THEORETICAL PRINCIPLES OF INNOVATIVE DEVELOPMENT OF DIGITAL INDUSTRIAL STRUCTURE

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Abstract: *Today, the development of information technologies and systems allows not only to facilitate the work and management of the regional industry, but also to improve the performance of entire industrial enterprises and increase the efficiency of employees. The article presents an analysis of the creation of a "knowledge economy" based on innovative high technologies, scientific and production potential and intellectual property in the conditions of the digital economy.*

Keywords: *Industry, business, globalization, digital technologies, logistics, transformation, artificial intelligence, technologies, enterprise operations, business planning.*

Every year, new technologies are increasingly penetrating not only the daily lives of the population, but also various spheres of economic activity. This trend applies not only to the B2C sector, but also to the B2B sector: more and more enterprises are moving their work online, introducing and using new information technologies and systems. Thus, information technologies are widely penetrating all spheres of human activity and business. Today, the use of new software, computer systems and technologies is closely related to the new information environment and new opportunities (for example, electronic document exchange or the use of electronic digital signatures). Modern technologies help to significantly save time and effort. Building a “knowledge economy” based on innovative high technologies, scientific and production potential and intellectual property is one of the main tasks of today. Innovations are becoming the engine of the modern economy and the basis of the competitiveness of organizations. This is how countries of the world are choosing their own path of industrial development in the conditions of the fourth industrial revolution. The leading countries in the European Union are Germany, the Netherlands, France, the United Kingdom, Italy, and Belgium, but Germany still holds the lead.

Dodgson.M. in his scientific research developed the principles of technological innovation management based on international and strategic approaches and proposed their application in practice. Abramov V.I. in his research developed a methodology for assessing the innovative potential of an enterprise based on the analysis of the main indicators and trends in the development of science and technology and innovative activity, in the scientific works of Lapteva.Ye.A. studies the problems of assessing the innovative potential of industrial enterprises, describes the structures of industrial enterprises by indicating the level of innovative potential.

Nobel Prize laureate R. Solow also considers new technologies to be the most important factor in economic growth. Analyzing the reasons for the rapid growth of labor productivity in the United States (it doubled from 1909 to 1949), the

economist concludes that technological change and innovation play a key role (the contribution of innovation is 7/8, and capital is 7/8). growth accounts for only 1/8 of the total productivity growth). The well-known specialist in the field of management theory P. Drucker also notes the crucial importance of technological progress and increasing labor productivity for economies, especially developing countries. In his opinion, protectionist measures have become the first defensive reaction against external competitors. His assessment of the problems faced by innovatively active organizations is of great importance.

P. Drucker, studying innovation risks, identified three main “traps” (Three Traps) into which such an enterprise can fall:

1. The product of scientific and technological progress must correspond to the main strategy of the company. It must also respond to economic, demographic and political realities.

2. The second trap is associated with the replacement of concepts. Most often, innovation is the renewal of an existing product or service. This phenomenon often occurs when the management of the enterprise wants to get out of the regular production cycle, but for one reason or another is not ready for real scientific and technological development.

3. The third trap is associated with the need to sooner or later make a decision to stop producing goods, works, services that have ceased to bring profit. However, if the management does not answer the questions of what happened in the market and how it should develop in the future, fundamental changes will not occur in the enterprise. Mazin.A. acknowledged that practical work is being carried out in his research on the classification of indicators for assessing the innovative potential of an enterprise.

Along with the above scientists, Uzbek scientists Mahkamova.M.A. conducted scientific research on the formation of an organizational and economic mechanism for managing innovative activities at industrial enterprises of the Republic of Uzbekistan and developed practical solutions for a number of industrial sectors of the country. Shonazarova G.B. made a number of thoughtful proposals in her scientific works on improving the mechanisms for managing the innovative potential of industrial enterprises. In the works of Burkhanov A.U., we can see the development of a strategy for ensuring the financial stability of industrial enterprises and the solutions given to the current problems.

Scientists of our country also paid significant attention to the design, development and effective application of information and communication technologies in various sectors and areas of the national economy.

Academician Kobulov V.K., Academician S.S. Gulyamov in their works presented innovative approaches to the formation of an information society, the development of information systems and technologies for various economic entities based on a mathematical, statistical and algorithmic approach. B.Yu. Khodiev., A.A. Musaliev, R.Kh. Alimov and A.T. Kenzhabaev in their works paid great attention to the methodological aspects of the design and development of information systems and technologies for the management of national economy

entities and management in the Republic of Uzbekistan.

According to comparative analyses of scientific research conducted by foreign and domestic scientists, it was concluded that the principles of innovative development of the industrial structure of the region using digital technologies should be emphasized on the gradual formation of a new digital transformation process, and this process is associated with the fourth generation of industry.

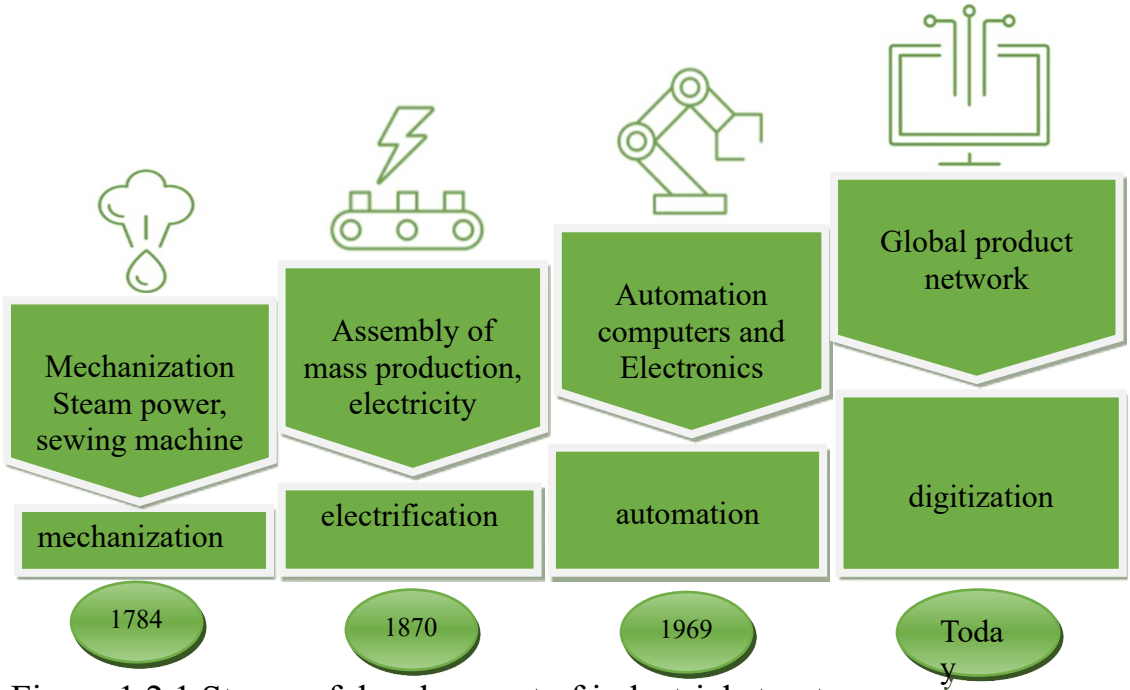

Figure 1.2.1 Stages of development of industrial structures.

As we can see from the figure, the stages of development of industrial structures include the period from mechanization to mass production, from automation to global product networks to digitalization.

At the current stage, the innovative and technological state of the regions is among the leading countries in the world in terms of innovative activity of industrial enterprises, technological level of production, technological sensitivity, etc., as well as the task of developing and implementing methodological tools for managing technological development at the regional level, which will help introduce modern methods of organizing the activities of the regional industrial complex.

The development of the economy of the Republic of Uzbekistan is largely focused on the development of priority sectors, the basis of which is the task of ensuring the material and spiritual well-being of the population. Today, the industrial sector accounts for about 28% of the republic's gross domestic product. In order to further increase the share of industrial sectors in the country's gross domestic product, it is necessary to develop scientifically based theoretical principles using modern technologies. Based on the research conducted in our study, we have outlined the principles of innovative development of the industrial structure of the region using digital technologies in Table 1.2.1.

Table 1.2.1

Scientific and theoretical principles of innovative development of the regional

industrial structure using digital technologies

Principles	Description of principles
Scientific validity	It is expressed in the scientifically justified use of the necessary tools and methods when making decisions that are important for the strategies being developed, while taking into account the existing laws and trends in the development of the industrial complex being developed.
Accounting for scientific and technological progress	It involves taking into account the continuous change in labor tools, technology and production organization, as well as their adaptation to the process of digital transformation and its improvement.
Hierarchy	It consists in building strategies for enterprises of the regional industrial complex that are interconnected with the development strategy of the region and the state as a whole.
Purposefulness	It involves setting and systematizing goals, objectives, taking into account territorial characteristics, solving the identified problems and providing them with modern information and communication technologies (smart) equipment.
Optimality	It is to find the best strategy for the technological development of the industrial complex of the region from the set of fully feasible solutions.
Alternativeness	It involves choosing the optimal solution from the full set of feasible alternatives.
Relevance	It is carried out at two levels:
Criteria	-The first one implies the need to take into account the most important factors in developing a strategy for the technological development of the regional industrial complex;
Distributability	- The second one involves the search for more detailed information and optimal solutions for the components that are important for achieving the goals and objectives of the strategy.

As a result of the reforms carried out to develop the regional industry in the context of the digital economy, methods for developing the industrial structure using modern technologies are emerging. Scientific and theoretical principles of the development of the regional industrial structure are necessary for a methodological understanding of the problems and tasks of managing the innovative economy, in particular, the industrial structure, for the formation of a theoretical basis for making specific management decisions to determine the directions of the innovative economy and the industrial structure of the region.

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