

ADVANCED FOREIGN EXPERIENCES IN INCREASING COMPETITIVENESS OF ENTERPRISES BASED ON THE IMPLEMENTATION OF A QUALITY SYSTEM (ISO, TQM AND OTHERS)

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Abstract

The article discusses the advanced foreign experience of increasing competitiveness based on the implementation of a quality system in increasing the competitiveness of enterprises. Also used are a systemic and comprehensive approach, analysis and synthesis, induction and deduction, the method of observing a monographic description, grouping and other methods.

Keywords: Deduction, induction, innovation, index, intellectual activity, effective schemes, Global Innovation Index, analysis and synthesis.

Introduction

A country's ability to innovate and successfully market it is an important factor determining its future international competitiveness. Innovations serve to achieve economic development and prosperity. Even countries that have completely abandoned active industrial policies in recent years are now looking for new ways to improve the conditions for creating innovations in order to increase production growth and productivity. The reforms carried out in the field of innovative activity in our republic are finding their expression in practice. If Uzbekistan ranked 122nd out of 141 countries in the Global Innovation Index in 2015, then in 2024 it rose 39 places to 83rd out of 133 countries¹. Currently, the rapid development of world science and technology in our country, the introduction and application of advanced technologies have determined the direction of innovative economic development. This, in turn, requires the formation of a new management aimed at the development of innovations and the active commercialization of the results of intellectual activity on the basis of scientific and technical achievements. The development of the economy is directly related to investments in science, human capital, the production of new products and their sale. The development of science and technology is becoming the main source of achieving competitive advantage.

In our country, from the point of view of creating scientific developments and inventions, science is developing quite rapidly, despite the fact that it is not sufficiently financed. However, this leads to disruptions at the subsequent stages, that is, to the failure of innovations to be produced and then to reach the market due to the interruption of the chain of innovative activity.



Literature analysis. The theoretical and methodological aspects of innovative activity, problems of organization and development have been studied by many scientists. Among foreign scientists, the works of M.Dogdon, G.Grossi, J.Henry, D.Walker, F.Westley, H.Minzberg, B.Tucker, Y.Schumpeter and others have extensively covered the issues of modern innovative management theory. Theoretical and practical issues of innovation management have been studied in the works of scientists from the CIS countries: V.A. Shumayev, A. Abalkin, A. Anchishkin, A. Trifilova, I. Afonin, Ye. Balasky, V. Barancheev, V. Abramov, G. Gamidov, P. Zavlin, S. Ilyenkova, N. Kochetkov, Ye. Lapteva, A. Mazin, V. Medinsky, V. Barancheeva, V. Gunina, V. Moseyko, O. Volodina, R. Fatkhutdinova and others. The works of economists of our republic N.Q.Yo'ldashev, A.Bekmuradov, M.Ikramov, Sh.Zaynudinov, M.Mahkamova, R.Nurimbetov, Sh.Mirsaidova, Y.Goldman, Sh.Mustafaqulov, Kh.Mukhiddinov, Z.G'oyibnazarova widely cover theoretical and practical issues of innovative management.

Methodology. The study used a systematic and integrated approach, analysis and synthesis, induction and deduction, observation, monographic description, grouping and other methods.

Discussion and results. In the era of globalization and digitalization, the need for natural and quality products is increasing, on the one hand, and the consumer culture of people is increasing, on the other hand, it requires the rational use of limited resources. In this regard, not only developed countries, but also other developing countries are forced to pay special attention to the development of production based on innovative technologies and increasing the level of environmental safety. To date, the concepts of "innovation", "innovation process" have been interpreted differently by different scientists and specialists.

Innovation (from English innovationas - introduced innovation, invention) is mainly used in the following two meanings:

1. Funds spent on the economy in order to ensure the replacement of generations of technology.
2. New technology - technologies, as well as innovations in the fields of management and labor organization, based on the results of scientific and technological progress and the most advanced experiences, and their introduction in various fields and areas of activity.

Innovation is the creation of new results of professional activity that are not fundamentally regulated, bringing it to a fundamentally new level of quality. In terms of the development of innovative activity, scientists distinguish leading countries (USA, France, Great Britain, Switzerland), in which the technologies and products being introduced are adapted to the specifics of social relations, meet the commercial interests of business, and take into account the strategic priorities of the state.

When all subsystems of the enterprise adapt to the changes that have occurred in one of its subsystems as a result of innovation, innovation leads to some positive results. Currently, many foreign countries are implementing a sharp economic recovery due to the development of innovative activity, effective organization of the innovation process, and sales of innovative products in domestic and foreign markets. Using the positive experience of organizing the innovation process in developed foreign countries in our republic and developing the economy





on this basis will allow us to achieve high results. In order for our country's economy to move along the path of innovative development, it is necessary, first of all, to direct investments in knowledge, increase the level of education, develop the scientific potential of the republic by creating favorable conditions for the development and application of new technologies and materials, new equipment, more efficient technologies and other innovations.

This is achieved by directing domestic and foreign financial resources primarily to science. Currently, many foreign countries are implementing a sharp economic recovery due to the development of innovative activity, effective organization of the innovation process, and sales of innovative products in domestic and foreign markets. Using the positive experience of organizing the innovation process in developed foreign countries in our republic and developing the economy on this basis will allow us to achieve high results. In order for our country's economy to move along the path of innovative development, it is necessary to develop the scientific potential of the republic, first of all, by directing investments in knowledge, increasing the level of education, creating favorable conditions for the development and application of new technologies and materials, new equipment, more efficient technologies and other innovations. This is achieved by directing domestic and foreign financial resources primarily to science. In many foreign countries, very effective schemes for the development and transfer of innovations have been established, on the basis of which high competitiveness of products is achieved.

In the practice of the European Union (EU) countries, the main criteria for state support of innovation projects are the technological significance of the project and the risks associated with its implementation. At the state level, the strategy for reducing institutional risks is implemented by expanding the freedom of decisions aimed at entrepreneurship. Some obstacles to innovation in foreign countries have been positively resolved, including in the USA, where universities have the right to adopt local acts regulating their shares in companies that use the university's intellectual property. The practice of using this experience is characterized by greater freedom of universities in terms of creating branches and allows them to attract significant funds from external sources of financing, which gives a very high commercial effect. Improvement of state policy in the field of innovation is being carried out in the general direction of a gradual transition from reliance on administrative management methods to economic methods. The main participants in the US national innovation system are the state, universities and business. The state determines the priority areas of research and manages the national laboratory base. National laboratories conduct fundamental research in accordance with national priorities.

In the US budget and tax policy, in particular, in the field of strengthening the financial base of local authorities, many positive aspects can be noted: greater freedom in setting local taxes, implementation of costs on a shared basis with the state through strict justification in the transfer assistance program⁷. US legislation includes more than a dozen laws related to the regulation of innovative activities, ensuring the development of the national innovation system.

They affect almost the entire complex of economic regulation, including financial, antitrust, tax, customs and other mechanisms. The Bay-Dole Patent and Trademark Act allowed universities and other non-governmental non-profit organizations to retain ownership of their



inventions with state funding, as well as through contracts or joint venture agreements. The law made it easier for universities to obtain patents and licenses. The Bay-Dole Act led to the development of technology transfer offices at universities and encouraged the development of marketing and licensing technologies. The Stevenson–Weidler Act on Technological Innovation establishes the right to ownership of inventions created in the process of joint scientific research by private enterprises and national laboratories. Under the Stevenson–Weidler Act, a technology transfer fund was established within the federal government. As a result, each laboratory opened an office of technology commercialization. In the United States, universities mainly conduct basic research, which is funded by public and private companies. A distinctive element of the country's innovation system is the ability to provide consumers (enterprises) with new developments and inventions. In the USA, business is a consumer of the intellectual property of universities and national laboratories; a manufacturer of products based on their intellectual property; a consumer of consulting services provided by university professors; a manufacturer and seller of new products. The sequence of organization and implementation of innovative activities in the USA is as follows: The first stage of research is financed by the US National Science Foundation, the US National Institutes of Health, corporations, universities and private foundations.

Work is carried out to prepare for and participate in competitions for the allocation of grants. Fundamental research is carried out by scientists and engineers at universities, national and corporate laboratories. The second stage is the preparation of hypotheses, ideas by scientists and engineers and the development of innovations in universities, national government laboratories, corporate laboratories and start-up companies. Funding is provided by the US National Science Foundation, the US National Institutes of Health, private corporations, universities, government agencies, and business angels. Small business innovation research programs are also affected. The results of this stage are the creation of inventions, confirmation of hypotheses, and patents.

The third stage is the creation of prototypes. It is carried out by start-up companies, small businesses and corporate departments. Engineers, production, finance and marketing specialists participate in this work. Financing mechanisms are business angels, small business innovation research programs, corporations, venture capital. The results of this stage are prototypes, patents and business plans. The fourth stage is product development, product development is carried out by start-up companies, small businesses and corporate departments. At the same time, venture capital, equity investments, commercial loans and corporate capital are used. The result is a competitive product that is registered and ready for production and sale. The fifth stage is mass production. It is carried out by start-up companies, small businesses and uses the production capacities of large corporations.

The financiers are venture capital, investments, commercial loans, corporate capital, shareholders. The result is the mass production and marketing of innovative products. Universities in Germany are actively involved in the creation of knowledge. There are 346 universities in the country, 170 of which are engaged in teaching and research in the field of applied sciences. Universities are focused on conducting research along with education, and they cannot simultaneously engage in marketing and business. Out of every 5,000 innovations



created by universities, only one becomes a real product. To achieve success, companies and universities must work together and jointly create new products in order to effectively market the product. Another criterion for success is the use of technology transfer services. The main providers of services in the field of technology transfer are Fraunhofer and Steinbeis. Fraunhofer is mainly engaged in research and development, while Steinbeis works with customers. Fraunhofer and Steinbeis work closely with the strongest companies in the business: they know how the market is developing, what trends are emerging in it, and have production planning systems. The Fraunhofer Society is one of the largest technology transfer organizations on a global scale. It includes 40 structures located in 74 cities in Germany, employing about 29 thousand people. The organization's activities are focused on the needs of the customer: it participates in the creation of prototypes, announces final solutions for customers. In general, there is active cooperation between universities and companies. Research is conducted in a variety of disciplines.

The budget is 1.25 billion euros per year and is constantly growing. One third is financed by intellectual patronage, but there are also external sources of funding. In addition, they operate on an economic basis, concluding contracts with industry and companies to ensure the success of their activities. The Fraunhofer Society has also adopted the experience of Stanford in America. Steinbeis is a 100% private foundation that uses third-party funds. The company has more than a hundred institutes in Germany. Steinbeis uses a very interesting approach, as it is a fully self-financing research organization based on the motivation and entrepreneurial spirit of its professors. University professors can reduce their teaching workload and use this time for entrepreneurial activities through the Steinbeis institutes and the corresponding foundation, which has financial resources. Over the past 20-25 years, more than 700 small Steinbeis companies have been established, employing more than 4,000 people. Steinbeis operates in various countries. It has opened new institutes in countries such as Turkey, Romania, and Bulgaria. Its activities are also expanding internationally. Steinbeis works in close contact with business, including small and medium-sized businesses. When working with various institutions, these companies are well aware of market characteristics, trends in technology transfer, and have the opportunity to use the results of university research in technology transfer. South Korea has a unique place in the world in terms of industrial and economic development. South Korea has achieved high results based on a well-developed strategy and measures of cooperation between state and private corporations. There are still many problems that hinder the development of innovations in the country. The number of patent applications filed by state research institutions is very low. Another problem is the lack of professional specialists in the field of technology management. The further development of the South Korean economy is associated with close cooperation between universities, industrial enterprises and the public sector as a whole, including state research institutions. There are dozens of main partners and suppliers of technical innovations to industrial enterprises, including universities - 18%, customers - 15%, companies in related industries - 14%, competitors - 14%, and state research institutions - 11%. As it turned out, industrial enterprises prefer to work primarily with universities. While universities' R&D expenditures account for 10%, the public sector accounts for 70% of all R&D investments. In France, research funding is mainly provided through the



National Agency for Scientific Research (ANR) in the form of grants to support large projects, which are awarded on a competitive basis. Its activities are supervised by the Ministry of Science and Higher Education. When China began its economic reforms, it initially focused on universities, aiming to strengthen the state through the development of science and technology. The Chinese government decided that universities should not only be centers of education, but also centers of research. In addition to teaching, research has become a key goal of universities. China's new education strategy requires universities to serve as pillars of economic development. The relationship between universities and research centers has also been strengthened.

The main issue on the agenda was the implementation of cooperation between universities and industrial enterprises. Beijing is home to one of the leading universities in Asia, and it has a large complex of multi-storey buildings. All of these buildings are incubators for small businesses created on the basis of university research. Almost all major universities in China have one or another type of incubator, which creates small businesses. Indeed, most of the leading companies in the field of high technology and nanotechnology develop on the basis of universities. The role of universities in China's national innovation system can be summarized as follows: - advanced scientific research in the field of science and technology; - technology transfer and training of entrepreneurs; - lifelong learning; - cooperation with the industry to develop innovation clusters. Currently, more than 50 national high-tech clusters operate in China, which are closely linked to local or national universities.

Conclusions and suggestions

The use of the mechanism for organizing and implementing innovative activities in the United States in our country will be highly effective. It is also necessary to form a system in our republic that is closely linked, collaborative, creative, and aimed at constant renewal between science, business, and the state.

The use of the technology transfer experience of the German Fraunhofer and Steinbeis organizations in implementing innovative activities in our republic will help increase its efficiency. It is advisable to organize such organizations on the basis of public-private partnerships. It is highly effective to use China's experience in organizing national high-tech clusters closely linked to local or national universities in our republic. For this, it is advisable to organize high-tech clusters in accordance with the direction of our universities and enterprises and organizations in this field.

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