

USE OF DIGITAL TECHNOLOGIES IN BUSINESS ACTIVITIES

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Abstract

The article covers the issues of developing the organization of production based on digital technologies in industrial enterprises, analyzes existing problems in this field, studies the factors hindering digitalization processes, and describes the directions of digitalization of production. Features of modern digital production systems are revealed.

Keywords: production process, digital economy, digital technology, automation, software, artificial intelligence, smart enterprise, blockchain.

Introduction

In modern conditions, digitization of economic processes and information technologies are entering all spheres of activity. In the Development Strategy of New Uzbekistan for 2022-2026, it is planned to turn the digital economy into the main "driver" of economic development and increase its size by at least 2.5 times. The task of increasing the volume of software production by 5 times and their export by 10 times to 500 million dollars was set. In order to fulfill these tasks, a wide range of measures have been established for the wide implementation of the digital economy and its support, and in accordance with the implementation of these tasks, new electronic document circulation systems are being introduced in our country, electronic payments are being developed, and the regulatory legal framework in the field of electronic commerce is being improved, electronic infrastructure and commerce is being formed, the transition to digital transformation in all aspects of the economy is being implemented step by step.

With the penetration of digital technologies into production processes, new requirements are placed on the sources of competitive advantage of enterprises, effective concepts of their activity and management. Taking into account the specific features of the transition to the digital economy, forecasting possible problems, as well as developing solutions and proposals for minimizing negative consequences is becoming the main condition for organizing the enterprise's activities. A system of effective management of available resources and business processes in industrial enterprises, based on innovative technologies and business process optimization methods, is an important aspect of achieving competitive advantage.

Literature review. Today, digital technologies are a part of our lives, widely used in practice in various fields. A number of scientists expressed their opinions regarding digitization during the production process.

The term "digital economy" was first used in 1994 by Canadian economist Don Tapscott. In his work, the author talked about the impact of digitization on the economy. He considered the reduction of transaction costs and the emergence of completely new business models of doing business as one of the main advantages of digitization.

In V.A. Plotnikov's research, digitization is defined as "the modern stage of information development, characterized by the combination of new hardware and software, characterized by the extensive use of digital technologies for the creation, processing, transmission, storage and visualization of information." listed some of the benefits that businesses gain when they use digital technologies:

- production flexibility increases due to its rapid reconfiguration, dynamic change of production process characteristics, which creates a competitive advantage and leads to potential profit growth;
- provides information integration of the stages of the life cycle from product development to disposal, which allows us to effectively and comprehensively solve not only production optimization, but also quality, environmental safety, creation of new business opportunities, etc.

By Brynjolfsson and Kahinlar (2002), the issues of digitalization of the economy were promoted as a topic of discussion for the first time in the mid-1990s, the first definitions were given, and in these definitions, they were recognized as a means of meeting enterprises and consumers in the virtual world. With the development of digitization, the business models of the enterprise are constantly changing. Therefore, many authors interpret the definition of digitization in different ways. For example, Alexander Kutsman describes the digital economy as "a type of modern economy characterized by the priority role of information and knowledge based on the active use of digital technologies for the identification, storage, and processing of resources in the production of material products and services." Aksanov R. K. emphasizes that the digital economy is based on the production of electronic products and electronic commerce services. Under electronic commerce, Aksanov R.K. refers to the electronic movement of capital, electronic products, as well as the process of electronic information exchange.

Issues such as the effective use of new information technologies in various sectors of the national economy, methods of introducing digitization systems in them, the principles of digital modeling based on new information systems, the evaluation of the effectiveness of the use of automated information systems in the process of corporate management, their control, and the conditions for the development of the digital economy are discussed by Qabulov (1998) reflected in his scientific research.

In E. Muminova's studies, research was conducted on the effectiveness of using blockchain technologies in the development of the country's industry, the importance of electronic trade and electronic contracts in the cooperation of enterprises. As a result of reforms implemented in Uzbekistan, openness, development of international economic and political relations created opportunities for modernization of industrial sectors in our country, technical and technological re-equipment. It is known that today the digital economy is gaining importance in creating added value. As a result of the reforms in the economic sectors, the processes monitored based on the influence of digital information are gaining the main decisive power in the strategic development of industrial enterprises.

Analysis and results.

Development of Uzbekistan's industry requires the creation of digitized technological platforms, the establishment of high-tech enterprises that supply products with high added value for foreign and domestic markets.

The decree of the President of the Republic of Uzbekistan dated October 10, 2020 No. pf-6079 on the approval of the strategy "Digital Uzbekistan - 2030" and the measures for its effective implementation also determined that the following measures will be implemented in order to develop digital technologies in the real sector of the economy:

- ensuring automation and management of all stages of enterprise supply, as well as reducing logistics and procurement costs through this;

- ▣ improving the quality of products and services, reducing their cost, production interruptions, increasing the transparency of financial and economic activities due to the introduction of modern information systems and software products;
- ▣ improvement of the legal framework for the introduction of innovative automated management systems and software products;
- ▣ gradual automation of workplaces and robotization of production processes, as well as introduction of artificial intelligence technologies;
- ▣ improvement of interaction mechanisms with customers (clients) in order to increase the volume of sales and improve customer service;
- ▣ improvement of the management information support system, including the introduction of a real-time business analysis system;
- ▣ In 2025, increase the share of large business entities that have implemented an enterprise resource management system (ERP) to 90 percent;

With the transition of the economy to a new technological stage, there is a need to modernize the country's production structures, organizational and economic support of production processes, and form modern approaches to management methods. In the conditions of the deepening of economic reforms, the processes of automation and robotization of production, introduction of advanced methods and methods of production organization, and increasing the level of digital intellectualization in industrial enterprises are rapidly developing. Modern approaches to the organization and management of production are based on a short period of complete information exchange, reducing the number of workers and employees, increasing their competence, introducing flexible production systems and robotization complexes. For this, attention should be paid to the development of innovative, high-tech production. In the field of digital production, modern trends such as "industrial internet of things", "additive production technologies", "cloud technologies", "artificial intelligence", "intelligent robotic production" are developing, imitative and economic mathematics in making organizational decisions.

modeling is used. The following positive aspects and risks of digital transformation of industrial enterprises can be cited.

In modern conditions, the organization of production is considered as a process of effective combination of highly qualified employees (workers) with the necessary competence on the basis of digitalization of product life cycle management with innovative work tools and products in a certain environment and time.

In our opinion, factors such as the fact that enterprises are using outdated technologies (64%), the lack of specialists with certain experience, knowledge and skills (61%) and the slow integration of existing and new technologies (62%) hinder the digitalization of production.

is doing According to the results of studies in the field of digital transformation of production, enterprises using digital technologies and management methods are 26% more profitable than their competitors. The financial results of enterprises that pay little attention to management, while spending enough money on digital technology, are 11% lower, and only 9% additional income can be obtained due to modernization of the management process.

The modern economic situation has ushered in the fourth industrial revolution characterized. As part of this revolution, digitized "smart" enterprises are being created. Such enterprises create an opportunity to produce products that are competitive in domestic and foreign

markets. However, the process of introducing digital technologies into production processes in the industrial enterprises operating in our country today is not satisfactory. This is prevented by the following situations:

- the absence of a legal framework regulating the new economic order or its incompatibility with the technological changes taking place at the current stage;
- the emergence of new technologies, objects and subjects of economic relations, rapid growth of the volume of information that has become a form of capital
- insufficient training of qualified personnel, lack of human capital;
- large volume of data creates a large amount of information flows and risks associated with ensuring information security in data transmission, processing and storage;
- the lack of financial resources of the enterprise and the high cost of projects aimed at digitalization of the industrial sector;
- conservative nature of some industries. Despite the fact that the widespread use of digital technologies creates new opportunities for enterprises, little attention is paid to these processes.

Effective management of business processes and new technologies in the enterprise developing an approach is not an easy task. In order to ensure the sustainable development of the industrial enterprise, it is necessary to apply innovative management theories and methodologies. The processes taking place in the enterprise require constant attention from management, process owners and employees who ensure the implementation of business processes. In the process of improving and optimizing processes, it is necessary to maintain the level of efficiency and progress achieved as a result of the implementation of the process approach. The modern method of the digital economy is characterized by the development of new generation concepts of enterprise management. These concepts include industrial robots, unmanned transport, the use of equipment operating on the basis of digital control software, the use of 3D printers, the storage of large volumes of data in cloud technologies, artificial intelligence, the Internet of Industrial Things (Internet of Things, IoT), blockchain innovation, simulation and characterized by processes such as mathematical modeling and forecasting, cyber security.

When implementing the algorithm of the enterprise digital transformation process, depending on the chosen priority, it is possible to suggest using the following modern concepts in enterprise management. For example, the use of IoT technologies allows to change the organization's business processes and significantly increase operational efficiency due to the reduction of production time and the duration of the production cycle; reduce operating costs and improve energy efficiency; reduce the number and duration of equipment downtime, increase its load level; ensures improvement of product quality.

The use of multi-coordinate machining centers based on numerical control creates the possibility of moving working tools during the machining process during turning, drilling, grinding. Such four-six-coordinate equipment ensures simultaneous execution of several processes in the processing of any complex details and, in turn, leads to a shortening of the production cycle. Digital production ensures a high level of labor productivity and high product quality, allows project participants to work together remotely, and helps to significantly improve cost control.

The use of software-hardware complexes of production and control leads to the prevention of errors caused by the influence of the human factor. The development of the Industrial Internet of Things. due to the use of artificial intelligence based on neural network technologies, there is an opportunity to

create "intelligent production" that can quickly make decisions on the rational organization of production in the presence of problematic situations. The modern paradigm (view) of production organization reflects the possibility of adapting equipment to the production of various products, reducing the number of workers employed in production and service, and switching to the production of new types of products based on the introduction of flexible technologies and robotic complexes.

Equipment based on digital control enables high-precision monitoring of production processes and independent decision-making based on the received data. Several levels of modern digital production systems are distinguished. At the physical level, sensors, sensors, and networks are placed on equipment in workshops.

At the level of equipment control and management, programmed logic controllers (PLC - Programmable logic controller) are installed and information is collected with their help.

Enterprise resources planning systems (ERP - Enterprise Resources Planning) located on the servers of data processing centers form the upper management level.

The organization of digital production makes it possible to shorten the period between ordering the design of a product that meets the needs of consumers and the production of a finished product based on a digital model. The use of digital manufacturing technologies allows industrial robots to create products with a complex appearance using 3D printers.

The achievement of the concept of digital production is that it is possible to reduce production costs by identifying and eliminating errors at the stage of product modeling in a virtual environment. The use of blockchain technologies improves the performance of an enterprise or organization in the field of financial transactions and transactions with tangible and intangible assets, as well as changes the management system by monitoring and recording completed transactions (external and internal).

CONCLUSION

Summarizing the above points, the following directions (algorithm) for improving the introduction of digital technologies in industrial enterprises are proposed:

When forming the road map, it is necessary to take into account the level of material and technical potential and the need to modernize it, as well as the need to increase the level of personnel potential of the enterprise and the level of qualification and motivation of the organization's employees.

In conclusion, it can be noted that the decision to use modern technologies in the organization of production affects the entire enterprise, and it is necessary to take into account the possible risks. The desired effect can be obtained only with careful planning and comprehensive study of promising technologies, their pros and cons. Also, in the conditions of digitization, it is necessary to take into account the specific features of enterprise management. Flexible organizational structures can be created using digital information technologies. Organization and management of an industrial enterprise in the era of digitization requires the head of the organization to have professional knowledge, skills and qualifications in the field of management, production technologies, and IT technologies.

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