

DIGITAL TRANSFORMATION OF THE ECONOMY: ESSENCE, STAGES AND CONSEQUENCES

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Abstract. This article examines the essence of digital economic transformation as a key area of contemporary global development. It examines the key stages of digital transformation, from the automation of production processes to the implementation of artificial intelligence, cloud technologies, and platform business models. Particular attention is paid to global digitalization analytics, including data from international organizations such as the OECD and the World Bank. The implications of digital transformation for the labor market, productivity, the financial sector, public administration, and global economic inequality are analyzed. The article emphasizes that digitalization is becoming a key factor in the competitiveness of states and companies, while simultaneously creating new socioeconomic risks. It concludes that a comprehensive public policy is needed in the areas of the digital economy, human capital development, and digital infrastructure.

Keywords: digital economy, digital transformation, artificial intelligence, innovation, digitalization, labor productivity, digital platforms, automation, global economy, digital inequality.

The current stage of global economic development is characterized by the rapid spread of digital technologies, which are profoundly impacting all areas of public life. The development of artificial intelligence, big data, cloud computing, blockchain technologies, and digital platforms is transforming traditional models of production, management, and consumption. Digital transformation is becoming not only a technological process but also a critical factor in economic growth, increased competitiveness, and the sustainable development of nations.

In the 21st century, digitalization has permeated virtually every sector of the economy: manufacturing, banking, education, healthcare, logistics, public administration, and international trade. Companies that actively implement digital technologies are experiencing significant benefits in efficiency, decision-making speed, and customer service.

According to the OECD, by 2025, more than 20% of companies in OECD countries will already be using artificial intelligence technologies, compared to less than 9% in 2023. This demonstrates the unprecedented speed of digital transformation of the global economy.

Digital transformation of the economy is the process of integrating digital technologies into all areas of economic activity, accompanied by changes in business models, management methods, and interactions between market participants.

Unlike simple automation, digital transformation involves a qualitative change in economic processes. Data, information platforms, and intelligent management systems are becoming the foundation of the digital economy.

The key characteristics of digital transformation are:

- Use of Big Data;
- Implementation of Artificial Intelligence;
- Development of Cloud Technologies;
- Automation of Business Processes;
- Platformization of the Economy;

- Transition to Electronic Services;
- Digitalization of Financial Transactions;
- Integration of the Internet of Things (IoT).

The modern digital economy is shaped by networked interactions and global information systems. Companies are increasingly shifting to platform-based business models, where data and digital infrastructure are becoming key resources. According to World Bank analysis, artificial intelligence is becoming the primary driver of digital transformation and has the potential to significantly accelerate economic growth, increase labor productivity, and create new economic sectors.

The digital transformation of the global economy took place in several successive stages.

The initial stage of digitalization was associated with the automation of individual production processes and the introduction of computing technology. The primary goal was to reduce costs and improve production efficiency.

At this stage, the following were actively used: electronic accounting systems; automated production lines; the first information databases; and electronic document management systems.

This stage became the foundation for the further digitalization of the economy.

The next stage was characterized by the widespread use of the internet and information and communications technologies.

This period saw the emergence of e-commerce, online banking, digital marketing tools, and global information networks.

Companies gained the ability to operate in the global digital space, and governments began developing e-government.

With the development of mobile technologies and cloud services, the economy has already begun to shift toward platform models.

The largest digital platforms have begun to control:

- ✓ Financial flows;
- ✓ Digital advertising;
- ✓ Logistics;
- ✓ Trade;
- ✓ Communications.

At this stage, the role of digital ecosystems and network effects has increased dramatically.

The current stage of digital transformation is associated with the active implementation of artificial intelligence and generative technologies.

According to the OECD, the use of this intelligence by companies in OECD countries has more than doubled in two years.

AI is already being applied in financial analysis, logistics, medicine, manufacturing, human resources management, and consumer behavior analytics.

At the same time, competition between countries for computing power, data centers, and technological leadership is intensifying.

Research shows that the United States and China control the majority of the global AI and cloud computing infrastructure.

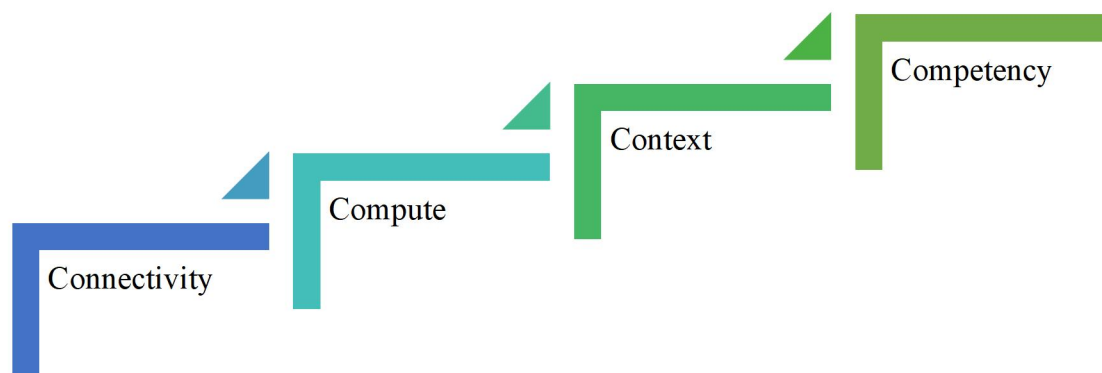
The global economy is demonstrating extremely high rates of digitalization.

According to the World Bank, digital transformation is becoming the main driver of global competitiveness. According to the OECD, the economy is gradually shifting from tangible assets to digital and intellectual resources. The digital economy is characterized by a high concentration of technology and capital.

The leaders in digital transformation remain:

- ✚ The United States;
- ✚ China;
- ✚ The European Union;
- ✚ South Korea;
- ✚ Singapore.

According to the World Bank, the foundation of successful digitalization is the so-called "four Cs":



One of the most pressing issues is the digital divide between countries and regions.

High-tech countries are reaping the primary benefits of digitalization, while less developed economies risk becoming dependent on global tech corporations.

Experts note that the concentration of AI infrastructure in a limited number of countries is exacerbating the global technological divide.

Artificial intelligence enables companies to optimize processes and improve decision-making efficiency.

According to the OECD, AI is becoming a critical factor in increasing business productivity and innovation.

One of the most controversial consequences of digitalization is the transformation of the labor market.

On the one hand, new professions are being created, demand for IT specialists is growing, and the importance of digital skills is increasing. On the other hand, negative factors are emerging: automation is displacing routine work, the need for low-skilled workers is decreasing, and structural unemployment is increasing.

According to international organizations, AI technologies could affect approximately 40% of jobs worldwide.

Digitalization is also changing society's way of life:

- Remote employment is expanding;
- E-learning is developing;
- Digital dependence is increasing;
- The role of digital communications is growing.

At the same time, new risks are emerging, such as personal data leaks, cybercrime, digital inequality, and information overload.

Despite the significant benefits of digitalization, the global economy faces a number of serious challenges. These include:

- ✓ insufficient digital infrastructure;

- ✓ skilled labor shortages;
- ✓ cyber threats;
- ✓ monopolization of digital markets;
- ✓ technological dependence of developing countries;
- ✓ growing social inequality.

In the future, digital transformation will shape the development of the global economy. Of particular importance will be: artificial intelligence; quantum technologies; digital currencies; robotics; and intelligent control systems.

World Bank experts emphasize that countries that fail to adapt to the new digital reality risk slowing economic growth and declining competitiveness.

Thus, the digital transformation of the economy is an objective and irreversible process of modern global development. It has a complex impact on production, the labor market, public administration, and international competition.

In the context of global digital competition, the ability of states and companies to adapt to new technological conditions will determine their economic position in the future.

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