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ISSUES OF ACTIVATING INNOVATION PROCESSES IN INDUSTRIAL SECTORS IN THE CONDITIONS OF STRUCTURAL CHANGES IN THE ECONOMY

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Abstract: This paper examines the challenges and opportunities associated with activating innovation processes in industrial sectors amid structural changes in the economy. Structural transformations, driven by shifts in technology, market demand, and regulatory frameworks, necessitate the modernization of industrial operations and the adoption of innovative practices. Using a combination of empirical analysis and case studies from key industrial sectors, the study identifies the main barriers to innovation, including resource constraints, organizational inertia, and insufficient technological infrastructure. The findings highlight that effective activation of innovation processes requires a coordinated approach involving state policy, investment in research and development, and enhanced collaboration between enterprises and knowledge institutions. The paper contributes to the literature by providing evidence-based insights on fostering industrial innovation under transitional economic conditions and offers practical recommendations for policymakers and industry leaders to enhance competitiveness and sustainable growth.

Keywords: innovation, venture capital, intellectual property, infrastructure, authorized capital, entrepreneurship, incentives, scientific and technical potential, innovation center, foreign market.

Introduction

It is important to increase the scientific and technical potential of industrial enterprises of the republic and widely attract advanced technological achievements. Such scientific and technical changes are enterprises' priority at the level of developing opportunities. Therefore, the industrial sectors of the economy are undergoing rapid innovation. Developing in the economy structural to changes requires new approaches.

In this regard, the Resolution of the President of the Republic of Uzbekistan No. PQ-3698 dated May 7, 2018, “On additional measures to improve mechanisms for introducing innovations into sectors and areas of the economy,” and October 29, 2020, " Developing Science until 2030 " concept confirmation about " Decree No. PF-6097 is of great importance [1]. According to it, the main issues identified are the establishment of mechanisms for effective cooperation between leading industrial sectors in research and development, commercialization of research results, stimulation of innovation processes, and involvement of active business entities and representatives of the private sector.

Literature review

There are various theories of economists on the implementation of innovative structural changes in industrial sectors of the economy. In particular, economists**,** according to E. Yasin and A. Yakovlev, the process of structural change is characterized by the elimination of old, unproductive types of production and the development of new, effective, competitive, modern types of production [2]. In the theory of GBYun, it is proposed to classify the processes of structural change in industrial enterprises according to several criteria, which are: areas of application; periods of influence on the results of the enterprise's activities; directions and methods of implementation [3]. According to another economist, A. Tutundjyan, this refers to

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the process of structural changes at different levels of the economy: world, national, individual industries and sectors, and the economy of enterprises [4]. In the theory of V. Miskevich, it is emphasized, firstly, that it is necessary to increase the role of cash in industry activities, and secondly, that it is necessary to plan a change in the structure of production during periods of poor financial conditions of enterprises [5]. Economist K. Clarke's theory suggests that the level of economic development is directly related to the technological structure of industry [6]. In the theories of these economists, more emphasis is placed on the issues of activating the processes of updating the technological structure of industrial enterprises in all economic activities to effectively organize structural changes.

Research methodology

Innovative development of industrial enterprises is the creation of a suitable innovative environment in this sector, expanding the possibilities for implementing scientific and technical achievements in practice. For this, organizational institutions and legal and institutional norms have been created to form an innovative environment.

In our opinion, the innovative development of industrial sectors is important in providing scientific and technical innovations and services in the development of convenient and high-quality, modern, finished parts of innovation. This process requires the broad involvement and increasing interest of not only large manufacturing industries, but also innovatively active business entities and the private sector.

In particular, it is advisable to further develop innovative structural changes in industrial sectors in the following two stages:

Development of new products in the industrial sector and their introduction into production - including the effective organization of research and design work in the production activities of industrial enterprises;

Diffusion of new innovative products is the provision of consumers with new types of products produced in the industrial sector.

In implementing these strategic tasks, it is important to form the following innovative development structure of industrial enterprises in the context of structural changes. These are:

science and innovation centers;
design research institutes;
state experimental center;
state grant projects for industrial enterprises;
industrial science and technology research and planning center
Supreme education institutions.

The context of structural changes is characterized by the interaction of fundamental science, grant projects, and innovative sectors based on advanced technologies at the production stages of enterprises.

As an important influencing factor in this innovative development, the Republican Industrial Scientific Advisory Council plays an important role, which, in turn, ensures the technological modernization of state experimental centers and production enterprises. It also studies domestic and foreign consumers of industrial products.

The activities of a number of centers listed above are also important in the structural development of innovative development of industrial enterprises. In particular:

State Experimental Center - assesses the general technical structure of enterprises and identifies problems in the process of science and technology, innovation. At the same time, it implements new scientific and technical proposals, new product designs. At the same time, it carries out design work on orders placed by the state, corporations, and consumer needs.

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The industrial, scientific, and technical research and planning center conducts fundamental scientific and educational research on the production of enterprise products, introduces recommended product models, and prepares projects and exhibitions of new products. At the same time, it is important to widely use state and international grant projects and increase the activities of higher educational institutions and private scientific centers of the republic in the preparation and development of product projects of industrial production enterprises. On this basis, mutual innovation processes and commercialization work are carried out between educational institutions and private scientific centers, and industrial enterprises.

In this regard, one of the main factors is the establishment of an industrial venture fund and the development of a system of financial support for them in the priority development of innovative activities through the formation of public-private partnerships with science and innovation centers.

It is advisable to comprehensively support and encourage innovative projects in the industrial sector and develop innovative infrastructure.

In creating a system of innovative ideas and financing them, it is important to organize an innovative venture fund specializing in the activities of the "Scientific and Technical Research and Planning" center for commercializing innovations within the "Chamber of Commerce and Industry" and to establish activities through them. The initial authorized capital of the fund should be determined by the state. It is advisable to form the initial authorized capital of the fund at the expense of funds allocated from the republican budget and to fully allocate the share of the capital to the industry.

Results and discussion

Based on the above, it is necessary to outline the following main directions for the formation of a venture fund as a mechanism for financing the innovative activities of industrial enterprises (Figure 1)

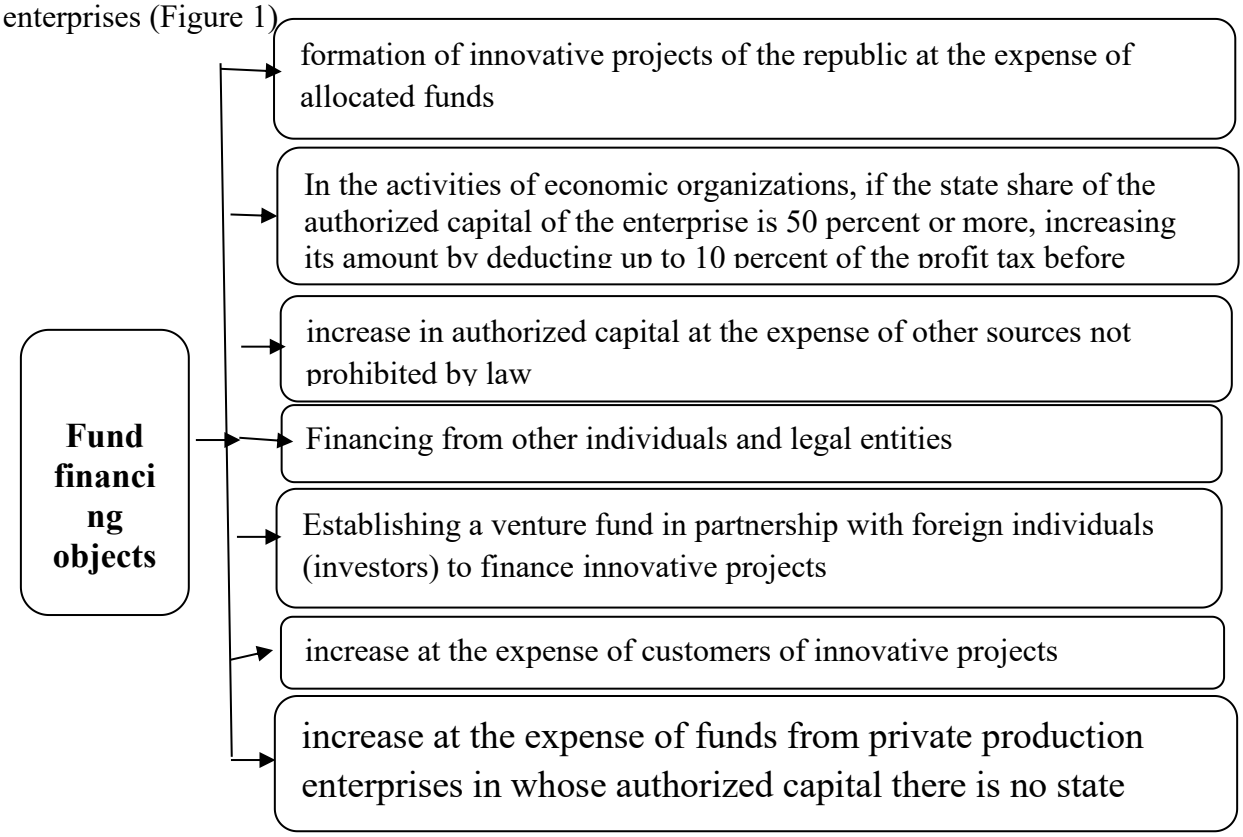

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Figure 1. Areas of financing for an innovative venture fund[1]

The sources of financing reflected in this figure are the main objects of the formation of the fund's funds, which must be formed based on state monetary policy from funds allocated to innovative projects in the authorized capital, that is, the determination of the amount of the initial authorized capital, which must be approved by relevant legislative acts.

When managing a venture fund:

To cover the costs of maintaining the fund from its own funds;

A qualified employee of the industry or a foreign specialist with international experience is invited.

It consists of selecting an independent private management enterprise with no state share in the authorized capital on a competitive (transparent) basis and assigning it to management on a contractual basis in accordance with the procedure established by law.

Another feature of the Fund is the formation of orders from state and private organizations for the creation of innovations, their implementation based on proposals from interested enterprises. It also provides financial support for training personnel and implementing innovative entrepreneurship in the field of mechanical engineering in the field of innovative activities of state scientific and educational institutions.

Based on these goals, the following can be considered as subjects of innovative activity:

Individuals, that is, those carrying out innovative activities;

other commercial organizations, economic management, and state bodies engaged in innovative activities and implementing a unified state policy;

new organizations, regardless of ownership, that create developments, innovation centers that use and implement innovations, production organizations, higher education, and research institutes;

organizations that protect the interests of users of innovations and produce them;

consists of the innovative activities of the owners of rights to intellectual property objects.

In this context, it is important to focus on the goals of innovation processes and ensure their consistency with strategic measures. The complexity of introducing adopted innovations into production structures, obstacles to entering the open market, and the limited ability to achieve competitive advantages mean that these problems must be overcome.

[1]Author's development based on research

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Table 1

Forecast of financing of science, scientific research, and experimental design work, and mechanical engineering in the republic until 2030 (in percent **)**

T/R	Target indicators	*Indicator readings*									
		2021	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
1	Share of funds allocated to science in GDP	0.2	0.8	1.0	1.1	1.2	1.4	1.6	1.7	1.8	2
2	The share of costs for the purchase of industrial equipment and software in the total volume of technological innovations	52	50	48	45	40	35	30	25	20	15

The main indicators in the innovative development of structural changes should be based on an assessment of the results of entrepreneurial activity in the long term. The organization of services that allows the mastering of the production of industrial products and the successful competition in the acquisition of customers with competitors in terms of their modernity, quality, costs, prices, delivery times, and other special indicators. The formulation and implementation of these measures is a complex and multifaceted problem. To solve it, it is advisable to involve specialists in various fields (marketing, management, finance, production organization, etc.) and use their services in the form of a creative team. The main goal is to fully mobilize scientific, intellectual, and financial resources for industrial production, to make extensive use of scientific and innovative potential, to determine priority areas for systematic reform of science in the industrial sector in the future, and to raise the modernization of scientific infrastructure to a qualitatively new level. In this regard, state innovation support is important and is the main lever in the face of a lack of financial resources. In the process of technological innovation, the share of funds allocated to science and technology in GDP in 2025 was only 1.2 percent. Of this, financing of industrial enterprises accounts for 48 percent. After all, the forecasts for supporting the industrial sector in financing science, education, and innovation in the period up to 2030 cannot be considered satisfactory (Table 1).From the table above, we can see that by 2030, the total amount of funds allocated to science and technology will be only 2 percent of GDP. Of this, the total amount of financing for technological innovation, spending on industry, equipment, and software is expected to decrease from 45 percent in 2024 to 15 percent by 2030.

It should be noted that there is a lack of innovative projects and spending on research and development in industrial enterprises. As a result, the production of new types of products does not meet demand.

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CONCLUSION AND SUGGESTIONS

Today, the existing production technical means of industrial enterprises do not fully allow them to achieve the desired results. They are morally and physically obsolete, and the use of these technical means in the production process causes a number of shortcomings, such as high costs, labor intensity, and technical failures. As a result, their efficiency ratio is reduced, which affects the cost and quality of products. In this regard, it is necessary to attract additional new techniques and technologies, scientific innovations to industrial enterprises, without completely abandoning the use of existing technical means. Based on the above, it is advisable to implement the following priority tasks for the innovative development of industrial production in the context of structural changes. These are:

Strengthen the activities of industrial production innovation centers and scientific and technical sectors, ensure that fundamental research departments, research laboratories, and the introduction of new technology projects are based on national needs, and form qualified working groups.

To direct innovative and scientific and technical activities in the production of industrial products to the needs of consumers in market conditions, to ensure regular communication with the external market, and to create a platform that advertises product quality.

The goal is to provide state support for innovation projects in the industrial sector and create a favorable innovation environment.

As a result of the effective implementation of innovative development based on the above tasks, the interaction of industrial enterprises with the production of scientific and technical and design centers will improve, and technical opportunities for the production of finished products will arise. At the same time, the opportunities for attracting direct innovative investments to activate structural changes in industrial enterprises will increase.

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