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Article



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CLUSTER APPROACH TO IT-MARKET DEVELOPMENT IN THE KYRGYZ REPUBLIC

Abstract: The article discusses existing problems in the development of the IT market and issues of promising solutions to these problems through the cluster approach, as the main tool for increasing the efficiency and competitiveness of participants in the IT market in the Kyrgyz Republic.

Key words: clusters, cluster theory, IT market, Kyrgyzstan, international experience of clustering, industry problems, trends and development prospects.

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Introduction

Modern information and communication technologies (hereinafter referred to as ICT) significantly change all social relations. A new information society is being formed. New technologies not only change the way products, works and services are produced, but also create new opportunities for the exercise of civil rights, personal self-realization, acquiring knowledge, training the younger generation and spending leisure time. In the information society, distances are reduced, globalization occurs and unprecedented opportunities are created for the development of regions of any country, including Kyrgyzstan.

The cluster approach in the IT market is an industry development strategy based on the

concentration of related enterprises, suppliers, educational institutions and other participants in a certain geographical area or ecosystem. Clusters in the field of information technology have a number of advantages, such as: 1. Synergy and innovation: The proximity of various companies and institutions in a cluster facilitates the exchange of knowledge, experience and ideas, which stimulates innovation and the creation of new products and services. 2. Economies of scale: Clusters allow companies to reduce costs by sharing resources, infrastructure and services. 3. Development of human capital: The presence of highly qualified specialists and educational institutions in the cluster contributes to the development of human capital and training of specialists in accordance with market needs. 4.

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Attracting investment: Clusters can become an attractive point for investors and start-ups due to their ecosystem approach and opportunities for collaboration. Examples of successful clusters in the field of information technology are Silicon Valley in the USA, Shanghai in China, Bangalore in India, Tartu in Estonia, etc. The cluster approach in the IT market contributes to the development of the industry, increasing the competitiveness of companies and creating a favorable innovation environment.

The **purpose** of this study is to consider existing problems in the development of the IT market and issues of promising solutions to these problems through the cluster approach, as the main tool for increasing the efficiency and competitiveness of participants in the IT market in the Kyrgyz Republic.

The first known cluster can be considered Çatalhöyük, literally "Fork Mound", a large settlement of the Ceramic Neolithic and Chalcolithic era in the province of Konya (southern Anatolia), which arose in the 8th millennium BC. He specialized in non-ferrous metallurgy and the production of hand tools. Today, clusters are commonly understood as closely located and interacting companies, universities, institutes and infrastructure facilities that complement each other and enhance each other's competitive advantages.

Kyrgyzstan, as a country with a developing economy, is actively introducing information and communication technologies (ICT) into various areas of public activity.

In order to implement the cluster model for the development of the IT industry, on the initiative of the Software Developers Association, the High Technology Park was created in 2011, which currently has about 90 residents. The creation of one High Technology Park is not enough to resolve issues related to the clustering of all sectors of the country's economy. Here it is necessary to adopt an entire national cluster policy, study the international experience of developed as well as developing countries.

In January 2023, the Ministry of Agriculture of the Kyrgyz Republic submitted for public discussion a draft resolution of the Cabinet of Ministers "On approval of the Concept of cluster policy in the agro-industrial complex of the Kyrgyz Republic for 2023–2033"¹. Further, the Cabinet of Ministers of the Kyrgyz Republic, in order to implement innovation policy, adopted Resolution No. 231 "On the implementation of cluster policy in the Kyrgyz Republic"² dated April 29, 2023, where methodological, organizational and other support for

activities was entrusted to the Ministry of Economy and Commerce of the Kyrgyz Republic, the pilot project "Alpine skiing" was approved cluster" in the Issyk-Kul region." In accordance with this Resolution, an interdepartmental commission on cluster issues was created by order of the Minister of Economy and Commerce of the Kyrgyz Republic³.

But while such actions taken by the Cabinet of Ministers to resolve issues of the national cluster policy of the Kyrgyz Republic are not enough, it is necessary to solve such problems as: the lack of a unified legislative framework; weak connections between enterprises in clusters; lack of innovative ideas; lack of highly qualified personnel; lack of social role of the cluster.

Representatives of ministries and departments of the Kyrgyz Republic must develop a concept for cluster development of each department. And on the basis of these concepts, an entire cluster policy or doctrine of the Kyrgyz Republic should be adopted.

In the context of globalization and digitalization of all forms of activity, a special role is assigned to the Ministry of Digital Development of the Kyrgyz Republic or the IT sector of the economy.

Clustering of the IT market in the Kyrgyz Republic is an important tool for determining the main directions of development of this sector and increasing its competitiveness. The ICT sector in Kyrgyzstan covers areas such as software development, information security, Internet providers, digital economy, e-government and others. Clustering allows you to identify key companies, institutions and projects that form the basis of the industry and determine its further development. The main tasks of clustering the ICT sector in the Kyrgyz Republic include: 1. Identification of the main participants and players in the ICT market. 2. Determination of the main trends and prospects for the development of the industry. 3. Creation of a favorable infrastructure and ecosystem for ICT development. 4. Promote interaction between industry representatives to improve efficiency and competitiveness. 5. Advanced training of specialists in the field of ICT.

Clustering of the ICT sector in the Kyrgyz Republic helps stimulate innovation, strengthen the country's position in the global ICT market and ensure sustainable development of the industry as a whole.

According to the register of legal entities of the Ministry of Justice of the Kyrgyz Republic⁴, at the end of 2018 there were 316 organizations that were registered as participants in the IT market. Next, we present the growth dynamics of the number of such companies in Table 1.

¹ <https://www.gov.kg/ru/npa/s/4327>

² <https://www.gov.kg/ru/npa/s/4432>

³ Официальный сайт «Горный кластер» КР.
<https://www.cluster.kg/>

⁴ <https://register.minjust.gov.kg/register/About.seam>

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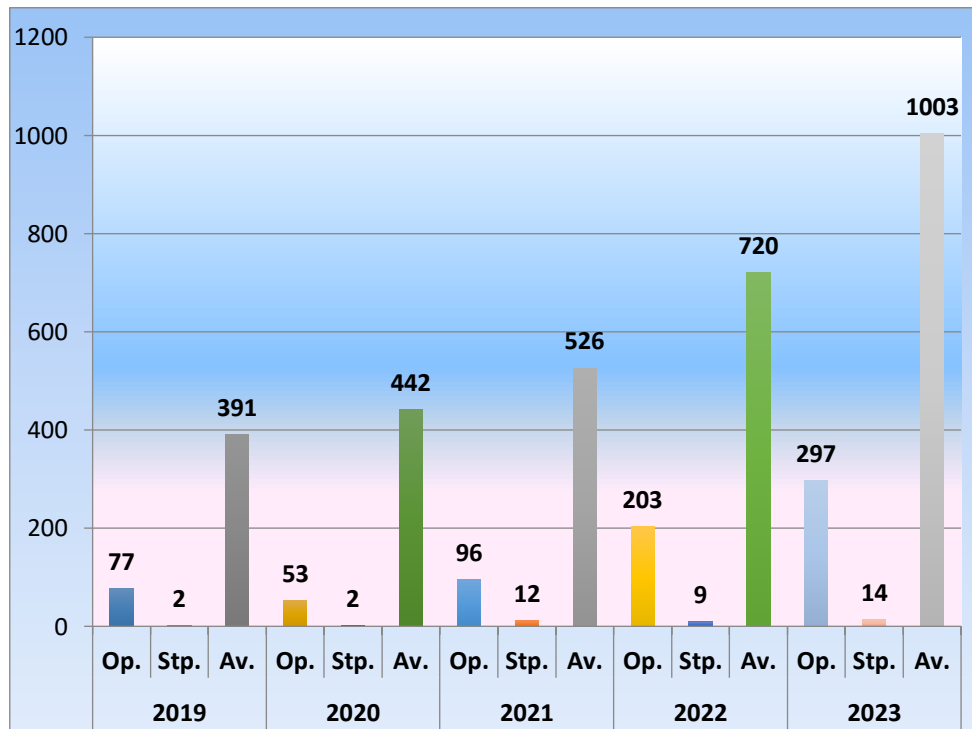
Table 1. Dynamics of growth in the number of IT companies by year according to the Ministry of Justice of the Kyrgyz Republic.

2019			2020			2021			2022			2023		
Op.	Stp.	Av.	Op.	Stp.	Av.	Op.	Stp.	Av.	Op.	Stp.	Av.	Op.	Stp.	Av.
77	2	391	53	2	442	96	12	526	203	9	720	297	14	1003

Where: Op. – new companies that registered, Stp.- discontinued, Av. - how much it became.

As can be seen from the table, the number of organizations classified as part of the IT sector of the economy is increasing from year to year, with the exception of the pandemic period. Of course, 1047 IT companies may seem like a lot for small Kyrgyzstan, but it would be normal to see the number of organization-companies broken down by activity category. Of course, we were unable to obtain relevant

information by category. Because the issue of cluster distribution of companies in the IT market has not yet been resolved at the legal level. And for the same reason, the register of legal entities of the Ministry of Justice of the Kyrgyz Republic does not provide for distribution by category. The data in Table 1 can be illustrated in the form of a diagram.



Picture 1.

However, the sad fact is that these companies and client organizations that want to use their services cannot find each other and do not know who and where to look.

According to research by Azis Abakirov (Kyrgyz Association of Software and Services Developers, Chairman) and Urgunaliyeva Gulzada (Kyrgyz Association of Software and Services Developers, Deputy Director), which were carried out with the support of the Research Grants program of the Soros Kyrgyzstan Foundation in 2018, many respondents expressed the opinion that they would

like to move to countries with a developed IT market. Among the leading countries are: the USA (San Francisco, New York, Chicago), Japan, a number of European countries (Germany, Great Britain, the Czech Republic, Switzerland), Canada, Australia. Also, the following states were noted in the respondents' responses: Belarus, Estonia, Singapore, Spain, Brazil, Georgia, Turkey, Kazakhstan, Egypt, New Zealand, Latvia, Poland, Hungary, Ireland, Sweden. Among the cities of the Russian Federation, respondents especially highlight the following cities with developed infrastructure: Moscow and St.

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Petersburg⁵. Yes, because in these cities and countries the clustering of the IT market has been put on a modern footing and the legislative framework has been developed. There is everything needed to enter the world market, potential and resources. That's why all IT people are ringing the bell to make it comfortable for us to run an IT business.

Clustering the information and communication technologies (ICT) sector in Kyrgyzstan can bring a number of significant benefits for the country:

1. Stimulating innovation: Clustering promotes the exchange of knowledge, experience and technology between companies and institutions in the industry, which contributes to the development of new ideas and innovative projects.

2. Increasing competitiveness: Through cooperation and interaction between cluster members, companies can increase their competitiveness by sharing resources and optimizing processes.

3. Attracting Investment: Clustering creates a favorable environment for investors as the combined efforts of businesses in an industry make it more attractive for investment.

4. Development of export potential: Clustering allows companies to increase the volume of exports of

products and services by strengthening their position in the global market.

5. Job creation: The development of the ICT cluster helps create new jobs and increase the level of employment in the country.

6. Improving the education and qualifications of specialists: Within the cluster, it is possible to organize training programs, master classes and other events aimed at improving the qualifications of specialists in the field of ICT.

Conclusion.

The formation and development of clusters, especially in the field of information technology, play a key role in the economic progress of Kyrgyzstan. Even with significant economic development, the need to create clusters remains constant. The opportunity to further increase productivity remains important as innovations in products, services and production methods become increasingly important as economies develop to improve a region's competitiveness. Thus, clustering the IT sector in Kyrgyzstan can become a powerful tool for stimulating economic growth, developing innovation and increasing the country's competitiveness in the global digital market.

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⁵ Research. IT market and market of IT educational services in Kyrgyzstan. <https://soros.kg/wp-content/uploads/2018/12/IT-Research-St4.1.pdf>