

MODERN TRENDS IN THE DEVELOPMENT OF AGRICULTURAL PRODUCTION

PROBLEMS AND PERSPECTIVES



**EDITED BY
S. STANKEVYCH,
O. MANDYCH**

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Reviewers:

Mykola DOLYA, Ph.D., Prof., Head Department of Integrated Plant Protection and Quarantine of National University of Bioresources and Nature Management;

Oleksandr KUTS, Ph.D., leading of science collaboration, Director of the Institute of Vegetable Growing and melon growing of NAAS of Ukraine.

The monograph presented for review is a collection of the results of actual achievements of domestic agricultural scientists, obtained directly in real conditions. The authors are recognized experts in their fields, as well as young scientists and postgraduate students of Ukraine. Research is conceptually grouped into 5 sections: modern technologies in crop production and fodder production; economy of the agro-industrial complex; breeding and breeding in the 21st century; protection and quarantine of plants; agrochemistry and soil science. The monograph will be interesting for experts in plant breeding, economics, plant protection, selection, agrochemistry, soil science, scientific workers, teachers, graduate students and students of agricultural specialties of higher education institutions, and for all those who are interested in increasing the quantity and quality of agricultural products.

Keywords: modern technologies, crop production, fodder production, plant protection, quarantine, agrochemistry, soil science, economy of agro-industrial complex.

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CHARACTERISTIC FEATURES OF THE DIGITAL TRANSFORMATION OF THE UKRAINIAN ECONOMY

Oleksandra MANDYCH

Doctor of Sciences (in Economics), Professor, Professor of Finance, Banking and Insurance Department, State Biotechnological University

E-mail: ol.mandych@gmail.com

Natalia BABKO

PhD in Economics, Associate Professor of Department of Marketing, Reputation and Customer Experience Management, State Biotechnological University

Modern technologies used in the business processes of enterprises of different forms of ownership form the digital transformation of the state. This entails the need to install modern equipment with software, as well as the formation of fundamental changes in management methods, in the applied tools of corporate culture and external communication. The result of these actions will be an increase in the productivity of both individual employees and the entire company, increased customer satisfaction, and the company will gain a reputation as a progressive and modern organization.

Strategic development requires the formation and development of an appropriate information infrastructure, without which it is impossible to ensure sustainable economic growth. In the rapidly changing environment of the world, entire industries and individual enterprises prefer to support the digitalization of processes as the most likely to remain competitive (Hilbert, 2022).

The life of an individual and an individual enterprise is changing due to the digital transformation of all areas of activity. At the same time, an understanding of the main trends in the digital economy and the pace of its change is formed from the point of view of the theory of organization and management. Digital transformation is seen in the context of management issues, including strategy and core processes and technologies. At the same time, resorting to the consideration of the essence of new business models, their effective use and influence on the transformation of industries, the results of modern research can be traced. Ethical business practices, social responsibility and sustainable business development issues in the digital age are important issues of digitalization that are directly related to the formation of employees' skills in reengineering the business processes of organizations in the context of digitalization and the effective use of tools for the formation of flexible skills in work.

In the era of digitalization, the task of increasing business efficiency through the introduction of information technologies remains essential. At the same time, strategic investments in information technology must pay off. Blockchain, cloud computing, big data, the Internet of Things technology, cyber–physical systems are technologies that have become the foundation of the economy during the period of digitalization.

The economic and social effect will be obtained as a result of the following activities (Hilbert, 2022; Kraus et al., 2022):

- intensification and automation of technological and economic business processes;
- improving the investment and business climate by increasing the efficiency, openness and accessibility of public services, transparency of business conditions;
- increasing accessibility, quality and convenience in obtaining significant medical, educational, cultural, financial services;
- creation of comfortable, favorable conditions for life;
- implementation of the Safe City project and the like.

Let's highlight the key principles of working with data in a digital state (Fiier et al., 2019; Pakhucha et al., 2021; Hilbert, 2022; Kraus et al., 2022):

- availability of uniform principles and standards for working with data as a strategic asset of the state;
- availability of data for the implementation of operational work and the possibility of using analytics in the work of officials;
- Improving the efficiency of accessing, exchanging and maintaining the quality of data between departments and within them;
- providing a secure, efficient and cost–effective solution for data storage and management;
- minimization of duplication, unnecessary and excessive requirements;
- the presence of a state data model, certain domains and data owners.

The national data management system is a set of solutions, which is a single legal, methodological, managerial mechanism for working with government data, the main tasks of which are (Babko & Mykytas, 2021; Pakhucha et al., 2021):

- ensuring the maintenance of the government data model;
- setting up government data quality management;
- creation of an effective system for providing access to government data;

– establishment of norms and rules for working with government data within the framework of a unified technological and information policy.

Digital solutions permeate our lives from manufacturing, finance, tourism, to charity, medicine, culture, education and more. However, the digital economy carries risks and threats, primarily social risks aimed at global changes and modification of the labor market, a reduction in employment, as well as risks associated with cybercrime.

Thanks to digital technologies, the formation of a new stage of the economy called the global digital economy has significantly accelerated. At present, information and digital data flows of the processes of movement of goods, services, and finances have become of great value (Mykytas & Babko, 2021).

The virtual economy is multiplied in the context of digital globalization in comparison with other types of economic and economic activities, based on the main processes of production, distribution, cross-border exchange and consumption of information. A global digital economy is being formed with its own laws and development trends, translating development into a new system of economic relations.

Thus, the following stages of the formation of the digital economy of Ukraine can be distinguished (Fiier et al., 2019; Babko & Mykytas, 2021; Mykytas & Babko, 2021; Pakhucha et al., 2021; Hilbert, 2022; Kraus et al., 2022):

1. The first stage defines the goals for the development of the digital economy, the implementation of which will lead to the effective management of the digitized economy and the state, to the introduction of a unified national system of intellectual knowledge, modern information technologies and software systems developed by specialists. At this stage, the existing socio-economic problems should be solved in the country: in the system of public administration – increasing efficiency, in the fields of education, medicine, science and economy – carrying out the necessary reforms. In the future, it is necessary to discuss the results of the implementation of digitalization using the national digital platform, the consequences of social interaction provided by the risk assessment for the application of digitalization technologies.

2. At the second stage, it is necessary to choose strategies and tools for the implementation of the digitalization of the economy at the state level. Introduction of digitalization in public administration and provision of public services. It is the state that determines the digital transformation of the economy, establishes the sources and volumes of funds that are directed

to the introduction of digital technologies into the economy, as well as to finance the necessary digital transformation measures.

3. At the third stage, the appropriate stimulation of the state policy is aimed at the formation, development and strengthening of the infrastructure of information and communication technologies, which in this area is focused on increasing investment activity.

4. At the fourth stage, in the context of digital globalization, it is necessary to intensify measures for the development of human capital, which will allow the formation of a modern society that possesses the competencies and skills necessary for digital literacy, making it possible to expand the social base for the use of information and communication technologies, increase their social demand.

5. The fifth stage is accompanied by a real transition to the widespread use of digital innovations in the most important areas of the national economy. Not only financial institutions will become enterprises with a high degree of digitalization, but there will also be a digital transformation of enterprises in all industries, the development of innovative technologies will make it possible to form a portfolio of national developments of information and communication organizations.

The level of development of the digital economy in the country is characterized by certain areas of the digital economy, according to which the international position of the country's digital sectors is assessed: the availability of information and communication technologies and the quality of the digitalization infrastructure, the possibility of using high-speed Internet, highly qualified employees, the effectiveness of the digital transformation of the economy.

It is necessary to create favorable conditions of trust, involving staff in solving problems and striving for improvement. If you use this approach, then there is a high opportunity to get comprehensively interested, proactive and efficient employees.

Thus, the quantity and quality of accumulated human and digital capital has a direct impact on economic growth and digital transformation. The progress of technological development depends on how effectively the potential of the country is used in the era of digitalization and what are the possibilities for its rapid increase, as well as on the speed of the introduction of modern technologies and scientific and innovative developments.

Strategic development requires the formation and development of an appropriate information infrastructure, without which it is impossible to ensure sustainable economic growth. In the rapidly changing environment

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