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**PROSPECTS OF PPP ON PARTNERSHIP IN DEVELOPING THE INNOVATION
SPHERE IN UZBEKISTAN**

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ABSTRACT

The country's role and place in the context of deepening globalization processes increasingly depends on the national competitiveness of the economy and also sustainable economic development, based on the effectiveness of the science and innovation sphere, which in turn depends on the principles on which the national innovation system is formed. There are several types of national innovation system (NIS). Public private partnership plays an important role in the integration of science, education, production and finance. Public-private partnership (PPP) is the institute of relationship in which public and private resources are blended to achieve a goal or set of goals judged to be mutually beneficial both to the private entity and to the public. The article talks about the use of the instrument of public-private partnership in the development of the innovation sphere in Uzbekistan. Conclusions, recommendations of the proposal presented in the article can be used in the implementation of effective policies aimed at creating favorable institutional conditions for the implementation of innovative activities: to reform the public sector of science, increase the level of commercialization of domestic science, to stimulate the activity of innovative enterprises in the cooperation with government.

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INTRODUCTION

Public-private partnership plays an important role in integrating science, education, production and finance. Ensuring the competitiveness of the economy is impossible without consolidating the efforts of state authorities and the business community

Currently, in many countries with transformational economies, a new institutional structure of the economy is being formed, and there are shifts in the system of economic relations between the state and the private sector. Ensuring the competitiveness of the national economy, as well as its sustainable development, is impossible without consolidating the efforts of public authorities and the business community. In many countries, public-private partnership is becoming the most common form of cooperation between government and business, because it often finds services and solutions that are more cost-effective than traditional approaches to management.

The term public-private partnership (PPP) characterizes relationships when public and private resources are combined to achieve a goal or group of goals that are mutually beneficial to both the private entrepreneur and the state. In addition, public-private partnership, as international practice shows, plays an important role in integrating science, education, production and finance in the interests of increasing industrial competitiveness and developing an innovative economy.

The latter aspect is the most important for Uzbekistan, where increasing attention is paid to the rational use of the country's scientific potential, increasing public and private investment in innovation, research, experimental design and technological work. Moreover, the emphasis is on innovative approaches to organizing relationships between the state and business, in particular public-private partnerships (PPP) [1].

The interaction of the state and the private sector to solve socially significant problems has a long history. The most indicative experience of public-private partnerships has been developed in the UK (public-private partnership in financing infrastructure development in the 2000s) and, mainly, as an alternative to privatization, a way to attract the experience, knowledge and resources of private business to the sector of budget services. In foreign countries, the term "PPP" is often used for almost any form of cooperation between government and private business. Worldwide, public-private partnership is considered one of the most effective forms of enhancing the efficiency of innovation processes.

PPP is also supported in the production sector in the European Union, where 25 projects have been approved for public-private initiatives that focus on four areas of innovation: 1) knowledge-intensive enterprises using the latest ICT achievements in creating the next generation of robotics, automated lines, planning and incentives;

2) production with digital technologies that reduce the need for physical prototyping; 3) manufacturing enterprises where new methods or new "green" technologies are installed and used to meet human needs;

4) production of new composite materials. Other sectors using PPP to conduct their activities in the field of basic research and core services are the agricultural sector and healthcare [2].

Currently, PPP is defined as a contractual agreement between government agencies and a private company.

The typical structure of a public-private partnership in the modern economy (based on the practice of developed countries) looks like the one presented in the figure.

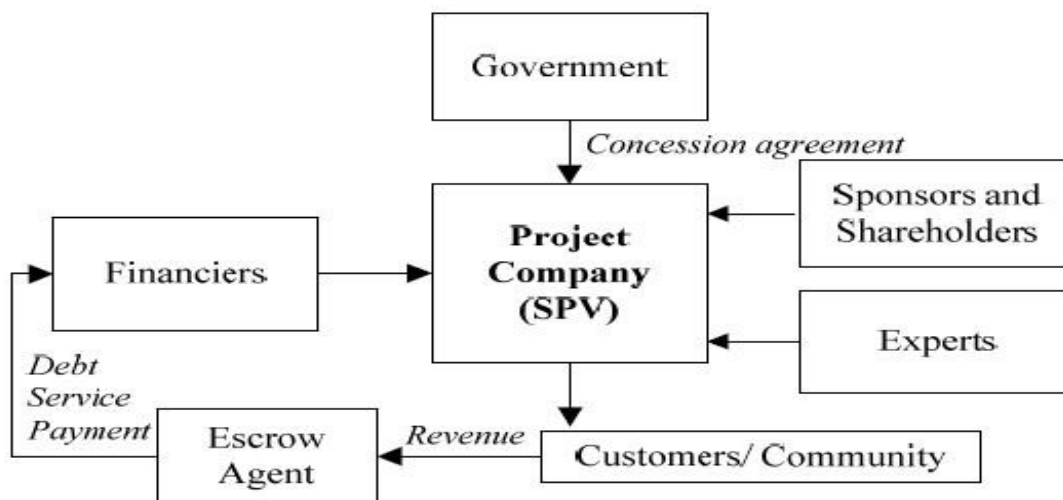


Figure 1. Typical structure of a PPP project

Source: The Global Innovation Index 2012, p. 82[3]

With this type of relationship, partners share risks, rewards and responsibilities in accordance with the share in capital investments. As international practice shows, the PPP structure involves three types of agreements. According to the first, it can be used to introduce private sector ownership into the process of production of state enterprises through public listing or sale of a certain part of the property (shares) of the enterprise. According to the second type, it can become a private financial initiative when the government transfers long-term management of the enterprise to a private partner, which involves responsibility for the construction and maintenance of infrastructure for the provision of public services. And according to the third type of agreements, PPP can cover the sale (implementation) of public services to private sector partners who will more efficiently use the commercial potential of public assets.

That is, a private sector consortium performs the typical functions of special purpose companies - to develop, build, maintain, manage assets during the contractual period.

In accordance with the classification of the World Bank, Uzbekistan is currently at the stage of transition from a factor-oriented stage to a mixed investment and innovation model of economic growth [4]. To intensify innovation activity in Uzbekistan, the resource potential of the private sector of the economy should also be engaged. The primary task of the state in this regard is to comprehensively promote private investment in the innovation sphere. As the study of Chen, Hu & Yang shows, countries with a higher share of private investment in R&D achieve relatively higher

efficiency in this area [5]. If China's private sector accounted for only 2% of total global R&D spending in 1996, then in 2017, according to GII-2019, it was already 27% [6]). At the same time, there is a need for a significant expansion and qualitative transformation of the system to support innovation processes through public resources in terms of both non-repayable (grants) and repayable (lending and investment) public financing of innovation projects.

PPP, being primarily a method of attracting extra-budgetary financial resources to the process of creating innovative products and bringing them to market, can be an effective tool for creating mechanisms to stimulate innovation development, including venture capital financing systems for innovation developments that are still underdeveloped. By implementing PPP projects, businesses share risks with the state, receiving money from the state only if agreements have been reached with one or more private investors [7]. Only in countries with transformational economies are private entrepreneurs not in a hurry to share these risks. This is partly explained by the lack of necessary trust in the state as a business partner. Therefore, in coordinating the interests of private and public partners, asymmetric models are applied in international practice, providing private investors with more favorable commercial conditions than public investors. For example, this is how the Australian Investment Fund operates, which finances up to 2/3 of the capital of venture funds, but returns only 10% of income to itself, the remaining 90% is distributed between private investors.

The legal framework and policies aimed at making the use of PPP more transparent and more integrated into the national context are facing, as the practice of many transformational economies shows, a weak point in the NIS of these countries - inadequate interaction between science, higher education system and production.

To strengthen and increase the effectiveness of PPP forms, measures are needed to expand research and development, reorienting technological and innovation policies towards strengthening and organizing cooperation between enterprises and research institutes at the pre-competitive stage of research with high potential for commercial application.

The state of innovation in Uzbekistan

Uzbekistan is among the countries of the world where innovation is predominantly created by the state with minimal participation of the private sector and universities, and where public-private partnership in the scientific field is underdeveloped. Due to the insufficient level of development of the private business sector, there is weak demand for domestic innovative products and services, which is a key factor constraining the promotion of innovation in the republic. Enterprises spend a significant part of innovation costs by purchasing foreign equipment and technology, which is also due, in our opinion, to insufficient measures to stimulate the interconnection and cooperation of domestic science and business.

The most important indicator in the innovation sphere is the effectiveness of science, which is expressed in indicators of innovation activity of the public and private sectors in the national economy. Since the mid-2000s, R&D expenditures have increased significantly, but the country still lags behind the global average. Most research is funded by the state. The private sector is virtually not involved in the innovation process. Venture funds have not yet gained widespread development, and small and

medium-sized businesses are reluctant to invest in innovation due to the high risk of innovation projects and lack of funds.

All this points to the need for new approaches in innovation policy that would allow obtaining adequate results from the relatively highly qualified human capital and scientific potential of the republic. This is also indicated by the rating indicators of The Global Innovation Index 2012 (after 2013, Uzbekistan is not included in this index due to failure to provide all the necessary data), where in the subgroup "Human Capital / R&D" and "Knowledge Absorption" the republic ranked 35th and 11th, respectively, out of 141 countries[8].

In recent years there have been serious changes: innovation is becoming a priority in the modernization policy. The relevant legal framework has been developed and development institutions have been created - the Reconstruction and Development Fund (RDF), the Technology Transfer Agency (ATT), the Intellectual Property Agency (AIS), the Innovation Development and Innovation Support Fund, which should finance and facilitate the development of all stages of the "innovation elevator" (from the developer to the user); the research sector is being formed in higher educational institutions and innovation activity is being stimulated in state corporations. Although so far the scale of these changes has not yet led to an increase in the impact of innovation on economic growth and public welfare.

This is largely explained by a number of institutional imbalances. On the part of business, there is low demand for innovation. This is partly due to the low degree of involvement of domestic enterprises in global markets with their focus on local markets with a low competitive environment, and, accordingly, low motivation for long-term investment in innovation and technology, since more than 60% of the structure of innovation costs is carried out through the import of machinery and equipment. Hence, against the background of significantly increased public R&D expenditures, private sector expenditures are low.

The significant increase in public investment in R&D was not adequately reflected in the growth of publications and patents. Expenditures are low, compared to global standards, on the implementation of innovations in terms of acquiring international patents (in the Madrid system for the international registration and management of trademarks worldwide, Uzbekistan ranked 135th in 2015[9]). Moreover, the R&D sphere remains underfunded (0.2% of the country's GDP). This affects the low competitiveness of the NIS, which has difficulties in producing and exporting high-tech products and services to world markets.

In Uzbekistan, as throughout the post-Soviet space, public-private partnership has not been sufficiently known and widespread until recently. There is little experience in attracting private investment in the areas of infrastructure (telecommunications and water supply) within the framework of EU TRACECA projects; pilot projects in the field of electricity supply and natural gas supplies to the population, the creation and development of roadside service on the Tashkent-Samarkand-Bukhara highway. The co-financing scheme for scientific and research cooperation between industrial companies, research institutes and universities began to be applied in 2010 (Uztransgaz and the Institute of Energy and Automation of the Academy of Sciences of the Republic of Uzbekistan jointly participated in creating a startup production of innovative products for the oil and gas industry). But,

basically, PPP is still seen as a financing tool, the entities of which can attract additional financing without investing in research and development[10].

In Uzbekistan, this PPP development process is at the fledgling stage. The legal and regulatory framework has been developed for the implementation of PPP projects, which includes the Presidential Decree "On Priority Measures to Create a Legal and Institutional Framework for the Development of Public-Private Partnership" dated October 20, 2018, the Law of the Republic of Uzbekistan on Public-Private Partnership, approved by Resolution No. PQ-537 dated May 10, 2019.

The Law of the Republic of Uzbekistan "On Public-Private Partnership" creates conditions for the development of cooperation between government and business in Uzbekistan, stimulating private investment in the country's economy, ensuring the use of results of scientific and technical activities obtained at the expense of the state budget, effective use of public and private partner resources to improve the quality of goods and services provided to the population.

The development of public-private partnership as a mechanism for constructive interaction between government and business in the development of a number of infrastructure areas in the republic has already taken place. In our opinion, the special need for such a partnership in the aspect of transforming the country's economy into an industrial-innovative type of development belongs to science and innovation. Moreover, such interaction between the state and private business today is a key component of the innovation transformation of society.

In the conditions of our country, the state plays an important role in establishing a partnership between research institutes and the private sector. At the same time, not having the competence of private companies in the market, or the competence of scientific organizations in research, the government should act as an intermediary, facilitating the formation of partnerships through material incentives, supporting the initiatives shown by these sectors and creating adequate legal conditions.

Researchers identify a number of advantages that state corporations have in the field of innovation, since they can: a) carry out business activities to achieve the goals for which they were created, i.e. they do not have the goal of immediate profit; b) take loans at reduced interest rates. They can attract not only public but also private investment. Thus, the presence of a powerful financial base allows state corporations to support not only domestic developments, but also to acquire and master foreign technologies[11].

This was mainly due to significant increases of PPI investments in Uzbekistan. Now Uzbekistan ranked as the world's second-highest country in terms of PPIs, indicating there is appetite for PPI investment.

Uzbekistan has continued to attract PPI for three consecutive years. Uzbekistan received US\$2.2 billion of PPI investment commitments in 2021 across five projects, marking 3.6 percent of its national GDP. All of its PPI investments were in the energy sector. It is expected that the strong PPI performance in the country will likely continue because Uzbekistan has implemented an ambitious public-private partnership program that included passing a public-private partnership (PPP) law, creating a dedicated PPP agency, and requiring line agencies to actively promote PPPs for key projects [12]

As part of the ongoing programs to modernize the economy in the country, sectoral and regional polarization are decreasing according to innovation activity indicators.

To achieve success, it is necessary to ensure coordination of innovation strategies of state corporations, budgetary research institutes, universities and state institutions. To do this, regular monitoring and evaluation of innovation initiatives are necessary.

Deepening the role of PPP in innovation

The republic has the necessary conditions to improve existing schemes and new initiatives in PPP, which could increase the scale, depth and economic impact of the national research and development sphere. Good conditions for using the potential of PPP for innovation exist in the telecommunications sector: the use of telecommunications providers in solving critical social problems, such as distance learning, improving health care, quality education and more open government.

A special incentive regime of public-private partnership should reduce the unfavorable business environment in combination with high commercial risks associated with innovation, and become important tools to facilitate conditions for interaction in innovation. To do this, it is necessary to revise the tax system for emerging startups and the conditions of the transaction of intellectual property rights, taking into account the innovation costs (costs of development of related technologies, design, engineering and training) of exporters of innovative products and services.

The main forms of public-private partnership in the economic sphere can be carried out in the form of contracts or concessions. As the practice of foreign countries, the countries of the post-Soviet space shows, it would be advisable to create a Center for Public-Private Partnership in the form of a joint-stock company under the Ministry of Innovative Development, which will coordinate emerging issues of business and government relations in such a partnership.

To facilitate links in the university-production chain, it is necessary to widely develop innovation infrastructure - business incubators, technology parks, engineering centers and centers for collective use of scientific and technological equipment and scientific and technical information. The state, as the practice of foreign countries shows, should do this on a competitive basis through subsidy programs.

Now the technologies of scientific institutions are not sold to small and private businesses. This is due to the fact that the developing organization cannot set the price itself, which, of course, would be adequate. With the existing system for pricing technology with the participation of a large number of departments, the price is overstated. Therefore, it is necessary to give the developing organization the independence to determine the price of its technology and innovation, as well as the right to transfer it to business representatives.

It is also important to create a network to promote the advancement of scientific and technological achievements into production. Of great importance here is the encouragement of connections and pre-competitive cooperation based on partnerships among leading manufacturers, suppliers, research institutes, universities and engineering companies within certain technological platforms[13] such as bioindustry, nanomedicine, computer technology, "green" energy, renewable energy, new polymers and composite materials.

PPP can become a decisive condition for the development of innovation, forming a space for research and development outside state structures, which creates a favorable environment for the introduction of innovation.

CONCLUSIONS AND RECOMMENDATIONS

Thus, the innovation policy measures of the government are already yielding positive results - increasing absolute indicators of investment in R&D by the state, business and universities, emerging venture capital. But these measures do not yet have a special impact on institutional structure and socio-economic consequences.

In this perspective, PPP can become a decisive condition for the development of innovation, forming a space for research and development outside state structures, which creates a favorable environment for the introduction of innovation.

The partnership helps to more widely attract talents and skilled personnel to the innovation process, as well as to form a disciplined and responsible work culture in this area, stimulating creativity and innovative thinking. Finally, the partnership between the state and private business reduces the risks of inefficient decisions in the field of science and innovation.

The ICT sector can be considered the most favorable environment for the development of public-private partnerships. Most of the innovations implemented in various business sectors of the economy depend on ICT. Thus, on the one hand, the PPP model can be an ideal financing mechanism for ICT projects, contributing to the development of the necessary infrastructure with a certain degree of return on investment guarantee. On the other hand, information and communication services are provided within the financial reach of millions of consumers in rural and urban areas. In view of this, the goals of public sector services can easily be tied to the goals of ICT service providers. It is also important that the development of social services is becoming largely dependent on the communications network, and the state and private sector institutions cooperate to provide the necessary ICT infrastructure in places accessible to businesses and individual citizens.

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