

DIGITAL TRANSFORMATION OF INDUSTRIAL ENTERPRISE MANAGEMENT

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To maintain the competitiveness of the enterprise in the market, constant changes in both technological and managerial processes are necessary. The most promising is the digital transformation of an industrial enterprise, which implies the process of introducing digital and information and communication technologies (ICT), the transition to "Industry 4.0", the fourth industrial revolution. First of all, this requires structural changes in enterprise management, namely, the transition to a digital basis for business management by transforming its models, marketing approach, strategies. Currently, the concept of "digital economy" is increasingly common, which was first used by the American computer scientist Nicholas Negroponte to describe trends in the development of ICT and their introduction into the economy. The digital economy implies the introduction of modern technologies in all spheres of public life. These changes have a direct impact on the real sector of the economy, and for the effective, advanced and competitive development of the enterprise, measures of influence are needed from the management, ready for these restructuring in view of the digital adaptation of control systems and the implementation of the industrial process.

Digitalization of industrial enterprise management primarily implies the introduction of automated information systems (AIS) – software tools for performing certain operations, such as storing, processing and computing information. The most modern direction of AIS is the artificial intelligence system (AI), such a system is able to calculate, store, process a huge amount of information, but it is only able to simulate the human mind by embedding algorithms for logical and mathematical solutions to certain problems. One of the advanced tools of SII is a neural network capable of self-development and improvement, the main difference is its ability to solve problems without using pre-programmed decision algorithms. The advantages for enterprise management are the ability to monitor the full production process, forecasting and calculating indicators (in finance, taxation, accounting), full automation of simple operations, informing about possible threats and providing ways to solve them, "smart surveillance" taking into account analytics. The next tool for digitalization of management at the enterprise is digital engineering – a complex of digital, physical, virtual aspects covering the entire production cycle of product creation, allowing you to monitor each level of the enterprise in a given time. This tool is aimed at minimizing the gap between

the production process (workshop) and the management of the enterprise (consolidation of the upper and lower levels of enterprise management).

An innovative direction in digital engineering is the creation of digital twins. According to A. N. Prokhorov and M. L. Lysachev, "elements of a digital double: a mathematical model of the formation of a physical object (process model), a statistical model based on machine learning based on data obtained from sensors from a real physical object, and the physical object itself formed in the process of 3D printing" [1]. So, based on a real object, you can create an identical or modified virtual version, this is mainly used in advertising or for visual examination of the object. Conversely, a real object is created on the basis of a virtual object, that is, an initial simulation to view the final result before its implementation begins. Digital counterparts of real objects or products (DT1) and production processes (DT2) are separated [2]. The first directly displays a 3D model of the goods produced at the enterprise. "The entire content of the product shifts from the material form to the digital form," however, the material side of the product does not disappear, but becomes dependent on its digital copy. The second is the virtual production process of creating a product, as well as the overall set of measures for its implementation. This technology also allows you to monitor the work of the enterprise online for the necessary impacts and adjustments, analysis and accounting of products. Digital engineering also includes the concept of "digital logistics", the main advantages of which are a more dynamic and interactive supply chain, improved customer service quality, increased control over production products. "Digitalization of enterprises occurs gradually, and enterprises and jobs with a low level of digitalization can remain in the economy for a long time, as well as accumulate an elderly workforce with relatively low digital skills and competencies" [3]. Hence, it is necessary to form a new employment model based primarily on highly qualified personnel with certain knowledge and entrepreneurial abilities.

In order to switch to a digital business management strategy, timely response to technology development trends and readiness of enterprises for such changes are necessary. However, taking into account the trends in the development of the modern world, the digital transformation of industrial enterprises is inevitable, but the most cost-effective will be the organizations that were the first to apply innovations.

Литература

1. Prokhorov A.N., Lysachev M.L. Digital double. Analysis, trends, world experience. The first edition, corrected and supplemented. – Moscow: Alliansprint LLC, 2020. – P. 401.

2. Digital twins and digital transformation of agricultural enterprises / A. I. Borovkov, Yu. A. Ryabov, K. V. Kukushkin [et al.] // Bulletin of the East Siberian Open Academy. - 2019. – No. 32. – P. 39.

3. Digital enterprise: transformation into a new reality / V.I. Ananyin [et al.] // Business Informatics. 2018. No. 2 (44). P. 45.

DEVELOPMENT OF THE CUSTOMS POLICY OF THE REPUBLIC OF BELARUS DURING THE PERIOD OF ECONOMIC SANCTIONS.

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In the context of economic sanctions from international economic partners, the Republic of Belarus is forced to review its customs policy and adapt to new challenges. We have researched the current state of the customs policy of the Republic of Belarus and proposed effective measures for its development in the context of economic sanctions. Our analysis included studying changes in the global economy and the experience of other countries that have already taken necessary measures to protect their economies under sanctions [1].

The introduction of sanctions against the Republic of Belarus entails the need to review the country's customs policy. In conditions of restrictions and limited access to traditional markets, it is necessary to develop new export directions, attract investments, improve the quality of customs service, implement new technologies, and simplify customs procedures. In this context, it is a relevant task to determine the most effective measures for the development of the customs policy of the Republic of Belarus under sanctions. Under sanctions, the customs policy of the Republic of Belarus should be adapted to the changing conditions of the global economy. Here are a few ways that we can use to develop customs policy under these conditions:

Development of technical equipment of customs procedures. The implementation of modern technologies and equipment will accelerate the process of customs control and reduce the costs of its implementation. This will allow us to become more competitive in the global market and improve the economic situation in the country. Within this area, there are several specific activities that can be highlighted:

Implementation of an electronic declaration system. This will speed up the document processing procedure and reduce the time required for customs control. It will also reduce the probability of errors and improve the quality of data.