



# ACTIVATION OF INNOVATIVE TECHNOLOGIES AND THEIR COMMERCIALIZATION IN BUSINESS

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## ABSTRACT

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*The article discusses theoretical views, as well as the results of a comparative analysis of the study, improvement of the mechanism for financing the transfer of innovations to small business, innovative technologies, their commercialization and the impact of costs on innovation on long-term economic growth, as well as the results of a comparative analysis.*

**KEYWORDS:** *innovative technologies, commercialization, innovation transfer, sustainable economic growth, econometric analysis, research (R), global innovation index, innovation activity, industrial and technological growth, scientific and technical network efficiency, research activity (RA), innovation infrastructure, innovation project, consulting, intellectual property, venture funds.*

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## INTRODUCTION

In today's globalization, the intensification of commercialization of innovative technologies in business calls for the need to increase the efficiency of the use of research results, as well as to improve the use of available resources. The introduction and implication of innovative technologies in business determines, first of all, the use of economical methods of using financial resources in production, as well as the efficient use of productive forces, scientific and technological progress and the development of the economy as a whole.

As the President of our country, esteemed President Sh. Mirziyoyev has repeatedly stated, it is impossible to ensure the country's active participation in international economic relations without creating competitive goods and products in the national economy that meet the standards of the world market.

In particular, the consistent organization of innovation processes in all sectors of the

macroeconomy, in all its branches (households, firms, companies, corporations, joint stock companies, private enterprises and other types of production entities), the construction of an effective basis for innovation is central to the production of products that can replace imports, accelerate export and increase foreign exchange earnings [1].

Based on international trends in innovation development and the status and characteristics of the mechanism for financing the transfer of innovations to small business in Uzbekistan, the forecast trends in Table 1 are relevant to see the impact of research expenditures on economic growth based on their forecast indicators until 2030 [2].



**Table 1**  
**Forecast indicators on the impact of research expenditures on long-term economic growth**

Indicators	Reporting year - 2018	Forecast											
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
The share of research expenditures in GDP, %	0,18	0,43	0,68	0,93	1,18	1,43	1,68	1,93	2,1	2,4	2,6	2,9	3,1
Economic growth, %	5,1	5,2	5,3	5,4	5,5	5,6	5,7	5,8	5,9	6,0	6,1	6,2	6,3

A cross-country econometric analysis of the impact of foreign innovation financing on sustainable economic growth suggests that a 1 percent increase in government spending on research could increase long-term growth by 0.1 percent. (R= 1 %, Economic growth=0,4 %).

Based on this proportion, forecast indicators have been prepared on the impact of research expenditures on long-term economic growth. At the same time, it was found that a minimum of 0.25% of public spending on research has an impact on economic growth of 0.1%. This means that by 2030, Uzbekistan will be among the top 50 countries in the global innovation index if research spending on forecast indicators is increased.

The results of Table 1 above and the theoretical basis of research and the results of comparative analysis in research can be useful in the development of the concept (or strategy) of innovative development of the Republic of Uzbekistan for 2020-2030. At the same time, Uzbekistan has a sufficient scientific base and potential, as well as favorable macroeconomic conditions and the necessary resources.

Along with this conclusion, the following conclusions are also important for Uzbekistan.

At the end of 2018, Switzerland leads the ranking of countries in the world in terms of innovation opportunities, followed by Sweden and Singapore. The Chinese state is second only to Switzerland, Sweden, Singapore and Finland in terms of science and technology development, but has advantages in the innovation field from countries such as India. In this regard, it is important to consider the experience of leading countries in technology transfer, such as Singapore, Switzerland, Sweden, China and India, as a model for Uzbekistan in terms of innovative capabilities and results.

Although Uzbekistan has not yet been included in the Global Innovation Index, Uzbekistan has set a goal to be among the top 50 countries in the Global Innovation Index by 2030.

In recent years, special attention has been paid to the activities of each enterprise in the country, they are provided with many benefits, and the state encourages innovation, which is an achievement of

economic reforms and support for innovation, at the same time, the future of a great country is strengthened.

The adoption of the laws on "Standardization and Certification", "Metrology", "Industrial Designs" and "Inventions" and the announcement of 2019 as the Year of "Active Investment and Social Development" are notable examples of state support for innovation.

At the end of the last century, the transition of the main directions of industrial and technological growth to an innovative way of economic development forced the search for new ways to increase the efficiency of the scientific and technological sector. At present, in order to achieve advanced rates of economic growth, it is not enough to support a large amount of research costs, which requires the creation and implementation of management mechanisms that stimulate the transfer of innovative technologies to industrial enterprises. By nature, these are the results of research created at the expense of the state budget.

Commercialization of technology means the process of conducting research services that provide services in order to obtain new products and commercial benefits in the manufacturing sector.

The transfer and commercialization of research results are objective processes that evoke the demands of a market economy.

Technology transfer financing issues should not be viewed as a universal solution or even as a significant source of revenue. Economic profit arise in the process of commercialization of economic activity for both the state and society. The technology transfer will allow the educational institution, research and society to develop and commercialize research results, create a flow of research orders, attract new investment, create new technologies and new jobs, and increase tax revenues associated with the country's power growth.

Since the manufacturers of technologies are scientific institutions and educational institutions, it is expedient to bring them closer to the system of business support and promotion. Educational institutions already have experience in creating innovative infrastructure. Many of them have



technoparks and innovation centers, including the creation and promotion of competitive scientific and technical products, as well as innovative consulting on the preparation and implementation of innovative projects. Technology transfer centers operating in educational institutions and research centers have a sufficient reputation as the author of developments and for investors. It is expedient to conduct a systematic state line to support innovative activities through these centers.

One of the innovative systems aimed at overcoming the temporary gap between widespread scientific research in Russia and abroad and the application of their results in production is the technology transfer center. In practice, almost all of them are supported by a ton of state and local governments and administrations, most of the enterprises and business projects that support them are focused on the scientific-scale technological field.

The first system of technology transfer appeared in the 20th century.

The most well-known of these are the Technology Transfer Office (CTO) at the University of California (TTO), the German Fraunhofer Society (Germany), and the British Technology Group, founded in 1948 by the British government as a national corporation to commercialize scientific and technical results.

The dynamics of the creation of technology transfer centers in different countries shows that the legislation reflecting the state policy on the use and regulation of the results of scientific and technical activities obtained with the use of state budget funds has a practical impact on this process.

With such legislation, the Bay Doula laws were enacted in 1980. These laws are aimed at intensifying the process of commercialization of research and development obtained either through financial assistance (Bay-Doula) or in the form of investment in national laboratories, their staff and infrastructure (Stevenson-Wedler) with federal government support.

Many American educational institutions have opened licensing and technology transfer offices.

The activities of innovative offices of educational institutions are constantly monitored by the US government. Managers of the University Technology Association publish publications about their activities every year, provides information on national standards for key indicators of innovative office activities, taking into account the size and type of educational institution.

With the adoption of a technology transfer law by the Japanese government in 1998, the process of establishing a technology transfer center in Japan was intensified.

In France, technology transfer centers became an integral part of the educational institution

after the Law on Innovation on July 12, 1999 and 2002. The French Ministry of Scientific Research has issued Recommendations on intellectual property policy.

In 1986, it was decided that educational institutions in the UK had the right to state-funded developments.

In 2001, Italy passed the National Law on the transfer of the right to own, use and regulate intellectual property to inventors, not to organizations.

In Germany, technology transfer centers have focused their activities on creating clusters to develop their programs in accordance with the needs of the industry, the requirements of industrial sectors. They create their own Venture Funds and attract investment to them. [9]

At all levels of cooperation of participants in innovation activities in higher education: regional and individual HEIs, the system of results commercialization should provide the accumulation, analysis and evaluation of innovative potential for the development of programs compatible with the mobilization of resources to implement and promote the results of innovative activities.

## CONCLUSIONS

As mentioned, the creation of technology transfer centers calls for the need to increase the efficiency of the use of research results, as well as to improve the use of available resources: human, financial and logistical. The main result of the use of scientific and technical results is the organization of production of products that are in demand in the market. Therefore, the main direction of the technology transfer center is the creation of new businesses based on technological developments in the conduct of research activities of educational institutions.

The transfer of innovation to small business determines, firstly, the use of cost-effective methods of capital investment in business, secondly, the correct placement and efficient use of productive forces, and thirdly, scientific and technological progress and the development of the economy as a whole.

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