

# Digital Transformation Based on Technological Innovations

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**Annotation** The application of technological digital platform in the creation of design development, the most important factors of an innovative economy, is considered. It is shown that the digital platform is the basis for designing the main links of the technological chain. The concept of the ecosystem and the object of the innovation structure is given.

**Key words:** Technological digital platform, constructor, innovative economy, ecosystem, innovative structure.

## Introduction

Digital transformation is the process of changing the management system based on new approaches to structuring objects, determining relationships when highlighting economic and technological factors based on technological innovations [1].

Valuable factor in the development of the digital economy is the convenience of providing services in the digital sphere [2]. The use of technological digital platform when creating design development allows, in an accelerated time interval, to conduct research on an emerging idea, conduct a comparative analysis with existing analogues, evaluate competitive developments, develop project, and create business model. Conditions are being created for the intensive development of scientific and technological developments [3].

The most important factors of the innovation economy include knowledge, resources, human capital, information databases, innovation infrastructure. Intelligent manufacturing makes it possible to provide wider interaction based on network data exchange in enterprises, to receive and use analytical data, high quality information for business planning. The number of networked smart devices is increasing, which allows achieving transparency of technological processes and high-quality control over the implementation of production systems. Equipping production facilities with the latest equipment makes it possible to improve the quality and technological characteristics of manufactured goods. When solving management problems based on a digital technological platform, creative approaches are distinguished, processes for supporting the innovativeness of the technological platform, which are carried out on the basis of the development of key characteristics [4]. Platforms allow you to create new creative results, use them as part of a product and bring this product to the consumer.

**The goal** is to study the objects of the innovation structure and intellectual innovation ecosystems.

Digital platforms are the bases for designing the main links of the technological chain, individual processes or elements [5]. Digital platform can combine multiple digital tools. The use of such platforms reduces the complexity of work, saves time and ensures the quality of processes. Technological modernization is carried out in the most promising directions for the development of the economy. The promotion of jointly acquired knowledge and created innovative products and services contributes to successful business. The development of the infrastructure of the innovation

process contributes to the creation of high-tech developments, increasing the innovative activity of the business.

The objects of the innovation structure are the structures of scientific and production activities, evaluation centers associated with the promotion of products, knowledge-based sectors. The scheme of their interaction is carried out in the following areas: production-technological, information, expert-consulting and financial. Intellectual-innovative space, network interconnection generates new knowledge. The ecosystem allows you to satisfy requests within a single platform and is characterized by the relationship between participants, uniting around a value proposition.

The ecosystem is considered as system of interactions between organizations, including cooperation and competition, the provision of services of particular service. The members of the ecosystem include all those involved in innovation; these are developers of new products, technologies, suppliers, distributors, outsourcing companies.

Industrial ecosystems are created in order to minimize the costs for the operation of all elements of industrial production: project development, development work, analytical research, testing, tooling, production preparation, and after-sales service. The industrial ecosystem is required to create conditions for maintaining sustainable interaction between the participants of the ecosystem; this allows the implementation of the technological platform. It allows you to connect any business.

The value of technological platforms is in the prompt solution of specific problems of innovative production, business development, and openness to connect new participants [6].

The ecosystem of digital platforms is distinguished by such indicators: convenience, efficiency, multiple representations. Digital ecosystems are the next phase in the development of digital platforms, and may include several digital platforms. The infrastructure of the innovation ecosystem consists of various structures, which include scientific and industrial enterprises, universities, associations, state development institutions, financial institutions and specialized services.

Innovation support infrastructure – intellectual property center, development center, competence center. Any large ecosystem has within itself services for obtaining knowledge. Intelligent innovation ecosystems include users who can interact, transfer knowledge, share information using a common digital platform.

Intelligent ecosystems, in addition to various structural organizations, include:

- integrated network and cloud infrastructure, systems, software and applications that use analytics, artificial intelligence and machine learning to provide a more personalized and secure digital experience;
- Many different devices and sensors of the Internet of things.

In high-tech companies, management and production are carried out on the basis of the latest technologies, including intelligent information systems and information space - the main means of creating, analyzing, distributing, and commercializing the created products. In the high-tech sector of the manufacturing industry, research, design and technological development, experimental production play a leading role in innovation.

Knowledge, intellectual resources, information technologies, automated systems, developed infrastructure of the national innovation system, modern technological platform, and high technologies play an important role in activating the innovation process. Features of the platform model, which uses technological and structural changes, can lead to significant restructuring of the production process, solving economic problems.

The features of the proposed model include the selection of information data and the consistent inclusion of mechanisms and tools for processing the acquired knowledge, innovative technologies through the interaction center. A large ecosystem has within itself services for obtaining knowledge, includes creative values, flexibility, development, competitor's ability. In the proposed model, the following elements are highlighted: data, tools and technologies, personnel and system of technological processes, an interaction center based on connections, and analytics.

On the basis of information from the database and the knowledge base, plans for the development of the organization are formed. To improve the effectiveness of technological modernization, the innovative potential of the organization plays an important role. To gain access to various tools necessary for work, an office space is created as a center for acquisition and distribution [7]. The connecting center is the competence center, which serves as a center for concentration and transfer of professional knowledge, skills and abilities. When analyzing the effectiveness of industrial ecosystems, cost reductions are revealed for all production processes, from pre-production, planning, design work, analytical studies, manufacturing of parts and assembly production.

Consequence: Digital transformation begins with the formation of digital platforms. Features of the platform business model, using technological and managerial changes, can lead to a qualitative restructuring of the production process, to a real increase in innovative developments in a developed competitive environment. The effective development of the innovation ecosystem is carried out due to the whole complex of factors: the continuous transformation of technologies and resources into new products with lower costs, flexibility and sustainability in a dynamic environment, the development of educational structures, the creation of new segments.

**Conclusions:** digital platforms contribute to improving the conditions for the dissemination of advanced technologies in the economy, support the processes of innovative development and expand the areas of technological modernization. The innovation ecosystem is one of the tools for creating conditions that increase the competitiveness of organizations in national and regional economies.

## References

1. Устинова Л.Н., Макаров А.М., Бритвина В.В. Модель цифровой транс-формации инновационной экосистемы на основе технологической платформы // -Economy. 2022. Т. 15, № 4. С. 110–122. DOI: <https://doi.org/10.18721/JE.15408>
2. Стратегическое управление развитием цифровой экономики на основе умных технологий: монография / под ред. д-ра экон.наук, проф. А.В. Бабкина. СПб: ПОЛИТЕХПРЕСС, 2021. 793 с.
3. Ценжарик М.К., Крылова Ю.В., Стешенко В.И. Цифровая трансформация компаний: стратегический анализ, факторы влияния и модели. Вестник Санкт-Петербургского университета. Экономика. Т. 36. В.3. С.390-420. 2022.
4. Устинова Л.Н., Макаров А.М. Устойчивое развитие цифровой экономики на основе интеллектуальных инновационных экосистем // Экосистемы в цифровой экономике: драй-веры устойчивого развития: 2021. с. 270-303
5. Гилева Т.А., Бабкин А.В., Гилев Г.А. Разработка стратегии цифровой трансформации предприятия с учетом возможностей бизнес-экосистем // Экономика и управление. 2020. №6. С.629-642.
6. Концепция цифровой трансформации и инновационного развития// Инициация и реализация проектов цифровой трансформации. АО Глонасс, 2022. [info@aoglonass.ru](mailto:info@aoglonass.ru)
7. Иванов А.Л., Шустова И.С. Исследование цифровых экосистем как фундаментального элемента цифровой экономики // Креативная экономика. 2020. Т.14. №5. С. 655-670. – DOI: 10.18334/ce.14.5.110151