

## THE SCIENTIFIC, METHODOLOGICAL, AND POLITICAL SIGNIFICANCE OF ADVANCING DIGITAL TRANSFORMATION PROCESSES IN REGIONAL INDUSTRY

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### ABSTRACT

*The article enhances the concepts of "transformation process mechanisms," "economic mechanisms," "financial mechanisms," and "management mechanisms" in the context of improving transformation processes within regional industry. It also advances the simulation modeling of processes aimed at increasing the volume, pricing, and sales of industrial sectors in regions, focusing on the effectiveness of synergy achieved through the utilization of digital technologies in regional digital transformation.*

### Introduction

The application and advancement of digital transformation processes in the regional industrial sector is crucial for ensuring stability and enhancing the economic impact of these transformations. Facilitating innovative growth in regional industrial enterprises is a key driver of the national economic system. Therefore, digital transformation efforts are focused not only on digitizing regional industries but also on fostering significant innovative growth. This involves automating and managing industrial systems through the development of organizational mechanisms, including automatic control systems, robots, and computerized control systems. These systems enable automatic management of industrial operations and processes.

Improving the mechanisms of transformation processes within the industrial sector and national economy requires political perspectives that align with technological development and economic growth. Such improvements are essential for enhancing the competitiveness and economic security of the national economy.

**Literature analysis.** Regional policy should be grounded in legislative and legal frameworks, meeting the social demands of society as well as the requirements for economic security and stability. Regions must possess a certain degree of economic cohesion and self-sufficiency. Global experience and scientific research indicate that effective utilization of regional natural and economic potential has become a key factor in the economic growth of national industries. This is due to the fact that reforms and investment projects are implemented directly within regions and localities.

Particular emphasis is placed on the comprehensive development of each region by ensuring efficient use of available natural resources, mineral raw materials, and industrial potential. However, systemic issues persist in regional development. According to economist V.S. Troximirchuk, addressing these issues is crucial for ensuring the competitiveness and economic security of the national economy. He highlights the importance of the industrial complex within a region, noting the necessity of rational selection and development of interrelated industries and production processes, optimizing enterprise size, and leveraging natural and economic geographical conditions to maximize economic efficiency.

M. Porter supports this perspective with his assertion that "everyone wants to be the best, but uniqueness is essential" – a principle that has proven to be accurate. Uniqueness provides competitive advantage and the potential for higher profit margins. Furthermore, S. Kochetkov argues that innovative potential refers to the overall capacity of existing resources to achieve innovative objectives within industrial sectors. G. Mensh, a German researcher, posits that during periods of economic downturn, the propensity for innovation is at its peak, as economic crises force the search for survival strategies, thereby fostering innovation processes.

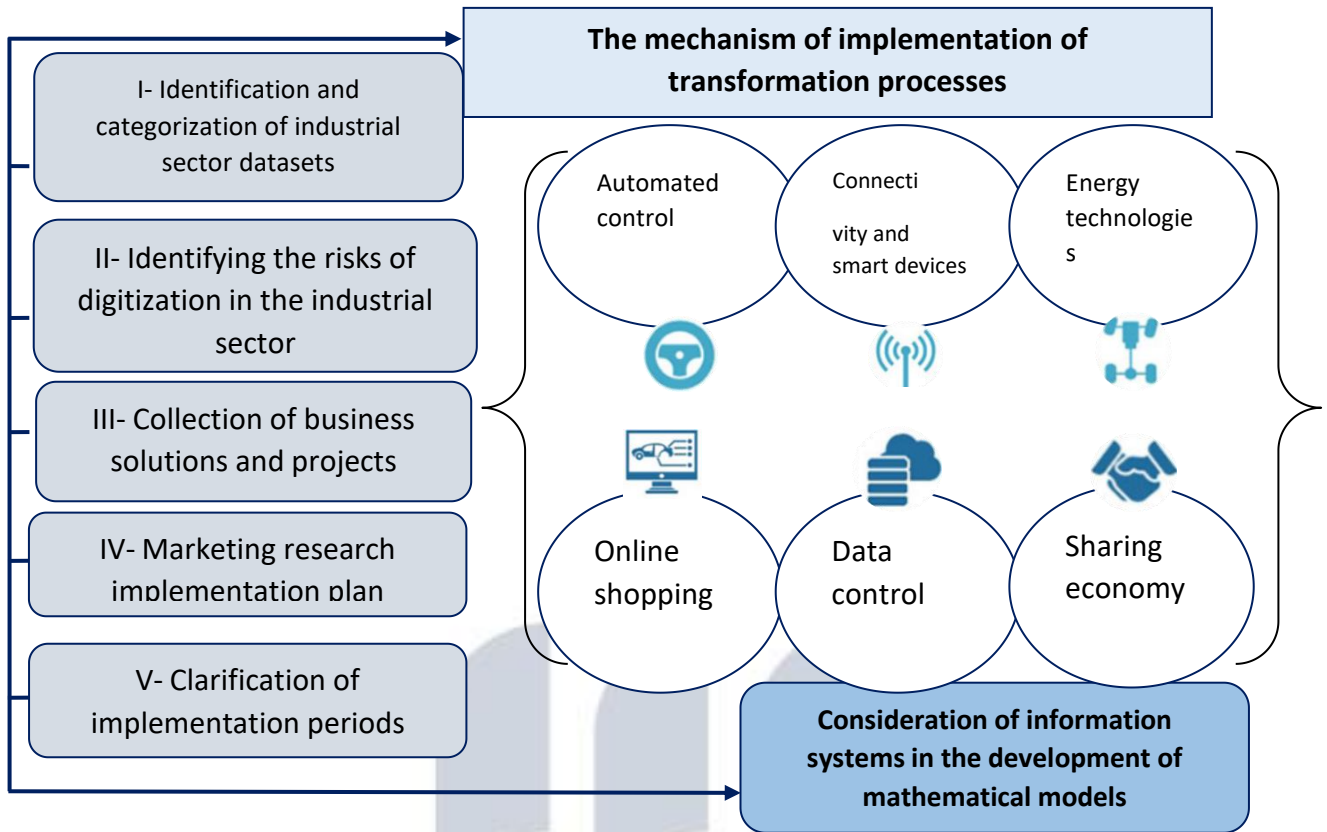
**Research methodology.** In the study of mechanization processes within the sector, it is essential to enhance scientific rigor and fully elucidate the essence of these processes through comparative analyses of definitions. Accordingly, we define transformation as follows: "Transformation is the process or result of altering the form, style, direction, or characteristics of something. In other contexts, the term 'transformation' also refers to processes involving the management, modification, and regulation of objects."

Based on this definition, we understand the application of digital transformation in regional industry as the process of automating and integrating digital data and big data analytics within the industrial sector. This involves the implementation of smart digital technologies and mathematical modeling tools, enabling the collection and storage of extensive data within industrial systems.

The application of digital transformation processes in regional industry enhances the efficiency of industrial systems, optimizes worker time and resource utilization, reduces error rates, and strengthens innovation. This, in turn, supports the advancement and development of the industrial sector.

**Results and discussion.** It is crucial to recognize that managing and organizing the economic and political activities of industrial enterprises in regional areas necessitates the implementation of comprehensive computational processes, targeted approaches, and the establishment of robust information protection and infrastructure systems. To mitigate significant information threats within industrial enterprises, it is essential to develop an information protection infrastructure tailored to support transformation processes, while considering the structure of the enterprise's information assets. Given the constraints on the enterprise's financial resources, it is vital that the information protection infrastructure is economically efficient and effectively designed.

This research has developed a mechanism for enhancing the processes of digital transformation within the regional industrial sector, diagram 1:



**A model for transformation processes that facilitates achieving competitive advantage. diagram 1.**

Figure 1 illustrates the organizational structure for enhancing the mechanisms of digital transformation processes as a key factor in the development of production capacities and modernization of industrial enterprises in the region. This includes the implementation of advanced digital information technologies. Consequently, the digital transformation of regional industry necessitates the development of both political and contemporary mechanisms.

To achieve competitive advantage in industrial product manufacturing, it is proposed to develop business solution mechanisms and implement an information risk management framework to minimize the impact of existing information threats.

In economic literature, the term "mechanism" is interpreted in various ways. In the context of industrial enterprises, terms such as "economic mechanism," "financial mechanism," "management mechanism," and "economic mechanism" are commonly used.

In these contexts, a mechanism is understood as the structure comprising the state and principal elements of an industrial enterprise:

- "Financial mechanism" (comprising a set of financial levers and tools);
- "Management mechanism" (factors affecting the efficiency of management and components of the management system).

### Conclusions

The theoretical and methodological research conducted on the enhancement of digital transformation processes in regional industry has led to the following conclusions and recommendations:

1. Developing Phases of Transformation Processes: It is crucial to develop the stages of transformation processes within the regional industry. This enables the evaluation and selection of innovative and investment projects aimed at achieving strategic industrial development goals within the region and the country. Additionally, it is important to advance the theoretical and methodological aspects of regional industry and implement effective practical support policies.

2. Strengthening Financial and Production Links: To support sustainable economic development and enhance the efficiency and continuity of regional industry, it is necessary to establish robust connections between financial institutions and manufacturing enterprises. This will create an advanced intellectual system that meets these requirements.

3. Institutional and Scientific Approaches: In regional development, alongside diversifying industrial structures across economic sectors, it is essential to establish institutional processes that meet contemporary demands. Key tasks include implementing scientific and theoretical approaches to ensure high and stable industrial development, making informed decisions, and applying methodological approaches to innovative management in regional industry.

4. Analysis of Industrial Innovation: Analysis of scientific works by foreign and national scholars on industrial innovation development reveals a focus on production aspects within regional industrial sectors.

5. International Trends and Recommendations: The study analyzed trends in the development of industry in foreign countries and the regulatory approaches adopted by governments. Based on this analysis, recommendations were provided for applying suitable practices to Uzbekistan and its regions.

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