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**Aziza Tohirovna Ahmedova**

Samarkand Institute of Economics and Service  
researcher

[azizaaxmedova1982@gmail.com](mailto:azizaaxmedova1982@gmail.com)

## TECHNOLOGICAL DEVELOPMENT OF INFRASTRUCTURE INCUBATION OF THE INNOVATION MARKET IN UZBEKISTAN

**Abstract:** *The article examines the essence, composition, objective necessity of the infrastructure of incubation of the innovative market in Uzbekistan, the directions of its technological development. The article concludes with the current situation and technological development proposals for the technological development of incubation infrastructure.*

**Key words:** *technological development, innovation market, incubation.*

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### Introduction

The socio-economic reorientation of the national economy, as evidenced by international practice, along with other aspects of the reform should be implemented through the widespread development of modern technologies. A sufficiently high intellectual potential of Uzbekistan is often neutralized by an insufficiently high efficiency of the innovation process. There are not any proper mechanisms for the development of the innovation base: regulatory, legislative and institutional environment, motivation, investment and financial instruments, etc.

For the practical implementation of the country's intellectual potential, it is necessary to solve a number of problematic issues, including the creation of fundamentally new structures that would provide an environment that stimulates innovation and the implementation of their industrial implementation.

### Literature review

The economist Joseph Schumpeter is considered the founder of the theory of innovation, who developed the theory of long waves precisely from technological changes, giving them the main role [1]. J. Schumpeter introduced the concept of "innovation" and linked it with the pace of economic development.

According to J. Schumpeter, innovations are technologically new or improved technological processes or methods of production (transfer) of services used in practice.

F. Kotler defines innovation as an idea, product or technology launched into mass production and presented on the market, which the consumer perceives as completely new or with some unique properties [2]. B. Twiss defines innovation as a process in which an invention or idea acquires economic content [3]. F. Nixon believes that innovation is a set of technical, industrial and commercial activities that lead to the appearance on the market of new and improved industrial processes and equipment.

G.L. Bagiev, A.N. Asaul, innovation is understood as the final result of the creation and development of a new or modified innovation that meets specific needs [4].

Yu.P. Morozov understands innovation as a profitable use of innovations in the form of new technologies, types of products, organizational, technical and socio-economic solutions of production, financial or other nature [5].

A detailed and original typology of innovations is given by AI Prigozhin [6]. He classified innovations depending on the type of innovations (material,

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technical and social innovations), the mechanism of implementation, and the characteristics of the innovation process. A.I. Prigogine introduced into scientific circulation substituting, canceling, opening innovations, retro innovations, single, diffuse, intra-organizational, inter-organizational. He divided the concepts of "innovation" and "innovation" [6].

In the work of D.I.Kokurin and K.N.Nazin, the elements are grouped based on the area of the external environment, aimed at ensuring innovation. Following this logic, the following groups of innovative infrastructures are distinguished: transport and communications; informatics and telecommunications; credit and financial sphere; stock market; institute of intermediaries; companies and firms providing services of a special nature [7].

D. Kotov identifies the following elements of the innovation infrastructure: legal infrastructure; information infrastructure; specialized innovation centers; financial institutions (banks, investment institutions, venture funds, budget, etc.) [8].

**Main part**

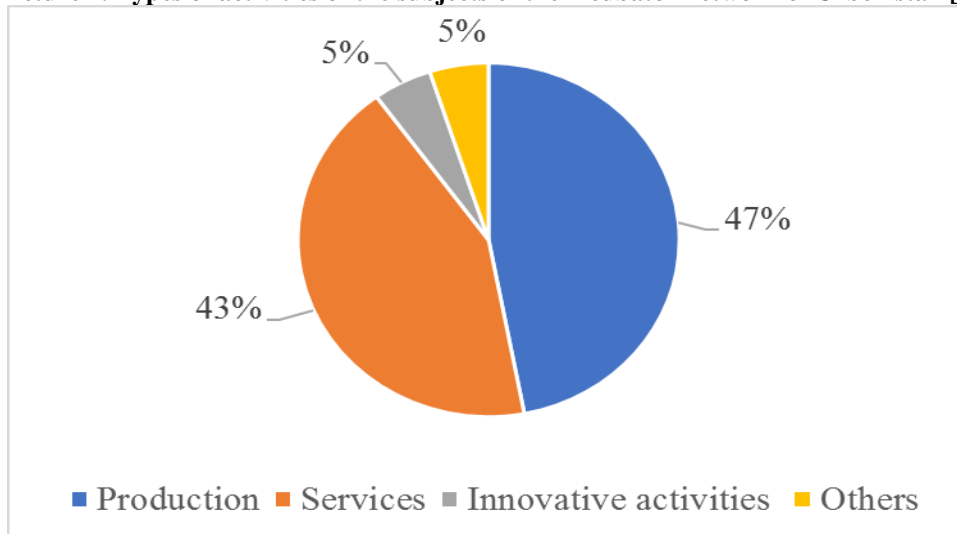
The results of scientific research and experimental design developments should become an effective source of income for the republic and to a greater extent meet the needs of the market. In a market economy, R&D acquires the character of a product that meets the laws of commodity production. On the one hand, being a factor in the development of productive forces, R&D should ensure an increase in the efficiency of social production. On the other hand, being the product of a research or design firm, they are designed to provide the required level of profit and profitability of its activities. Analysis of the situation in countries with market economies shows that there is a wide variety of mechanisms that provide a logical link between the chain "ideas - research - development - production - sales - service". In addition to the

mechanisms created within large enterprises (and other monopolies), all over the world, rapidly developing forms of integration of science and production that organically fit into the socio-economic environment of the region (industry) are structures such as technological incubators, which are one of the forms of business incubators. Business incubators can be divided into two main types: incubators for knowledge-intensive businesses (technology) and incubators for low- and non-technology firms (business incubators). If these are for Europe incubators of the first type are characteristic, then for the USA - the second.

However, despite this trend, technology incubators in the United States, as shown below, account for 30% of all existing incubation structures, and most multidisciplinary incubators have a technology block in their structure. International practice convincingly proves that business incubators are the most effective in relation to innovative entrepreneurship and this is where their own innovative essence is manifested to the maximum. Almost all of the 23 incubators existing in Uzbekistan (except for one - "STBI", Tashkent city) belong to the category of business incubators, since they work with practical entrepreneurs operating in the sectors of agribusiness, industry, services, etc. and using mainly off-the-shelf and often obsolete equipment. At the same time, due to the tasks set, the results of work required by the founders and the general conditions of functioning, "STBI" also cannot be classified as a "classic" incubator for high-tech business. The diagram presented here clearly shows the distribution of incubated enterprises by type of activity. But it should be noted that the indicated 5% of innovative companies are subjects of only BI "STBI", and a significant number of

Uzbek incubators are located at universities or have universities as their founders.

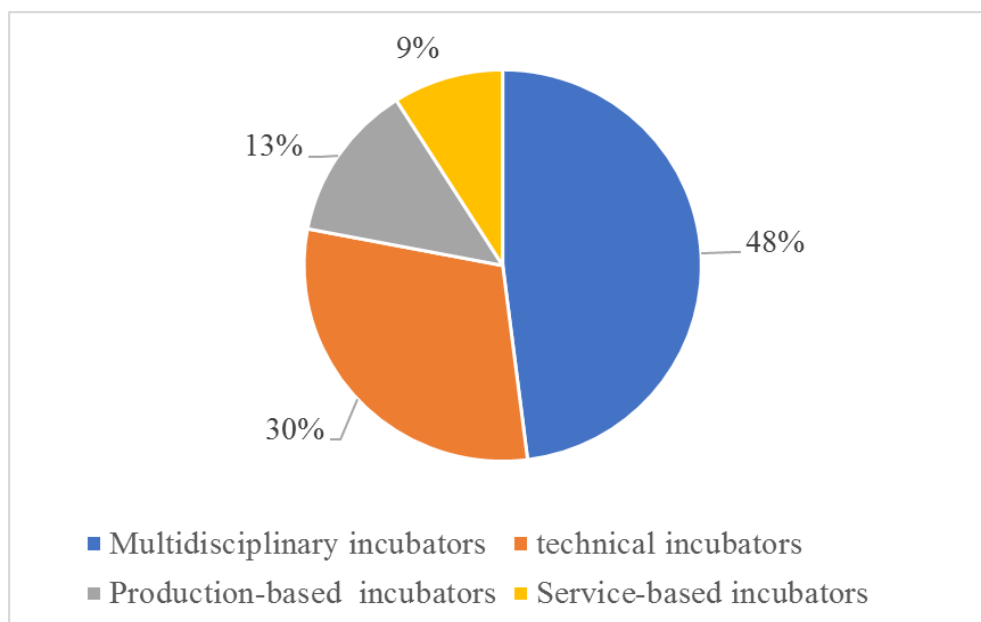
**Picture 1. Types of activities of the subjects of the incubator network of Uzbekistan [9]**



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Picture 2. Basic types of incubators [9]



Thus, the objectively existing potential of innovative work is used insignificantly, despite a sufficient understanding among the management of business incubators of the importance and prospects of such activities.

Technology incubators, as well as business incubators, are relatively small organizations whose tasks follow from their name - "nursing" young, "fledgling" firms and start-up entrepreneurs, creating the most favorable "incubation" conditions for them during the period of formation of activities.

In the industrially developed countries of the West (this is clearly seen in the shown example of Germany), experts have long realized that many technologies of potential strategic importance are simply dying, without having time to turn into a commodity, in an increasingly tough global competition, when not only success - survival is determined by the combination of brilliant ideas with the speed of bringing them to the market in the form of finished products; one cannot afford the luxury of being scattered by talented carriers of ideas, technology developers. In fact, an appropriate infrastructure for supporting knowledge-intensive entrepreneurship was created - technological incubators. They provide aspiring entrepreneurs with comprehensive support that includes:

- premises - office, laboratory, production site;
- technical services - fax, copier, access to computer, as well as special scientific and production equipment, etc.;
- advice on various aspects of organizing and running a business;
- centralized services of a secretary, accountant, patent specialist, lawyer, etc.;

- assistance in finding a strategic partner, attracting financial resources (credit, grant, etc.) for the implementation of an investment project;

- assistance in establishing contacts with the public and professional circles at home and abroad, etc.

As a rule, the assistance of the incubator at the beginning of the company's activity is preferential, then, step by step, as the company is successfully established, it becomes more commercial in nature. After finishing the period of "incubation" and finally "getting on their feet", firms leave the incubator and before them, accustomed to life in a circle of like-minded people, the question arises where to settle.

Recently, the Republic of Uzbekistan has formed a significant system of research and production organizations, research institutes, higher educational institutions, etc [10]. There are a number of state programs aimed at the development of scientific, technical and innovative developments. There is a rich intellectual potential. In addition, a large number of local industrial enterprises have all the necessary production resources for the practical implementation of innovative projects.

The technology incubator, with its classically highly developed commercial ties with research institutes, industrial enterprises and industry departments, as well as the ability to operate (directly or indirectly) with investment resources, is an excellent model for a promising solution to the problem.

In this regard, there is an objective need to create an innovative incubator (a network of technological incubators) as a factory for innovative business for its subsequent promotion to the market or sale. Such an incubator can be actively involved in the

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commercialization of technologies (as a product generated by this incubator). An incubator can support the growth of innovative firms by directly participating in their business development to ensure their survival and long-term growth.

The key objectives of this process are as follows:

- creation of innovative incubators for small and medium-sized businesses on the territory of higher educational institutions in strategically key locations;
- establishing and maintaining an incubator resource center that collects, organizes and uses business development resources within the incubator's location and elsewhere to support the early stages of growth of innovative firms;
- identifying and searching for promising companies and projects in institutes and universities and using the created resource center to attract and support them;
- ensuring financing of the incubator's activities by searching for strategic investors who are in the field of influence of the organizers of the

incubator or by creating their own venture fund from the initial stage of the incubator's activity.

It should be noted that the Association of Business Incubators and Technoparks of Uzbekistan currently has sufficient experience in the formation of incubation structures and the process of organizing a technological incubator is not very difficult.

### Conclusion

The situation in Uzbekistan is complicated by the fact that there are no or are in the initial form of development elements of constructing a model of a technological incubator: the infrastructure of technological incubation (for example, there is no institution of risk capital), the necessary methodological training, professional staff, etc. In this regard, special attention should be paid to the study of the existing national policy for the support and development of innovations in order to create the necessary foundation for the regulatory, legislative and informational and methodological support of future educational programs of the technological incubation system.

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