and foreign markets; weak interaction between creators and users of IP, lack of specialists in IP management.*

E-INSURANCE

From the date of the commencement of the Law of the Kyrgyz Republic of July 24, 2015 No. 192 "On Compulsory Insurance of Civil Liability of Motor Vehicle Owners" (Law on MVO) for all categories of motorists, the MVO policy will become one of three documents that must be in the cabin of any car. Taking into account that we are dealing with a compulsory type of insurance, which, unlike voluntary types of insurance, is a nationwide mass insurance product and will apply to all legal entities and individuals in the territory of the Kyrgyz Republic, one should think about timely provision at the legislative level of a mechanism for a fast, effective and mass issuance of OSAGO policies, which, given the sensitive political and economic situation in the country and the low insurance culture of the population, is extremely important for a smooth mass launch of such a product.

Current legal framework

The form of the insurance contract is governed by Article 934 of the Civil Code of the Kyrgyz Republic, which establishes that the insurance contract must be in writing and can be concluded by drawing up one document (paragraph 2 of Article 395) or by the insurer's handing over to the policyholder on the basis of his written or oral application of the insurance policy (certificate, certificate, receipts) signed by the insurer. In the latter case, the consent of the policyholder to conclude a contract is confirmed by the acceptance of an insurance policy from the insurer.

The aforementioned paragraph 2 of Article 395 of the Civil Code of the Kyrgyz Republic provides that an agreement in writing can be concluded by drawing up one document signed by the parties, as well as by exchanging letters, telegrams, teletypes, telephone messages, by facsimile, electronic or other communication, or in another way that allows for reliable establish that the document comes from a party to the contract.

The law on the organization of insurance does not regulate the form of the insurance policy, due to the presence of the above norms of the Civil Code of the Kyrgyz Republic.

Legal practice

The legal basis for electronic insurance policies already exists, since the electronic policy has a written form and will be issued, as indicated above, by "the insurer's delivery to the policyholder on the basis of his written or oral statement of the insurance policy signed by the insurer. " The delivery of an electronic policy, although it will be carried out using electronic communication (referred to in Article 395), however, gives rise to an ambiguous interpretation of the rule of law, since an electronic policy will not be a document signed by both parties, just as it cannot be considered a letter, a telegram, teletype and telephone messages.

In addition to the above, it also makes sense to refer to judicial practice, which often, when considering disputes involving an insurance contract (insurance policy), predominantly takes the side of policyholders who dispute the validity of insurance policies issued without the signature of the policyholder, despite the legality this form of insurance policy (clause 2, article 395 of the Civil Code of the Kyrgyz Republic). An electronic policy (a document containing an insurer's electronic signature) and electronic exchange of written documents (sending via email / messengers / scanning copies of documents) are not the same concepts.

Given above, it is necessary to bring the norms of the law in line with the requirements of the present time and the modern level of development of society.

Recommendation:

- *It is proposed to legislatively consolidate the concept of an electronic policy in the Civil Code of the Kyrgyz Republic as a separate type of written form of an insurance contract to avoid the exclusion of ambiguous interpretation of the form of an insurance contract (policy) and to ensure a unified approach to this issue by the courts when considering claims. Taking into account the various forms and types of insurance (compulsory, voluntary, personal, property, etc.), special requirements and regulation of electronic policies depending on the type / form of insurance must be provided for in specialized laws (on the organization of insurance, on certain compulsory types insurance, electronic signature, etc.). Thus, it is proposed to supplement Article 934 of the Civil Code of the Kyrgyz Republic with part 2.1, according to which “The insurance contract (insurance policy) can be drawn up in the form of an electronic document issued by the insurer, secured by the insurer's electronic signature”.*

ATTACHMENT # 1 - DEVELOPMENT OF DEFINITIONS AND CONCEPTS OF THE DIGITAL ECONOMY FROM 1996 TO 2017¹²³

Source	Definition	Key points
Tapscott, 1996: The Digital Economy: Promise and Peril in the Age of Networked Intelligence	The author does not define the digital economy directly, but uses the concept of "Age of Networked Intelligence", the essence of which is "not only in network technologies, but in the interaction of people through network technologies", which "unite intelligence, knowledge and creativity to make a breakthrough in the creation of social capital and well-being "	The term "digital economy" first appears in this publication. The author makes emphasis on how the digital economy explains the connection between new economies, new types of business and new technologies, and how one component leads to the emergence of another.
Lane, 1999: Advancing the Digital Economy into the 21st Century (Assistant to the US President for Science and Technology)	The digital economy is "the convergence of computer and communication technologies on the Internet and the emerging flow of information and technologies that stimulate the development of e-commerce and large-scale changes in the organizational structure"	The author focuses on e-commerce and the impact of the digital economy on issues like privacy, innovation, standards and the digital divide.
Margherio et al., 1999: The Emerging Digital Economy (US Commerce Department)	The author doesn't provide a clear definition; four factors for the development of the digital economy are considered: "Spread of the Internet, e-commerce between enterprises, Digital delivery of goods and services, Retail sale of physical goods"	For the first time, the author explicitly defined the components of the digital economy. The focus is on the components of the digital economy rather than on the concept itself.
Brynjolfsson, Kahin, 2000b: Understanding the Digital Economy: Data, Tools, and Research	The digital economy is "not yet complete transformation of all sectors of the economy due to digitalization of information using computer technology"	The authors point out the need to consider the digital economy from various standpoints: from the point of view of macroeconomics, competition, labor market, changes in the organizational structure.
Kling, Lamb, 2000: in Brynjolfsson, Kahin, 2000a	The digital economy "includes goods or services, the development, manufacturing, sale or provision of services that are critically dependent on digital technologies"	The authors divided the digital economy into four components: "Digital Products and Services, Mixed Digital Products and Services, Services and Manufacturing of IT Dependent Goods, and the IT Industry"
Mesenbourg, 2001: Measuring the Digital Economy (US Bureau of the Census)	The author points out that the concept of "digital economy" consists of three components: 1) "e-business infrastructure, which is part of the entire economic infrastructure used to carry out electronic transactions and e-commerce; 2) e-business, which is any operation that an enterprise carries out using computer networks; 3) e-commerce, which means the volume of goods and services sold using computer networks "	The author focuses on the ways how to measure the phenomenon of e-business and e-commerce.
Economist Intelligence Unit, 2010: Digital Economy Rankings, 2010	The authors do not provide a specific definition, but their assessment of the digital economy is based on "the quality of the country's information and communication infrastructure and the ability of consumers, businesses and government to use	The authors focus on the basics of the digital economy rather than the digital economy as a concept. The evaluation criteria are: cohesion and technological infrastructure, business environment, social

¹²³ [Definition, concept and measurement of the digital economy, R. Bucht, R. Hicks](#)

	ICT to their advantage."	and cultural environment, legal environment, current government policy and specifics of government strategy, consumer and enterprise adaptability.
OECD, 2013: The Digital Economy	"The digital economy makes possible and enables the trade of goods and services through electronic commerce in the Internet"	The paper mainly focuses on competition and regulation of digital markets, along with consideration of network effects, synergy and the relationship between open and closed platforms.
Department of Broadband Communications and the Digital Economy (DBCDE), Australia, 2013: Advancing Australia as a Digital Economy: An Update to the National Digital Economy Strategy	The digital economy is "a global network of economic and social activities made possible by digital technologies such as the Internet and mobile networks."	The authors regard readiness, environment and its use as key elements of the digital economy, and focus on measures of state support for the development of the digital economy.
European Commission, 2013: Expert Group on Taxation of the Digital Economy	The digital economy is "a digital economy (sometimes called the Internet Economy)"	The authors examine the characteristic attributes of digital economy enterprises: 1) innovation through new sources of funding (venture capital); 2) high cost of intangible assets; 3) new business models based on the network effect; 4) transboundary e-commerce.
British Computer Society, 2014: The Digital Economy	"The digital economy is a digital economy, but what we mean more by this is doing business in markets powered by the Internet and the World Wide Web."	The authors focus on key topics related to the digital economy: innovation, law, cybersecurity, and digital literacy.
European Parliament, 2015: Challenges for Competition Policy in a Digitalised Economy	The digital economy is "a complex structure that consists of several levels / layers, interconnected by a practically infinite and constantly growing number of nodes. The platforms exist in interconnection, allowing to reach the direct user through multiple channels, thereby making it difficult to exclude specific players, that is, competitors. "	The authors focus on competition and regulation of the digital economy.
House of Commons, 2016: The Digital Economy	"The digital economy means both digital access to goods and services as well as the use of digital technologies in the interests of business."	The authors focus on public policy measures aimed at regulating and developing the digital economy.
G20 DETF, 2016: G20 Digital Economy Development and Cooperation Initiative	The digital economy is "a wide range of types of economic activity, which include the use of digitized information and knowledge as a key factor of production, modern information networks as an important area of activity, and the effective usage of information and communication technologies (ICT) as an important factor of economic growth and optimization of the	The authors focus on the types of economic activities that have become available due to Intelligent Networking ICTs. The focus is also on state policy, including transnational politics, and the primary challenges of the digital economy.

	economic structure "	
Elmasry et al., 2016: Digital Middle East: Transforming the Region into a Leading Digital Economy (Digital McKinsey)	The authors do not give a specific definition for the Digital Economy "this is less than a concept and more - a way of doing business", but they put forward three attributes of the phenomenon under consideration: "creates value in the front lines of business, optimizes streamline processes that incorporate customer experience, and builds the underlying capacity that supports the entire structure.	This work examines the issues of measuring digitalization, failure to achieve target indicators in the area, as well as strategies for state agencies and business representatives in the interests of promoting the development of the digital economy.
Bahl, 2016: The Work Ahead: The Future of Businesses and Jobs in Asia Pacific's Digital Economy (Cognizant)	The author does not provide a specific definition; instead, the work draws a distinction between "engaging" digital technologies and "existing" through them.	The author focuses on commercial value and profitability and recommends expanding digital use: "Enterprises need to embrace digital as the foundation of their operations and interactions with customers, partners and employees. Digitization thus creates the potential for profitability increase. "
Knickrehm et al., 2016: Digital Disruption (Accenture)	"The digital economy represents a part of the total production generated by various 'digital' resources. These resources include digital skills, digital appliance (hardware, software, and communications), and interim digital goods and services used in manufacturing. This approach reflects the essence of the digital economy"	The author reviews measures to promote micro and macroeconomic growth through the best adoption of the basic elements of the digital economy.
Rouse, 2016: Digital Economy	"The digital economy is a worldwide network of economic activities made available due to information and communication technologies (ICT). In other words, the digital economy can be defined as an economy based on digital technologies. "	The work represents a brief overview of the definitions of the digital economy.
Dahlman et al., 2016: Harnessing the Digital Economy for Developing Countries (OECD)	"The digital economy is a combination of general-purpose technologies and a range of economic and social activities carried out by Internet users using appropriate technologies. The digital economy, therefore, includes a physical infrastructure that is used by digital technologies (broadband wiring networks, routers), access devices (computers, smartphones), information systems (Google, Salesforce) and the functionality they provide (Internet of Things (IoT), analysis Big Data, Cloud Computing) "	The author focuses on the potential of digital technologies in ensuring inclusive and sustainable growth while leveraging the benefits they generate.
OUP, 2017: Digital Economy	The digital economy "is an economy that operates mainly through the use of digital technologies, in particular cashless transactions via the Internet"	This work contains definitions only.
Deloitte, c. a.: What is Digital Economy?	The digital economy is "a form of economic activity that emerges from billions of examples of the networking of people, businesses, devices, data and processes. The basis of the digital economy is hyperconnectivity, that is, the growing interconnectedness of people, organizations and machines, which is formed thanks to the Internet, mobile technologies and the IoT	The authors examine 4 main areas of digital impact: the future of the labor market, customer interactions, digital supply chains, and the IoT

ATTACHMENT # 2 - OVERVIEW OF DIGITAL PROJECTS IN THE KYRGYZ REPUBLIC

Sanarip (*Digital*) Kyrgyzstan 2019-2023

On December 14, 2018, the Security Council of the Kyrgyz Republic approved the Concept of digital transformation “Digital Kyrgyzstan 2019-2023” (Sanarip Kyrgyzstan 2019-2023). On February 15, 2019, by the Order of the Government, the roadmap of the Concept of digital transformation “Sanarip Kyrgyzstan 2019-2023” was approved in order to implement the above Concept.

The strategic goals of the Concept are fully consistent with the National Development Strategy of the Kyrgyz Republic for 2018-2040 and set the following tasks:

Objective 1. Create new opportunities for the population through the development of digital skills.

In the field of human development, the system of higher and secondary (school) education will be modernized by improving educational standards, skills and knowledge among students and schoolchildren, necessary for their further successful employment in the digital economy and ensuring the competitiveness and demand of our citizens not only within the country, but also in the regional and global labor markets, increasing the level of employment and the welfare of the population.

Human capital is the main engine for the development of the economy of the Kyrgyz Republic. To remain relevant in the face of technological change, our people must have deep knowledge and develop new skills. For this, it is necessary to create improved conditions for training and retraining through institutions of additional education.

Cooperation between academic and business structures will be implemented through the sites of innovation centers, where business and the state will invest in the development and piloting of specific innovative educational programs, using the latest technological advances.

Objective 2. Providing high-quality digital services, increasing the efficiency, effectiveness, openness, transparency, accountability and combating corruption of the public administration system, increasing the level of citizen involvement in the processes of making state and municipal decisions through the digital transformation of the state and municipal administration system.

Actions will be aimed at increasing the efficiency of the activities of state bodies and local self-government bodies, eradicating corruption through the introduction of digital state and municipal services and automation of internal processes, procedures and regulations, as well as improving the regulatory legal framework of the Kyrgyz Republic to ensure the legitimacy of this activity, including through introduction of regulatory sandbox mechanisms.

Ensuring the rule of law and eradicating corruption in the law enforcement and justice system will be implemented through the introduction of digital tools for interaction between law enforcement agencies and the judicial branch of government with citizens and business structures, and full automation of internal processes.

Objective 3. Ensuring economic growth through the digital transformation of priority sectors of the economy, strengthening international partnerships and creating new economic clusters.

In the context of rapid technological development and innovation, the economic growth of the Kyrgyz Republic can be achieved through the solution of three priority tasks in the medium term:¹²⁴

1. Digital transformation of business processes and production chains, the introduction of financial technologies, the provision of competent specialists and the development of ICT infrastructure and digital platforms, especially in the priority sectors of the economy designated by the NDS KR 2018-2040, will increase the efficiency and competitiveness of domestic companies and strengthen export potential of the country.
2. Strategies for the development of the digital economy of the partner countries of the Kyrgyz Republic, the digital agenda of the EAEU 2025, the revival of the digital Silk Road through the Belt and Road program and other international initiatives to develop regional digital infrastructure open up new opportunities for the private sector to expand sales markets and creation of new types of goods and services and participation in the global production chain.
3. Development of digital technologies and the reduction of barriers to their development will create completely new economic clusters in the country. Automation of solutions to routine and repetitive tasks, ensuring full traceability of transactions, the use of blockchain and other technologies will expand the capabilities of the private sector in the development and export of new technological solutions, thereby creating innovative and creative clusters of the economy.

Open Data Project

In preparation for the launch of the Digital CASA - Kyrgyz Republic project, the International Development Association allocated a grant TF0A5660 "Action Plan on Open Data" (hereinafter the Open Data Project) from the Multilateral Trust Fund for the Development of Statistical Capacity (TFSCB).

The goal of the Open Data project is to improve modern statistical capacity and data management and sharing capabilities in the Kyrgyz Republic through the creation of a national open data platform filled with pilot open data sets and related activities to empower the population to access and use with these data.

The Open Data project consists of four parts:

I. Open data portal

Providing support for: (i) modernizing and improving the Recipient's open data portal; and (ii) reviewing open data regulations, including industry laws and regulations, as well as reviewing required policy amendments and actions.

II. Open data content

Providing support for: (i) developing a pilot open data program; and (ii) strengthening efforts to improve the skills of decision-makers and information technology personnel in selected institutions to ensure regular disclosure and updating of data, including putting in place the necessary coordination and institutional mechanisms, while ensuring that data is used to improve citizen interactions with institutions.

¹²⁴ <http://ict.gov.kg/index.php?r=site%2Fsanarip&cid=27>

III. Open data demand

Support to raise awareness and skills of participating beneficiaries in the use of open data through a range of public events, information events, competitions and hackathons.

IV. Project management and capacity development

Providing the PIU with goods, consultant services, Training and Incremental Operating Costs for the management, implementation, monitoring and evaluation, planning and budgeting of the Project, as well as for the financial audit of the Project.

The project was successfully completed in December 2019, and key developments were integrated into the "Digital CASA - Kyrgyz Republic" project in order to ensure the sustainability of the results achieved and to further work with the open data portal, generate demand and work with open data, interaction between public and private organizations.

"Digital CASA Kyrgyz Republic" Project

The Digital CASA Kyrgyz Republic project under the Digital CASA Regional Program has as its main development goal: "Expanding access to more accessible Internet, attracting private investment in the ICT sector and increasing the government's ability to provide digital government services in the Kyrgyz Republic, contributing to the development of a regionally integrated digital infrastructure and a favorable environment ", which will create the basis for the development of the digital economy in the Kyrgyz Republic.

In line with the findings of the 2016 World Development Report Digital Dividends, the project is expected to lead to faster economic growth, better job opportunities and better service delivery by government and the private sector. The project will drive the growth of the ICT industry by providing open, equal access to broadband; achieve budgetary savings on capital and operating costs through the introduction of digital infrastructure sharing by the government; and will generally lead to an improved investment climate and wider private sector participation in the economy.

The project will support four key components of digital development:

- Regional Digital Infrastructure: Supporting more affordable high-quality Internet access for business citizens and government by stimulating the development of network infrastructure in the private sector and providing services at the regional and national levels;
- Regional Data Centers, Digital Platforms and Smart Solutions: Development of Cloud Infrastructures and Common Data Center Platforms for the Government and the Private Sector for the Safe Delivery of Public Electronic Services to Citizens;
- Favorable conditions for the digital economy: strengthening and harmonizing the regulatory framework related to the digital economy in the region, including in the context of the EAEU, developing policies and strategies, as well as building digital leadership, digital economy skills and strategic communications;
- Project management to support effective project activities and sustainable achievement of results.

The project is funded by the World Bank (WB) and is implemented by the Project Implementation Unit (hereinafter PIU) under relevant state body of the Kyrgyz Republic which is an implementing

agency for the Digital CASA-Kyrgyz Republic project. It is the legal successor of the State Committee for Information Technologies and Communications of the Kyrgyz Republic and is responsible for ICT policy - including in the field of e-government, and also manages several state-owned enterprises in the field of ICT (State Enterprise "Info-Sistema", State Institution "Transkom" etc.).

According to representatives of the local office of the World Bank, the "Digital CASA-Kyrgyz Republic" project has tremendous opportunities for the country to overcome the digital divide by expanding network backbones and providing broadband access for residents from distant regions. The creation of an enabling environment in legislation and the widespread work to improve the level of digital competencies and skills within the framework of the project will increase the competitiveness of the population at times. The construction of data centers will allow the state to work more efficiently in large amounts of data and more likely to integrate the latest technologies on blockchain, artificial intelligence and the Internet of things. At the same time, maximum interaction and cooperation of all interested parties is necessary: government, private and civil sectors, international partner organizations and the population.

Digital Sustainability Project

The World Bank's Digital Development Practice Unit within the framework of the technical assistance program to increase digital sustainability of the Digital CASA - Kyrgyz Republic project, implemented by the State Committee for Information Technologies and Communications (now the Ministry of Digital Development of the Kyrgyz Republic), and other Digital CASA projects, implemented in Central Asia, launched the Digital Sustainability Program funded by the Korea Partnership Fund of the World Bank (KWPF) in 2020. Funding is aimed at ensuring the implementation of the Digital Sustainability Program by the World Bank team in close cooperation with the Project Implementation Department. The implementation of the Program is scheduled until June 2022.

The overall goal of the Digital Resilience Program is to empower and enhance the capacity of the Kyrgyz Republic to understand, recognize, identify, track and effectively respond to digital threats, and to strengthen Kyrgyzstan's regional leadership in digital resilience and data protection.

The implementation of the Digital Sustainability Program is aimed at:

- Improved technical knowledge and capacity of government agencies in the area of digital sustainability.
- Raising awareness in the Kyrgyz Republic and Central Asia about achievements and solutions to international digital sustainability and international best practices.
- Integration of critical elements of digital sustainability into key components of the "Digital CASA - Kyrgyz Republic" project and related programs and projects.

The program consists of the following components:

1. Technical assistance for the development of policy and regulatory frameworks for the implementation of the digital sustainability program;
2. Technical assistance for the construction of the Resilience Operations Center (jointly with ITU);

3. Support in building and building the capacity of the Central Asian Institute for Digital Sustainability;
4. Support in the implementation of the components of the "Digital CASA - Kyrgyz Republic" project in terms of digital sustainability.

Digital Skills and Employment Opportunities for Youth in the Digital Economy of the Kyrgyz Republic project:

The project is funded by the Russian Federation and implemented by UNDP in the Kyrgyz Republic in cooperation with national partners in accordance with the UNDP-Russia Partnership Framework Agreement. The project aims to create the foundations for sustainable long-term growth of target population groups, the labor market, the digital economy, the private sector and the country's economy as a whole.

Given the growing digital economy and unemployment issues in the region, especially those affecting women and youth, the project works in collaboration with the Government of the Kyrgyz Republic, government agencies, academia, private sector experts and businesses to develop digital skills training and support the growth of digital jobs and business. The project aims to create more skills and economic opportunities for target populations at high risk of unemployment, aimed at reducing their vulnerability in the short and long term to better adapt to changing industries.

The Kyrgyz Republic has a fairly young population (average age 24 and 60% of the total working age population), so the demand for jobs in the country is high. The unemployment rate among women and youth is higher than among middle-aged men. One fifth of the population, most of whom are young men, are forced to seek work abroad. They mainly occupy relatively low-paid jobs in the service sector (retail trade, catering, cleaning, utilities, etc.) and in the construction sector in Russia and other countries. Surveys of experts show that the number of citizens of the country working abroad is more than 800,000 people (30% - women). In 2017, the Government announced the launch of the Taza Koom nationwide digital transformation program aimed at creating a transparent state, a knowledge-based economy, improving the living standards of the population of the Kyrgyz Republic and improving the business environment. Taza Koom is a key component of a long-term national vision for sustainable development focused on increasing human capital and innovation in harmony with the environment by 2040.

The goal of the project is to help the Government of the Kyrgyz Republic strengthen an enabling environment and systems that will increase opportunities for youth and especially young women in the digital economy, help them better integrate into the global community and create sustainable jobs. The sequential activities proposed by the project will lay the foundation for achieving the following main objectives:

Goal 1: Strengthening the capacity of the formal education system and applying new educational standards in digital skills to deliver a demand-driven curriculum to better prepare youth for the digital economy. This will be achieved by setting new standards for digital skills and strengthening the institutional capacity of the formal education system (technical universities and vocational schools in Bishkek and Osh) to equip youth with transferable digital skills, including basic, intermediate and advanced digital entrepreneurial and communication and thinking skills, and improving the digital competencies of teachers to better integrate digital skills development into education. Under this

component, the project will work with the Government of the Kyrgyz Republic to develop a National Digital Skills Development Strategy and Action Plan.

Goal 2: Creation of a platform for innovative partnerships with the private sector to support initiatives that accelerate the growth of digital jobs and business in the country. This will be achieved through partnerships with the private sector to create the first ever IT hub in Osh city, which will provide space for youth from Osh, Batken and Jalal-Abad regions to acquire IT skills and connect them to job opportunities and business development in digital economy. The IT hub will serve as a catalyst to drive innovation by creating networks for digital startups, digital experts, including from the Russian Federation, the private sector and financial institutions, to provide access to venture capital and other forms of capital..

Preliminary results:

Goal 1: Improving the development of digital skills in the formal education system:

- A series of in-depth market research studies and consultations with experts and the private sector were conducted on global trends in digital markets, digital jobs and recommendations for the required skill set;
- National Strategy for Digital Skills and Competencies developed;
- Developed guidelines for new educational standards and curricula in higher education to build fundamental and emerging digital skills to meet the growing demand of the digital economy, including digital inclusion standards for people with disabilities and girls;
- The equipment was modernized and new "digital" training standards were introduced at the Kyrgyz State Technical University named after I. Razzakov (Bishkek) and Osh Technological University named after. M. M. Adysheva (Osh);
- Sign up for Google Education G-Suite Education and Microsoft 365;
- The equipment was modernized and new "digital" training standards were introduced at the Kyrgyz State Technical University named after I. Razzakov (Bishkek) and Osh Technological University named after. M. M. Adysheva (Osh);
- Setting up and connecting test WI-FI access points to the local service Eduroam for KSTU and OshTU;

Goal 2: Creation of an IT Hub in the city of Osh for young entrepreneurs and the use of new learning models in non-formal educational institutions

- Support for a series of hackathon events / festivals to attract young programmers, interface designers, private sector project managers and subject matter experts to collaborate in the development of new scalable business solutions and software products;
- Conducting awareness campaigns for target populations with a focus on girls and young people with special needs to raise awareness of the benefits of digital technologies and skills and to promote the use of digital services.

According to representatives of the Ministry of Education and Science of the Kyrgyz Republic, the Covid-19 pandemic exposed many risk zones and at the same time provided opportunities for decision-makers on the speedy improvement of the system of online education and retraining of teachers and instructors. Thus, certain steps are being taken to introduce the necessary standards and teaching methods that are strictly focused on the needs of the labor market in modern digital

realities. Spot work is underway to introduce and provide a system of academic freedom for higher education institutions. It is also planned to implement projects aimed at creating educational platforms like “unified digital classrooms and digital schools”, in which any student from any school, regardless of geographic location, can study online in a digital classroom and keep up with the curriculum.

It should be noted that a well-developed system for digital schools and classrooms may neutralize the problem of an acute shortage of teachers. Thus, at the beginning of the new 2020/2021 academic year, the Kyrgyz Republic 's schools require 2,250 teachers. According to the Ministry of Education, a particularly acute shortage of personnel is noted in Chui, Jalal-Abad and Osh regions, as well as in Bishkek. Least of all vacancies are in Talas and Naryn regions. In total, about 78 thousand teachers work in public schools (there are more than 2.2 thousand of them in the republic).

Projects implemented in the State Tax Service under the Ministry of Economy and Finance of the Kyrgyz Republic

«Consolidated post»

The launch of the automated information system "Consolidated post" and electronic accompanying invoices is being implemented within the framework of fiscalization of tax procedures and the concept of "SMART Salym". It is the automation of procedures related to the import of goods from the EAEU countries, reducing bureaucracy and eliminating the human factor. "Consolidated post" is a mechanism for recording the cross-border movement of goods.

To date, through the "Consolidated Post" system, taxable goods have been recorded for 3 months in the amount of over 60 billion soms. There are also non-taxable deliveries. Compared to the first quarter of last year, the growth in VAT collection on imports from the EAEU countries increased by 130% and amounted to about 1 billion 150 million soms.

«Electronic invoices»

In July 2020, the Electronic Invoices system was launched. Today the system is used by about 13,500 taxpayers - these are both VAT payers and entities engaged in foreign economic activity. According to the data of the Deputy Chairman of the State Tax Service Kubanych Shatemirov, from July to April 2021, more than 5 million invoices were issued for a total amount of more than 600 billion soms and for the first 6 months of the project launch last year, the plan for collecting VAT on indirect taxes was exceeded by 2 billion 730 million soms, and all this despite the pandemic and the recession in economic activity.

«Gas station automation»

According to the gas station automation project, to date, 975 gas stations have already switched to the new system. Oil traders issued more than 110 thousand electronic waybills. Since July 1, 2020, every month there has been a steady increase in the volume of sold fuel through gas stations, despite the fact that the project was launched in July 2020, when most of the gas stations were not functioning, because they did not have time to re-equip the filling complexes.

The total volume of sold petroleum products is growing and at the beginning of 2021 the volume of sold fuels and lubricants increased by 130% compared to last year.

«Cash register machine online»

To date, work is underway to launch and modernize cash registers. New requirements were developed and the so-called software cash register machines (CRM) - "virtual SCRM" were entered into the register. To date, there are already three software solutions in the register of CRM, and two more that can be launched by the end of 2021.

The market in the Kyrgyz Republic has solutions to use the new CRM in the form of a virtual program, where there is no need to purchase expensive equipment. One can also install the program on your computer, if there is an accounting system, or download the application to the phone and print accounting documents right there (receipts / invoices). Accordingly, this reduces the burden on the private sector in terms of obligations to use tax legislation in regard of the use of cash registers. And if CRM devices used to cost from 12,000 soms, now one can use it for free.

In order to strengthen civil control, so that ordinary citizens could demand the observance of their legal rights of consumers and ask checks, international practice was studied and the State Tax Service, together with its partner CJSC Alfa-Telecom, successfully implemented the "People's Control" project. During the period of the project from March to November of 2020, more than 700,000 cashier's receipts were scanned. This practice of the State Tax Service should also be further strengthened so that citizens understand that if they receive a fiscal check in their hands, it means that part of the amount paid for work, goods or services went to the budget.

Digital reforms in the taxation system in the Kyrgyz Republic did not go unnoticed by major international partners, including rating agencies such as Doing Business. In 2020, within the framework of this study, one of the criteria for reform in the field of taxation affecting the degree of freedom of doing business in the country grew by 15.7% and showed the largest growth in indicators among other studied countries.

ATTACHEMENT # 3 - LIST OF KYRGYZ NORMATIVE LEGAL ACTS IN THE SPHERE OF DIGITAL ECONOMY

Information and Communication Technology Policies and Strategies in the Kyrgyz Republic

Year	Policy / Strategy	Priority ICT areas
2002	Comprehensive Development Framework of the Kyrgyz Republic	ICT governance, ICT education, ICT economics (e.g. e-commerce development)
2009- 2011	Country Development Strategy	Construction of a national data transmission network, integration of the construction of a national network, integration of a national network into the Internet, telephone services, transition from analog to digital network, laying of fiber-optic lines, etc.
2013- 2017	National Strategy for Sustainable Development of the Kyrgyz Republic	Implementation of modern technologies in the state customs service, education and banking
2017	Taza Koom Initiative	Improving people's lives with technology, digital infrastructure and data development
2019- 2023	National Program of Digital Transformation "Digital Kyrgyzstan»	Introduce digital technologies in public administration and the service sector; create centers of excellence and innovative.

Codes

- Budget Code of the Kyrgyz Republic dated May 16, 2016 No. 59
- Tax Code of the Kyrgyz Republic dated October 17, 2008 No. 230
- Civil Code of the Kyrgyz Republic, Parts I and II

Laws

1. Law of the Kyrgyz Republic "On State Registration of Legal Entities, Branches (Representative Offices)" dated February 20, 2009 No. 57
2. Law of the Kyrgyz Republic "On protection of consumer rights" dated December 10, 1997 No. 90
3. Law of the Kyrgyz Republic "On Competition" dated July 22, 2011 No. 116
4. Law of the Kyrgyz Republic "On Licensing and Permits System in the Kyrgyz Republic" dated October 19, 2013 No. 195
5. Law of the Kyrgyz Republic "On the National Bank of the Kyrgyz Republic, Banks and Banking Act" dated December 16, 2016 No. 206
6. Law of the Kyrgyz Republic "On Normative Legal Acts of the Kyrgyz Republic" dated July 20, 2009 No. 241
7. Law of the Kyrgyz Republic "On Payment System of the Kyrgyz Republic" dated January 21, 2015, No. 21
8. Law of the Kyrgyz Republic "On Advertising" dated December 24, 1998 No. 155
9. Law of the Kyrgyz Republic "On Innovative Activity" dated November 26, 1999 No.128
10. Law of the Kyrgyz Republic "On the Digital Signature" dated July 19, 2017 No. 128

12. Law of the Kyrgyz Republic "On state regulation of foreign trade activities in the Kyrgyz Republic" dated July 2, 1997 No.41
13. Law of the Kyrgyz Republic "On public-private partnership" dated July 22, 2019 No. 95
14. Law of the Kyrgyz Republic "On State and Municipal Services" dated July 17, 2014 No. 139
15. Law of the Kyrgyz Republic "On the High Technology Park of the Kyrgyz Republic" dated July 8, 2011 No. 84
16. Law of the Kyrgyz Republic "On Customs Regulation" dated April 24, 2019 No. 52
17. Law of the Kyrgyz Republic "On Export Control" dated January 23, 2003 No. 30
18. Law of the Kyrgyz Republic "On Electronic Governance" dated July 19, 2017 No. 127
19. Law of the Kyrgyz Republic "On Personal Information" of April 14, 2008 No. 58

Decrees of the President of the Kyrgyz Republic

1. National Development Strategy of the Kyrgyz Republic for 2018-2040 years (to the Decree of the President of the Kyrgyz Republic dated October 31, 2018 No. 221)
2. Concept of Digital Transformation "Digital Kyrgyzstan 2019-2023"
3. State Strategy for Combating Corruption and Eliminating its Causes in the Kyrgyz Republic for 2021-2024 (to the Decree of the President of the Kyrgyz Republic dated September 25, 2020 No. 180)
4. Decree of the President of the Kyrgyz Republic dated February 8, 2021 DP No. 24 "On Measures for the Further Development of the Financial Market"
5. Decree of the President of the Kyrgyz Republic of January 8, 2020, DP No. 1 "On Declaring 2020 the Year of Regional Development, Digitalization of the Country and Support for Children"
6. Decree of the President of the Kyrgyz Republic of December 17, 2020, DP No. 64 "On Urgent Measures to Enhance the Implementation of Digital Technologies in Public Administration of the Kyrgyz Republic"

Regulations / Resolutions of the Government of the Kyrgyz Republic

1. Temporary Arrangement for State Registration of Legal Entities in Electronic Form (Appendix to the Decree of the Government of the Kyrgyz Republic dated February 26, 2019 No. 94)
2. The concept of scientific and innovative development of the Kyrgyz Republic for the period until 2022 (approved by the Resolution of the Government of the Kyrgyz Republic dated February 8, 2017 No. 79)
3. The Concept of Information Security of the Kyrgyz Republic for 2019-2023 years (Appendix to the Decree of the Government of the Kyrgyz Republic dated May 3, 2019 No. 209)
4. The Main Directions of the Fiscal Policy of the Kyrgyz Republic for 2021-2023 (Appendix 1 to the Decree of the Government of the Kyrgyz Republic dated September 14, 2020 No. 483)
5. Regulations on the State System of Electronic Messaging and the Rules for its Use (annex to the Decree of the Government of the Kyrgyz Republic dated December 31, 2019 No. 745)
6. Regulation on Marking Goods with Identification labels in the Kyrgyz Republic (annex to the Decree of the Government of the Kyrgyz Republic dated September 12, 2019 No. 470)
7. The Procedure for Obtaining the Consent of the subject of Personal Data for the collection and processing of their Personal Data, the Procedure and Form for Notifying Subjects of Personal Data about the Release of Their Personal Data to a Third Party (approved by the Government of the Kyrgyz Republic dated November 21, 2017 No. 759)

8. Resolution of the Government of the Kyrgyz Republic of July 4, 2019 No. 340 "On the Organization and Management of State-owned Enterprises of the Kyrgyz Republic in the Field of Digitalization"
9. Resolution of the Government of the Kyrgyz Republic dated December 6, 2019 No. 669 "On the transfer of the State Institution" IT-Service "under the State Tax Service under the Government of the Kyrgyz Republic to the State Committee for Information Technologies and Communications of the Kyrgyz Republic"
10. State Program for the Development of Intellectual Property in the Kyrgyz Republic for 2017-2021 (approved by the Resolution of the Government of the Kyrgyz Republic dated July 6, 2017 No. 424)
11. The program "Funding of Entrepreneurship Entities" (Appendix to the Decree of the Government of the Kyrgyz Republic dated June 9, 2020 No. 315)
12. Program of the Government of the Kyrgyz Republic for the Development of the Tourism Sector for 2019-2023 (Appendix 1 to the Decree of the Government of the Kyrgyz Republic dated January 31, 2019 No. 36)
13. The program for the development of the state language and improvement of the language policy in the Kyrgyz Republic for 2021-2025 (annex to the Resolution of the Government of the Kyrgyz Republic dated October 1, 2020 No. 510)
14. The Cybersecurity Strategy of the Kyrgyz Republic for 2019-2023 (Appendix to the Resolution of the Government of the Kyrgyz Republic dated July 24, 2019 No. 369)
15. Development Strategy of the Customs Service of the Kyrgyz Republic for 2019-2023 (Appendix 1 to the Decree of the Government of the Kyrgyz Republic dated July 22, 2019 No. 363)
16. Requirements for Ensuring the Security and Protection of Personal Data During Their Processing in Personal Data Information Systems, the Execution of Which Ensures the Established Levels of Protection of Personal Data (Appendix to the Decree of the Government of the Kyrgyz Republic of November 21, 2017 No. 760)
17. Decree on the Procedure for Determining Prices (Tariffs) for Goods (Work, Services) of Business Entities Regulated by the State (approved by the Government of the Kyrgyz Republic of February 18, 2013 No. 83)

Orders of the Government of the Kyrgyz Republic

1. Regulations on the Coordination Council for the digitalization of tax and customs administration (Appendix 2 to the order of the Government of the Kyrgyz Republic dated January 13, 2020 No. 3)
2. Order of the Government of the Kyrgyz Republic dated May 11, 2020 No. 170-r on approval of the Action Plan to support children in the framework of the implementation of the Decree of the President of the Kyrgyz Republic "On declaring 2020 the Year of Regional Development, Digitalization of the Country and Support for Children" dated January 8, 2020 No. 1
3. Order of the Government of the Kyrgyz Republic dated February 15, 2019 No. 20-o on the approval of the "roadmap" for the implementation of the Concept of digital transformation "Digital Kyrgyzstan 2019-2023"
4. Order of the Government of the Kyrgyz Republic of October 16, 2019 No. 389-o on approval of the Action Plan for the implementation of the Concept of Information Security of the Kyrgyz Republic for 2019-2023 years

Regulations / Resolutions of the Board of the National Bank of the Kyrgyz Republic

1. Main directions of development of the payment system of the Kyrgyz Republic for 2018-2022 (Appendix to the Resolution of the Board of the National Bank of the Kyrgyz Republic dated December 13, 2017 No. 2017-П-14 / 51-7- (ПС))
2. The main directions of digital transformation of banking services in the Kyrgyz Republic for 2020-2021 (Appendix to the Resolution of the Board of the National Bank of the Kyrgyz Republic dated November 15, 2019 No. 2019-П-12 / 56-2- (БС))
3. Regulation on emergency situations in the payment system (annex to the Resolution of the Board of the National Bank of the Kyrgyz Republic dated September 2, 2019 No. 2019-П-14 / 46-2- (ПС))
4. The Concept for the Development of Digital Payment Technologies in the Kyrgyz Republic for 2020-2022 (Appendix to the Resolution of the Board of the National Bank of the Kyrgyz Republic dated March 27, 2020 No. 2020-П-14 / 17-4- (ПС))

Charters of State-owned Enterprises

1. Charter of the State Enterprise "Sotsservice" under the State Committee for Information Technologies and Communications of the Kyrgyz Republic (Appendix 2 to the Decree of the Government of the Kyrgyz Republic dated July 4, 2019 No. 340)
2. Charter of the State Enterprise "Ukuk" under the State Committee for Information Technologies and Communications of the Kyrgyz Republic (Appendix 1 to the Decree of the Government of the Kyrgyz Republic dated July 4, 2019 No. 340)
3. Charter of the State Enterprise "Center of Electronic Interaction" Tunduk "under the State Committee for Information Technologies and Communications of the Kyrgyz Republic (approved by the Resolution of the Government of the Kyrgyz Republic dated April 11, 2018 No. 201)
4. Charter of "Infocom" the State Enterprise under the State Registration Service under the Government of the Kyrgyz Republic (approved by the Resolution of the Government of the Kyrgyz Republic dated June 23, 2011 No. 339)

Ministries Orders

1. Decree of the State Agency for Antimonopoly Regulation under the Government of the Kyrgyz Republic dated February 18, 2019 No. 2 "On the coordination of the cost of the service provided by the State Enterprise" Infocom "under the jurisdiction of the State Registration Service under the Government of the Kyrgyz Republic"
2. Decree of the Ministry of Education and Science of the Kyrgyz Republic of January 29, 2020 No. 80/1 "On the transition of universities to cashless payments to make payments by citizens for public services in the field of higher professional education".

Municipal body documents

1. The Charter of the Municipal Enterprise "Center for Digital Technologies" of the Bishkek City Hall (annex to the Resolution of the Bishkek City Hall dated July 17, 2019 No. 78)

ATTACHEMENT # 4 - LIST OF COUNTRIES WITH AVOIDANCE OF DOUBLE TAXATION TREATIES CONCLUDED WITH THE KYRGYZ REPUBLIC

Within framework of e-commerce benefit analysis (through tax incentives)

No.	Country	Name of the treaty	Date and place of signing	Effective Date
1	Austria	Agreement between the Kyrgyz Republic and the Republic of Austria for the avoidance of double taxation and the prevention of tax evasion with respect to taxes on income and on capital	Vienna September 18, 2001	May 1, 2003
2	Belarus	Agreement between the Government of the Kyrgyz Republic and the Government of the Republic of Belarus for the avoidance of double taxation and prevention of tax evasion with respect to taxes on income and property	Bishkek June 26, 1997	12 May, 1998
3	Germany	Agreement between the Kyrgyz Republic and the Federal Republic of Germany for the avoidance of double taxation and the prevention of tax evasion with respect to taxes on income and property	Bishkek December 1, 2005	December 22, 2006
4	India	Agreement between the Government of the Kyrgyz Republic and the Government of the Republic of India for the avoidance of double taxation and prevention of evasion with respect to taxes on income	Delhi April 13, 1999	January 4, 2001
5	Iran	Agreement between the Government of the Kyrgyz Republic and the Government of the Islamic Republic of Iran for the avoidance of double taxation and prevention of tax evasion from taxation in relation to taxes on income and capital	Bishkek April 29, 2002	September 16, 2005
6	Kazakhstan	Agreement between the Kyrgyz Republic and the Republic of Kazakhstan for the avoidance of double taxation and the prevention of tax evasion with respect to taxes on income and on capital	Almaty 8 april, 1997	March 31, 1998
7	Canada	Agreement between the Government of the Kyrgyz Republic and the Government of Canada for the avoidance of double taxation and prevention of evasion with respect to taxes on income and capital	Ottawa June 4, 1998	December 4, 2000
8	Qatar	Agreement between the Government of the Kyrgyz Republic and the Government of the State of Qatar for the avoidance of double taxation and prevention of tax evasion with respect to taxes on income	Doha June 1, 2014	May 4, 2015
9	China	Agreement between the Government of the Kyrgyz Republic and the Government of the People's Republic of China for the avoidance of double taxation and prevention of tax evasion on income	Beijing June 24, 2002	March 29, 2003
10	South Korea	Agreement between the Government of the Kyrgyz Republic and the Government of the Republic of Korea for the avoidance of double taxation and prevention of tax evasion with respect to taxes on income and capital	Seoul December 11, 2012	November 22, 2013

11	Kuwait	Agreement between the Government of the Kyrgyz Republic and the Government of the State of Kuwait for the avoidance of double taxation and the prevention of tax evasion with respect to taxes on income and capital	Kuwait City December 13, 2015	May 23, 2017
12	Latvia	Agreement between the Government of the Kyrgyz Republic and the Government of the Republic of Latvia for the avoidance of double taxation and prevention of tax evasion with respect to taxes on income	Bishkek December 7, 2006	March 4, 2008
13	Lithuania	Agreement between the Government of the Kyrgyz Republic and the Government of the Republic of Lithuania for the avoidance of double taxation and prevention of tax evasion with respect to taxes on income	Bishkek May 15, 2008	June 20, 2013
14	Malaysia	Agreement between the Government of the Kyrgyz Republic and the Government of Malaysia for the avoidance of double taxation and prevention of tax evasion with respect to taxes on income	Kuala Lumpur November 17, 2000	December 26, 2006
15	Moldova	Agreement between the Government of the Kyrgyz Republic and the Government of the Republic of Moldova for the avoidance of double taxation and the prevention of tax evasion on income and on capital	Bishkek April 17, 2004	January 16, 2006
16	Mongolia	Agreement between the Government of the Kyrgyz Republic and the Government of Mongolia for the avoidance of double taxation and the prevention of tax evasion with respect to taxes on income and capital	Bishkek city December 4, 1999	September 15, 2004
17	United Arab Emirates	Agreement between the Government of the Kyrgyz Republic and the Government of the United Arab Emirates for the avoidance of double taxation and the prevention of tax evasion with respect to taxes on income	Dubai December 7, 2014	December 16, 2015
18	Poland	Agreement between the Government of the Kyrgyz Republic and the Government of the Republic of Poland for the avoidance of double taxation and the prevention of tax evasion with respect to taxes on income and capital	Warsaw November 19, 1998	June 22, 2004
19	Russia	Agreement between the Government of the Kyrgyz Republic and the Government of the Russian Federation for the avoidance of double taxation and prevention of tax evasion on income	Moscow January 13, 1999	September 6, 2000
20	Saudi Arabia	Agreement between the Government of the Kyrgyz Republic and the Government of the Kingdom of Saudi Arabia for the avoidance of double taxation and prevention of tax evasion with respect to taxes on income	Riyadh city December 2, 2014	October 1, 2015
21	Tajikistan	Agreement between the Kyrgyz Republic and the Republic of Tajikistan for the avoidance of double taxation and the prevention of tax evasion on income and capital	Bishkek May 6, 1998	February 1, 1999
22	Turkey	Agreement between the Kyrgyz Republic and the Republic of Turkey for the avoidance of double taxation and the prevention of tax evasion with respect to income taxes	Ankara July 1, 1999	December 20, 2001

23	Uzbekistan	Agreement between the Government of the Kyrgyz Republic and the Government of the Republic of Uzbekistan for the avoidance of double taxation and prevention of tax evasion on profits and income	Tashkent December 24, 1996	March 17, 2000
24	Ukraine	Agreement between the Government of the Kyrgyz Republic and the Government of Ukraine on	Bishkek	May 1,
		for the avoidance of double taxation and the prevention of tax evasion on income and capital	October 16, 1997	1999
25	Finland	Agreement between the Kyrgyz Republic and the Republic of Finland for the avoidance of double taxation with respect to taxes on income	Helsinki April 3, 2003	February 28, 2004
26	Switzerland	Agreement between the Kyrgyz Republic and the Swiss Confederation for the avoidance of double taxation with respect to taxes on income and on capital	Davos January 26, 2001	June 5, 2002
27	Estonia	Agreement between the Government of the Kyrgyz Republic and the Government of the Republic of Estonia for the avoidance of double taxation and prevention of tax evasion on income	Tallinn April 10, 2017	February 7, 2018
28	Turkmenistan	Agreement between the Government of the Kyrgyz Republic and the Government of Turkmenistan on the elimination of double taxation and the prevention of tax evasion with respect to taxes on income	Ashgabat 23 August 2018	November 12, 2018

ATTACHEMENT # 5 - LEGISLATIVE INITIATIVES AND LAST PROPOSED AMENDMENTS

Economic Zone - Electronic Commerce Park

The Electronic Commerce Park is expected to be created in the Kyrgyz Republic. Inter-departmental working group consisting of representative of state bodies and business community will be engaged in preparation of preliminary feasibility study of the project. The agreement on creation of the group was reached at the meeting of Daniyar Imanaliev, the first Deputy Minister of Economy and Finance, Aibek Kurenkeyev, Vice-President of the Association of Electronic Commerce, and Nuradil Raimbekov, the Director of the USAID Project.¹²⁵

E-commerce now is a strategic direction for the development of the digital economy around the world and requires technological, legislative and infrastructural preparation. The E-Commerce Park can become a center of innovation and knowledge and create a communication space for transnational companies focused on the Central Asia countries, the Ministry noted earlier. The project aims to stimulate the growth of a diverse economy, e-commerce in the Kyrgyz Republic, creating conditions for entering world markets.¹²⁶

Digital Code of the KR

In 17 March 2021 the inter-departmental working group for preparation of the draft Digital Code of the KR was created within implementation of the Presidential Decree. The working group consists of representatives of ministries and agencies as well as non-governmental sector. The period for preparation of the Digital Code of the KR is 1 May 2021. Due to wide scope of the issues covered by the Digital Code this period may be extended.

Draft Law of the KR “On Cryptocurrencies Circulation”

On 22 June 2020 the inter-departmental working group on cryptocurrency regulation was created according to the Order of the Chairperson of the NBKR No. 2020-Pr-144/144-O. The task of the working group is to conduct regulatory impact assessment on cryptocurrency regulation and development of relevant normative legal act. On 31 December 2021 the draft Law of the KR “On Cryptocurrencies Circulation” and draft Law of the KR “On Amendments to Certain Legislative Acts in the Area of Virtual Assets” were published on the NBKR website for public discussion.¹²⁷ The draft Law was prepared to change/ introduce regulation of circulation of cryptocurrencies in the KR for the purpose of creation of legal framework for circulation of cryptocurrencies and activity of cryptocurrency exchange service providers as well as to decrease risks of financing terrorist activity and money laundering in compliance with the Recommendation of the Financial Action Task Force (on Money Laundering), capital outflow and consumers’ rights protection. The draft Law provides for main provisions on cryptocurrency circulation: terms and definitions; legal regime of cryptocurrency market participants; regulation of cryptocurrency circulation and activity of cryptocurrency exchange service providers. As provided by the Draft Law, cryptocurrency exchange service providers shall be created in the form of a legal entity and their activity shall be licensed by the NBKR.

According to the NBKR the draft Law is being updated.

Regulation “On Non-Cash Settlements in the Kyrgyz Republic”

¹²⁵ Economist.kg

¹²⁶ [E-Commerce Park to be created in Kyrgyzstan IBC](#)

¹²⁷ [LAW The Kyrgyz Republic On amendments to some legislative acts in the field of virtual assets](#)

The NBKR has submitted for public discussion a new version of the Regulation "On Non-Cash Settlements in the Kyrgyz Republic" prepared due to digitalization of banking and payment systems. The document has been published on the website of the Government of the KR and NBKR.¹²⁸

Double Taxation Agreements

According to the information on the website of the Jogorku Kenesh, on 16 January 2017 the Committee of the Jogorku Kenesh (Parliament) on Budget and Finance approved the concept of the draft double taxation agreement between the United Kingdom and Kyr the Kyrgyz Republic gyzstan.¹²⁹ However, it is still unclear if the agreement has been signed and ratified by both parties. The State Tax Service under the Government of the KR has published a list of countries having double taxation agreements with the KR.¹³⁰ The United Kingdom is not indicated there. Since IT companies and specialists from the Kyrgyz Republic work with foreign organizations/ companies, it is important for the Kyrgyz Republic to conclude additional double taxation agreements with foreign countries, in particular with developed states, such as the United States, the United Kingdom, Ireland, etc. in order to facilitate business conditions for local IT businesses.

E-commerce Tax Initiatives

According to information provided by representatives of the Ministry of Economy and Finance of the Kyrgyz Republic, today the MEF, together with interested government bodies, is actively involved in the development of e-commerce. Thus, the MEF is actively working on the issue of introducing a special tax regime. The IEF is currently considering the following taxation options:

- Income tax of 2% - for small and medium-sized businesses (SMEs) operating through e-commerce (Instagram stores, etc.);
- VAT of 12% for large multinational companies (Google, Facebook, etc.) on a voluntary basis without forming a legal entity and opening a bank account.

In addition, in 2021, it is planned to introduce the "Retail seller" regime. This regime provides for full exemption from all taxes in the first year of operation. Further, the taxation provides for the following rates: second year - 1% of the proceeds; the third year - 2% and the fourth year - 3%. At the same time, if an entrepreneur works by bank transfer, rates are reduced by 50%, which amounts to 1.5% of the proceeds.

Draft law in the field of electronic commerce

On May 28, 2020, the draft Law of the Kyrgyz Republic "On Amendments to Certain Legislative Acts of the Kyrgyz Republic in the Field of Electronic Commerce" was submitted for public discussion. The submitted draft Law of the Kyrgyz Republic was prepared in order to regulate public relations between state bodies, individuals and legal entities in the field of electronic commerce and establish requirements for electronic transactions for the sale, purchase and exchange of goods, services, including exclusive rights to intellectual property.¹³¹

Draft amendments to the Law of the Kyrgyz Republic "On the payment system"

¹²⁸ <https://www.gov.kg/ru/npa/s/3043>

NBKR

¹²⁹ [The profile committee of the Jogorku Kenesh approved the draft Agreement on the avoidance of double taxation KENESH KG](#)

¹³⁰ [STI GOV KG](#)

¹³¹ ["On amendments to some legislative acts of the Kyrgyz Republic in the field of electronic commerce" KENESH KG](#)

The JK adopted in the third reading the draft amendments to the Law of the Kyrgyz Republic "On the Payment System". This bill is aimed at processing domestic payments in the territory of the Kyrgyz Republic, as well as clearing these payments by the operator of the national payment system. In addition, one of the main objectives of the above draft law is to comply with the restriction on combining the activities of payment system operators and payment organizations related to the provision of processing services and payments to third parties with another type of activity¹³².

¹³² URL: <https://www.gov.kg/ru/npa/s/2528>
<http://cbd.minjust.gov.kg/act/view/ru-ru/88035>
<http://www.kenesh.kg/ru/article/show/7704/ot-10-fevralya-2021-goda-4398-vi-o-prinyatii-vo-vtorom-chtenii-proekta-zakona-kirgizskoy-respubliki-o-vnesenii-izmeneniy-v-zakon-kirgizskoy-respubliki-o-platezhnoy-sisteme-kirgizskoy-respubliki>

APPENDIX 6 - LIST OF MAIN PROBLEMS IN THE SPHERE OF DIGITAL ECONOMY OF THE KYRGYZ REPUBLIC

Systemic problems:

- Lack of a generally accepted definition of the digital economy in the legislation of the Kyrgyz Republic. This in turn leads to a lack and / or a gap in reliable statistics on its key components and measurements. While a number of initiatives are currently underway to improve the situation, they remain inadequate and struggle to cope with the rapidly evolving digital economy. Given the paucity of up-to-date statistics and empirical data, and the rapid pace of technological change, the results and policy responses will need to be continually reviewed.
- The Kyrgyz Republic does not maintain statistics on e-commerce and it is not possible to estimate the number of enterprises (including SMEs) engaged in e-commerce. It is assumed that the Cabinet of Ministers of the Kyrgyz Republic (through the adoption of a law) will require all e-commerce enterprises to determine a specific bank account in which non-cash transactions with their online business will be carried out. This is done in part for tax purposes, but also to improve the collection of statistics. Without good statistics, it is impossible to conduct analysis that can then be used by decision-makers to inform incentive and reward programs, as well as to inform broader policy.
- Insufficient level of digital competence and skills of the population in the Kyrgyz Republic. E-commerce today opens up the opportunity to realize their potential for every person, regardless of gender, income level, social status and age. The digital divide is slowing down opportunities to take advantage of the benefits of e-commerce. New business models require new competencies and digital skills. It is important to create all conditions for the development of e-commerce in the Kyrgyz Republic, which will stimulate the technological development of the country with the participation of all segments of the population. Ensuring inclusiveness and developing an enabling environment for the growth of online entrepreneurship should become important tasks of the state and the business sector. With digital skills, creative industry professions will be able to monetize and enter new markets through e-commerce. So, artists, writers, designers, artisans, graphic designers, app and mobile game developers, etc. can sell their products and creativity far outside their country.
- Programs are often not implemented as a result of the following factors:
 - Frequent government changes, constant reorganization of government agencies and high staff turnover. Over the past three years, the leadership of the GSCR has changed 4 times.
 - The lack of institutional memory aggravates the process of adaptation and continuity of previously adopted and implemented programs.
 - Lack of professional staff, non-transparent selection and appointment to leading positions, unstable personnel policy.
 - Criminal prosecution of both civil servants and employees of private companies leads to lack of initiative in work, stagnation and bureaucratization of processes and centralization of all decisions at the highest level.
 - Projects are not implemented due to the lack of effective sustainable third-party monitoring and implementation control (one-time non-systematic approach), inefficiency of the existing monitoring system (lack of public monitoring)

- Working with data, including personal data, does not comply with international practice on regulatory requirements in the field of information security and responsibility for their observance, especially in the field of personal data protection. Key parameters and principles of privacy protection were defined in the Universal Declaration of Human Rights of December 10, 1948, to which the Kyrgyz Republic joined back in 1994. One of the benchmarks in the world is the European Union's data protection law - GDPR (General Data Protection Regulation), which is distinguished by unprecedented penalties for violating the requirements of the law. It is necessary to study and apply the principles and mechanisms for data protection.
- Urgent need to open and operate digital competence and skills centers, training centers, where interactive training (offline) and webinars (online) will be held for the general population. Courses should include the above topics, as with government officials.
 - The current regime of registration of e-commerce entities, current work, collection of statistical data, administration, including tax administration, are not adapted to the realities of the digital economy. A set of measures is needed aimed at a simplified, affordable, technological process of providing convenience for domestic consumers, manufacturers and exporters, as well as the administration of the sector by government agencies.
- Products and services from the Kyrgyz Republic often do not withstand competition, often domestic exporters, when trading with some countries, pay double taxes. The current list of countries with which the Kyrgyz Republic has signed agreements on the avoidance of double taxation is outdated and does not meet the requirements and needs of modern exporters (IT, export services and the creative economy).

In the field of payment and monetary systems:

- Problems with remote identification (infrastructural and regulatory related to the Tunduk system and access to data from various ministries and departments);
- Problems associated with high commissions. It depends more on the market structure, competition, business component and banks' readiness for new products;
- A limited number of operations available for legal entities and individuals through existing remote service channels due to the lack of a remote client identification system;
- Lack of intersystem integration between all participants in the payment market;
- Relatively low level of customers' use of digital channels when interacting with participants in payment systems.
- Inadequate legal framework that does not regulate the use of innovative digital payment technologies and products;
- Lack of high-quality Internet infrastructure in the regions of the country;
- A limited number of operations available for legal entities and individuals through existing remote service channels due to the lack of a remote client identification system;
- Lack of intersystem integration between all participants in the payment market;
- Relatively low level of customers' use of digital channels when interacting with participants in payment systems;
- Inadequate legal framework that does not regulate the use of innovative digital payment technologies and products;
- Lack of high-quality Internet connection in the regions of the republic.

Difficulties after joining the EAEU:

- Compliance with the technical and quality standards of the Eurasian Economic Union (EEU) remains a major issue for Kyrgyz producers;
- The Kyrgyz private sector is still adapting to these changes. The volume of imports, especially the cheaper one from the EEU countries, has increased, while Kyrgyz exporters are still in the process of developing their export potential. Non-tariff barriers have also increased;
- Joining the EEU may negatively affect the trade of the Kyrgyz Republic with countries that are not members of the EEU, since the government has raised tariffs on hundreds of categories of goods in accordance with the rules of the Customs Union;
- As noted in recent news articles, in practice, trade between countries has not been without friction;
- Recent problems at the border with Kazakhstan due to customs clearance of Kyrgyz exports.

The main problems associated with trade logistics:

- Traceability of shipments is poor. Even if the goods are purchased on the international market, the movement of goods is only counted up to the border;
- Generally, postage should not be delayed by customs for more than one day, however, most likely, this will not happen. According to a recent GIZ study, 15% of postal items subject to simplified customs clearance in Bishkek are delivered the same day they are received;
- The share of transportation costs significantly reduces the competitiveness of goods. For example, in Central Asia, including the Kyrgyz Republic, transport costs for export-import of products are 25%, while in countries located near sea transport, this share is about 10%;
- There are no automated customs clearance systems. For example, there are currently no functionalities such as automatic reconciliation of declaration and payment of duties / taxes so that there is no need for paper proof of payment;
- Currently, Customs does not provide for a (simple) procedure for handling returned goods, including duty / tax refunds and duty / tax free reimports in the same state;
- Global integrator companies such as DHL, Fedex or UPS are currently unable to obtain a concession to operate their own cargo handling area at the airport;
- The cargo sector has no experience in working with Europe, as the Kyrgyz Republic does not produce competitive products for transportation to Europe. This situation may change due to the growth of e-commerce in the future and the emergence of competitive products / sectors;
- There are no problems with the availability of transport and consolidation services, but there is a problem with compliance with the requirements for compliance (certificates, laboratory tests, etc.); bribes for travel through the Republic of Kazakhstan, which officially (periodically) blocks transit through its territory for political reasons. In response, the Kyrgyz Republic filed a complaint with the WTO. There are companies that provide consolidation services for small and medium enterprises (not necessarily officially registered);

- 136 out of 194 logistics companies provide cross-border freight and aircraft services, but they do not provide geostation (location-based shipping) and tracking services. Sixty-three logistics companies have websites, 17 accept card payments and 155 accept bank transfers;
- The most accessible modes of transport, aircraft and freight transport, are the most energy intensive and therefore most expensive;
- The Kyrgyz Republic levies an ad valorem export customs tariff of 0.15% of the value of the goods. This tariff needs to be reviewed in order to understand whether it can be abandoned in order to maintain competitiveness. In addition, when importing goods, the customs service collects an ad valorem customs duty for customs clearance in the amount of 0.15%. The levy of such a fee is inconsistent with Article 6.2 of the WTO Trade Facilitation Agreement; the fee must be replaced with a fixed fee limited to the approximate cost of the services rendered;
- There are no processing and fulfillment points in the country. The Kyrgyz Republic does not use its transit potential for parcels from China to Europe (a significant portion of the transit potential is captured by Kazakhstan). As of 2018, the Republic of Kazakhstan ranks 132nd among 167 countries according to the Aggregated Logistics Performance Index;
- It can take up to 7 days for parcels to be delivered between Central Asian states, mainly through customs clearance processes at the border, which makes e-commerce transactions difficult for SMEs (and actually increases overall costs), and neither individual firms nor established platforms such as marketplaces cannot offer on-time delivery.