

DEVELOPING AN INTERSTATE FRAMEWORK FOR TRANSFERRING INNOVATION INITIATIVES TO THE DIGITAL ECONOMY

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ABSTRACT

In the dynamic landscape of rapid scientific and technological advancements, coupled with the prioritization of innovation in economic activities, the importance of international collaboration in fostering innovation has grown significantly. This collaboration stands as a pivotal factor in shaping and enhancing the structure and infrastructure of innovative endeavors for both nations and corporations. The classification of international innovation cooperation, categorized into scientific research and development, industrial production, and science and education, underscores its multifaceted nature. The Republic of Uzbekistan's dedicated efforts in these domains with Germany, Russia, and the Republic of Belarus have resulted in the implementation of 38 projects valued at 9.6 billion soums. Additionally, joint project competitions with Eurasian countries, Turkey, China, and India have been announced, showcasing a proactive approach. The tangible outcome of these initiatives is evident, as 30 billion soums have been raised to fund scientific programs, thereby serving as a catalyst for stimulating scientific creativity.

KEYWORDS: Innovative Cooperation, Digital Economy, Investments, International Cooperation, Scientific Projects.

1. INTRODUCTION

In the contemporary landscape of globalization, internationalization, and heightened competition, the pursuit of high efficiency in innovation development and implementation has become a paramount goal for nations aspiring to secure access to global markets for advanced technologies. This endeavor is increasingly reliant on fostering bilateral and multilateral cooperation between states and economic entities. As Filina (2019) underscores, the establishment of international cooperation in the realm of innovation is crucial for enhancing the innovative activities of economic entities (Abdulaziz A. Abduvaliev et al., 2023). Against the backdrop of rapid scientific and technological progress, where innovation has emerged as a pivotal driver of economic activity, the relevance of international innovation cooperation has intensified.

The growing importance of international collaboration in innovation is evidenced by its significant role in shaping the structure and infrastructure of innovative activities at both the state and corporate levels. This article delves into the imperative of developing an interstate mechanism for transferring innovation activities to the digital economy, recognizing the multifaceted factors influencing this need (Abdurashidova M. et al., 2023). Objective reasons driving this imperative include disparities in the scientific and technological development of countries, the urgent need for collaborative solutions to global scientific challenges, the pursuit of enhanced efficiency through international division in innovation development, and the complementary nature of countries in terms of personnel, material, technical, and information components.

In light of these factors, the exploration of an interstate mechanism becomes essential, aiming to facilitate the seamless transfer of innovation activities into the digital economy. This article will navigate through the challenges, opportunities, and key considerations in the development of such a mechanism, contributing to the discourse on international innovation cooperation and its pivotal role in the contemporary landscape of global economic dynamics.

2. LITERATURE REVIEW

Researchers worldwide are actively exploring the intricate mechanisms driving the transition of innovation activities into the digital economy. Harald Overby's seminal work, "The Digital Economy," comprehensively explores how information and communication technologies influence markets, business dynamics, and innovation processes, shedding light on digital innovations and their impact on the economy (Overby & Audestad, 2021). Chomać-Pierzecka contributes to this discourse by investigating innovative activities in modern organizations within the digitalization paradigm. His research emphasizes the significant development of green technologies driven by global regulations (Chomać-Pierzecka et al., 2023).

Ganikhodzhaev B. examines the distinctive features of innovative development in the digital economic environment, focusing on the importance of the digital environment, obstacles to digital transformation, and specific aspects of development in innovation (Ganikhodzhaev et al., 2023). In the realm of non-state educational services in the digital economy, G.M. Zakhirova explores their development, emphasizing the necessity of such services in the digital era (Zakhirova, 2020). Gulnora Zakhirova's work complements this by highlighting the role of innovation management in non-governmental educational services within the digital economy.

Domestically, Avazov Nuriddin investigates innovative technologies within the digital economy, emphasizing the crucial role of technological innovation and data utilization in economic growth (Avazov, 2020). U. Mannanov scrutinizes international higher education cooperation, delving into the intellectual mobility vector and contributing to competency analysis in collaboration with Gancherenok I.I. (Mannanov, 2020).

Elmurotova D.B. et al., explore technological digital platforms, offering insights into their implications (Elmurotova et al., 2022). Sh.K. Nematov et al., delve into networking scientific and innovative activities within universities amid digital transformation, emphasizing the Entrepreneurial University 3.0 Model and key components of digital transformation in higher education (Nematov et al., 2022).

Abdurashidova M. S. and BALBAA M. E.'s research encompasses the impact of the digital economy on higher education and the digital transformation of the industrial sector in Uzbekistan (Abdurashidova & BALBAA, 2022). Collectively, these studies offer a nuanced understanding of the intersections between innovation, technology, and the digital economy.

3. METHODOLOGY

This study employs a mixed methods research design, integrating qualitative and quantitative data collection methods to investigate and analyze the priorities of government support for innovation and digitalization policies in Uzbekistan. The primary objective is to gain insights into the current scenario and identify opportunities for enhancement in these policies.

Data will be gathered from both primary and secondary sources. Structured interviews with key stakeholders, such as government agencies, investors, and businesses, constitute the primary data collection method. Meanwhile, secondary data will be extracted through a comprehensive analysis of relevant literature, reports, and publications related to the subject.

The collected data will undergo a dual analysis, employing qualitative and quantitative methods. Content analysis will be employed for qualitative data obtained from interviews, while descriptive statistics and regression analysis will be used for the quantitative data derived from the literature review.

Ethical considerations are integral to the research process, ensuring participant well-being. Informed consent will be obtained before conducting interviews, and the collected data will be treated with confidentiality and anonymity to safeguard participant privacy.

Despite the meticulous research design, certain limitations may be encountered, particularly regarding data availability on the implementation and impact of government activities and digitalization policies in Uzbekistan. The study's scope may also be constrained by sample size and potential selection bias.

The significance of the study lies in providing an overview of government support priorities for innovation and digitalization policies in Uzbekistan, offering insights for improvement. Additionally, the study aims to furnish

valuable information to policymakers and business leaders in other developing countries, guiding them in the formulation and execution of innovation policies and strategies for the transition to digital platforms.

Overall, the proposed methodology on this topic aims to collect and analyze data on government support priorities for innovation and digitalization policies in Uzbekistan, in order to identify potential areas for improvement. The methodology describes the methods for collecting and analyzing data, as well as the ethical standards, considerations to be taken into account, and the limitations and significance of the study.

4. RESULTS

Scientific and technical cooperation emerges as a pivotal element in the realm of international innovation, with a focus on joint research and development programs. The study outlines various forms of international cooperation, including the creation of common research centers, joint experiments for equipment enhancement, and ongoing coordination on science and technology policy issues (S.D. Ilyenkova, 2015). The classification of international innovative cooperation highlights three significant groups: scientific research and development, industrial production, and science and education collaboration. Cooperation in research and development involves joint projects, exchange of scientific achievements, and the sharing of patents. In industrial production, joint ventures, production agreements, and collaborative innovation implementation are key components. Cooperation in science and education spans joint training, exchange programs, and collaborative publications (Pugacheva O.V., 2018).

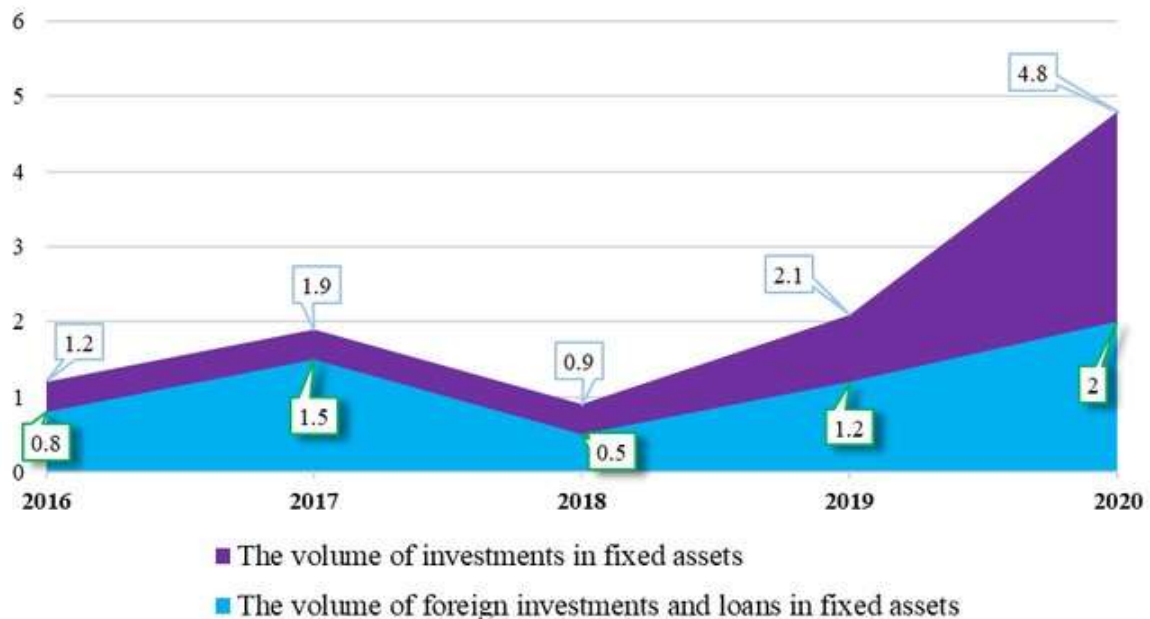


Figure 1: Dynamics of Investments in Fixed Assets by Type of Economic Activity "Information and Communication" (Trillion UZS)

Source: Avazov Nuriddin, 2020

The effective organization of international innovative cooperation, gradually developed through bilateral and multilateral relations, yields positive impacts on both national and individual economic entities' innovation and economic potential. Particularly in the context of the actively growing technological market, international technology transfer becomes a crucial driver of economic growth. The study underscores the importance of international technological exchange, highlighting the concentration of technological resources in the USA, Japan, and Western European countries. Developing countries, especially those in East Asia and Latin America, play a significant role in global technology markets, contributing to the overall rate of economic growth.

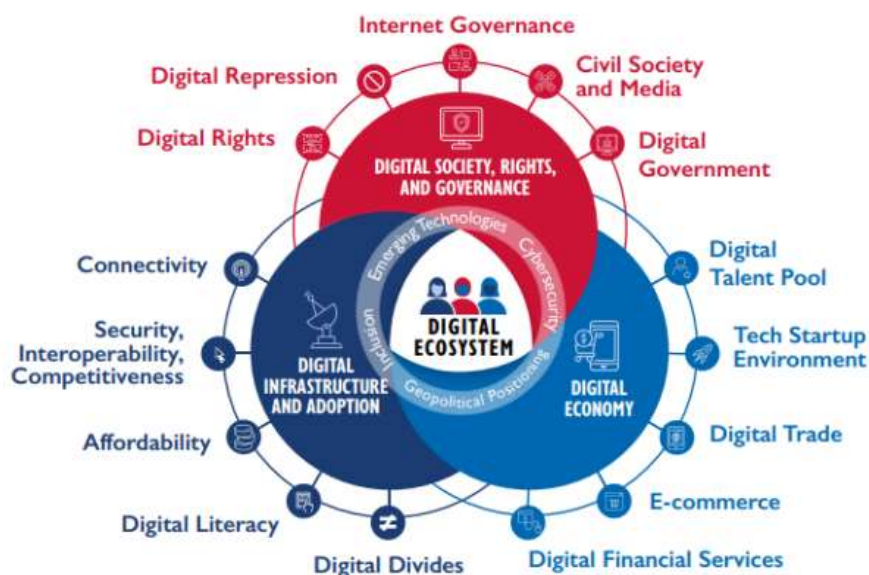


Figure 2: Digital Ecosystem

Examining the case of Uzbekistan, the study acknowledges the transformative reforms in scientific and technical program formation, emphasizing grant competitions for specific products based on state orders. The Republic of Uzbekistan actively engages in international cooperation, implementing 38 projects worth 9.6 billion soums with attention from countries like Germany, Russia, and the Republic of Belarus. Competitions are announced for joint projects with Eurasian countries, Turkey, China, and India. The government's commitment to financing scientific projects of the private sector and industry organizations on equal terms, coupled with an additional 30 billion soums raised for scientific programs, reflects a tangible impact on stimulating scientific creativity. Furthermore, agreements with the World Bank for preferential borrowings demonstrate a strategic approach to additional financing for scientific and innovative projects, specifically allocated for commercialization (Filina F., 2019).

5. DISCUSSION

Particularly noteworthy is scientific and technical cooperation, which is carried out in the form of joint research and development programs by combining scientific, financial and material resources, creating joint research groups of specialists or organizations.

The most rational and effective forms of international cooperation in the field of innovation are:

- creation of common research centers, bureaus, laboratories for the use of the latest scientific and technical ideas, design, marketing research and technical and economic calculations;
- joint experiments in the field of improving existing equipment and technology in order to improve the technical and economic performance of the company;
- joint research and study of foreign experience in the field of organization of production and labor;
- ongoing coordination and consultation on science and technology policy issues;
- organization of training of qualified research personnel (S.D. Ilyenkova, 2015).

The classification of international innovative cooperation by type of activity involves their division into three large groups: cooperation in the field of scientific research and development, cooperation in the field of industrial production and cooperation in the field of science and education. Cooperation in the field of research and development includes:

- joint implementation of research and development work;
- exchange of scientific, technical and innovative technological research and achievements;
- joint receipt and exchange of patents for inventions and know-how. Cooperation in the field of industrial production includes:
 - organization of joint ventures for the purpose of creating and producing innovative products;
 - production agreements (supply of technologies and their adaptation to new materials, production line, etc.);
 - commercial agreements with technical significance (development, installation and maintenance of new production technologies);

- joint introduction of innovations into the production process;
- making direct technical investments.

Cooperation in the field of science and education covers the following activities:

joint training of highly qualified specialists;

exchange of students, scientists and specialists for internships, lectures and consultations;

joint preparation and publication of scientific and practical publications by scientists and specialists

(Pugacheva O.V. 2018).

International cooperation in the field of innovation covers a fairly wide range of different activities in the field of research and development, practical application of knowledge in production and training of highly qualified personnel necessary for the development of innovative processes.

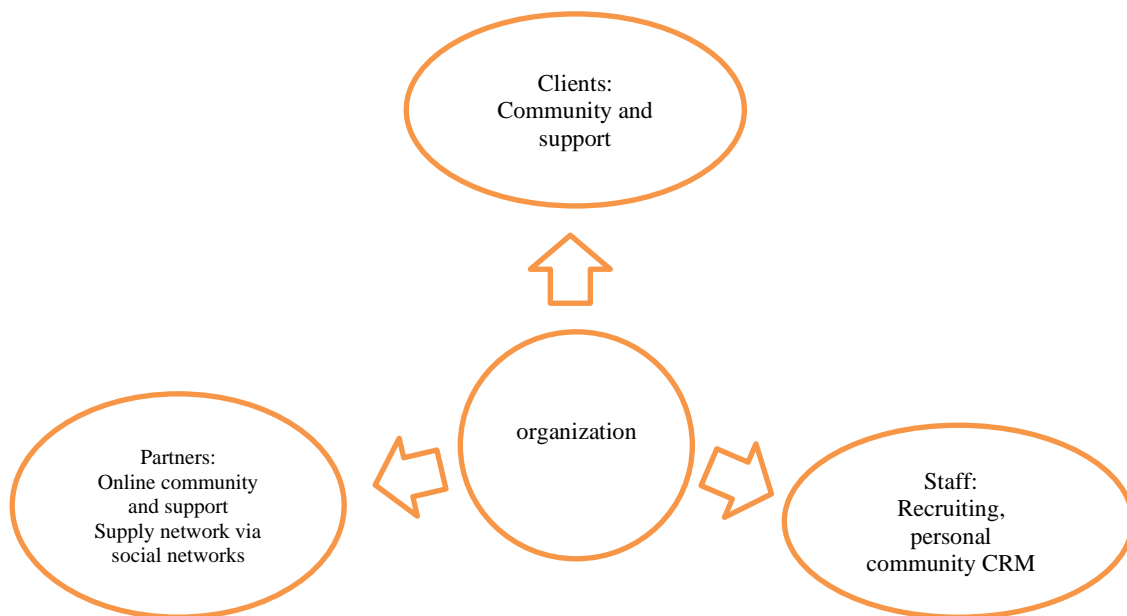


Figure 3 - Basic elements of using social networks in the activities of an organization

The effective organization of international innovative cooperation, which involves the gradual development of bilateral and multilateral relations by searching for new partners and expanding interaction with existing ones, has a positive impact on the innovation and, therefore, economic potential of both the country and an individual economic entity.

In the current conditions, the development of the national and overall global economic system occurs under the influence of an actively growing technological market, within which the transfer of various types of technologies occurs. This is primarily due to the fact that economic growth in developed countries is more than 90% determined by the quality of the technologies used, which are the main source of development of sectors of the national economy. In this regard, we emphasize that the process of international technology transfer is one of the current trends in the development of the world economy and areas of business activity, since with its help the country creates competitive advantages that allow it to achieve economic growth of an innovative type.

International technological exchange is a set of economic relations between foreign counterparties for the use of the results of scientific and technical activities that have scientific and practical value. The formation of the global technology market occurred in the second half of the 50s - 60s of the twentieth century, when the volume of international commercial transactions in technology exceeded the scale of national exchange. This made it possible to identify international technology exchange as a separate form of international economic relations.

The main centers where the world's technological resources are concentrated are the USA, Japan and Western European countries (in particular EU members).

In recent years, the overall rate of economic growth in developing countries is lower than in the US, Japan or Western Europe. Particularly noteworthy are China, South Korea, Taiwan, Thailand and Singapore, and a little later they were joined by some Latin American countries and India. For example, in the field of science, technology, and software, Mexico trains as many specialists as France, South Korea - more than any European country (except Germany), India or China - more than France and Germany combined. India, with twice as many software engineers as Japan or Germany, has created a thriving software industry.

East Asian and Latin American markets are already important to many US exporters, especially producers of high-value consumer goods and capital goods, as Japan and Europe face recessions. Over the past 5 years, the volume of American exports to Mexico has increased almost 3 times and even more after the creation of the OIL integration association.

In the 90s, Uzbekistan experienced far from the best times in this regard. The deep economic and social crisis has led to the fact that the fairly significant technological and scientific potential of Uzbekistan has not been fully used (Balbaa M.E. and Abdurashidova M.S., 2023).

Technologies created in developed countries are labor- and resource-intensive, but capital-saving; technologies of developing countries - labor-saving, but resource- and capital-intensive. Thus, international trade in technologies is in practice limited to the development of adaptive capabilities for their use in a particular country.

In modern conditions of globalization, internationalization, as well as increased competition, achieving high efficiency in the development and implementation of innovations that ensure the country's access to world markets for advanced technologies is often impossible without bilateral and multilateral cooperation between states in general and economic entities in particular. In this regard, the establishment of international cooperation in the field of innovation seems to be an extremely important factor in the development of innovative activity of an economic entity (Filina F. 2019).

In the Republic of Uzbekistan, the previous system of forming scientific and technical programs has been radically reformed; grant competitions are held for scientific programs to create specific products based on state orders. This contributes to the targeted use of funds allocated for the development of science and the expansion of international cooperation.

Thanks to the attention paid in this area by the Republic of Uzbekistan, Germany, Russia, and the Republic of Belarus, 38 projects worth 9.6 billion soums are being implemented. Competitions have been announced for joint projects with Eurasian countries, Turkey, China and India.

At meetings between the head of state and scientists, instructions were given to finance scientific projects of the private sector and industry organizations on equal terms. As a result, this practice was put into practice, and an additional 30 billion soums were raised to finance scientific programs. This also stimulates scientific creativity.

In order to additionally finance scientific and innovative projects, an agreement was reached with the World Bank to attract preferential borrowings in the amount of \$50 million allocated for the commercialization of developments.

6. CONCLUSION

It is appropriate to note that studying the experience of developed countries is considered one of the main investments made in the development of science and the human factor in the country. The work being carried out today plays an important role in involving young people in the scientific field, strengthening the scientific potential of universities and research institutions and its effective use in the further innovative development of the country.

As a result of the reforms carried out, a startup ecosystem has been formed in the country, aimed at innovative production. For the first time, a system for supporting and financing start-up projects was created, 34 start-up projects worth a total of 31.5 billion soums were financed and the production of new competitive products was mastered. As a result of the work carried out, the first accelerator of scientific projects appeared in Uzbekistan.

To date, the ministry has sent 212 young scientists for scientific internships to leading scientific centers in the USA, China, Germany, Italy, Belgium, Switzerland, South Korea, Great Britain, Spain, the Netherlands, India, Azerbaijan, Russia, Belarus and other countries. This is 4 times more than last year.

Uzbekistan is following the path of developing a scientifically based stable economy. Paying special attention to the areas listed above in the next five years will lay a solid foundation for the development of an innovation ecosystem, improving the level and quality of life of the people and, most importantly, for equal competition of our country with the world community [Abdurakhmonov I. 2020].

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