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ACTUAL DIGITALIZATION CONCERNS IN UZBEKISTAN'S INDUSTRIAL SECTOR

Nishonkulov Shohruh

Kokand university 2nd year student of economics

Kokand, Uzbekistan

Abstract: The article is devoted to revealing the essence of digital transformation of industry, which is the basis for achieving measurable economic results through the creation of a knowledge economy and the introduction of advanced technologies. Industrial digitalization plays an important role in the technological development of regional space-network structures, so the production of high-tech products based on innovative digital technologies by industrial production is important for the development of the country's economy. The article proves the effectiveness of digitalization on the example of successfully functioning companies. It is substantiated that the digital transformation of production should be aimed at increasing the efficiency, productivity and competitiveness of the domestic industry in the world market. The study concludes that it is necessary to actively implement digital economy tools in the industrial sector.

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Introduction

The beginning of the XXI century have brought the development of digital technologies on the basis of the information revolution and the processes of economic globalization. Information in the society and processes of business management has become the main resource. In the hands of a person, it is transformed into knowledge, and socio-economic relations are increasingly transferred to the network space. The key factor of digital transformation in the performance of market participants is the development of digital culture.

Also, the Government Program for the realization of the Action Strategy for the five priority areas of Development of the Republic of Uzbekistan in 2017–2021 in the Year of Development of Science, Education and the digital Economy provides for the realization of large-scale tasks and projects defined by the President in the field of development of the digital economy and e-government.

For the further development of information technologies, the Presidential Decree "On measures for the widespread introduction of the digital Economy and e-Government" was adopted on April 28, 2020. The document sets out complex measures for the execution of the tasks set.

A new stage of development in the field was the signing by the President of the Decree "On the approval of the Strategy" Digital Uzbekistan-2030 "and measures for its effective realization" of October 5, 2020. The purpose of the adoption of the document is a successful transition to the digital economy, taking into account modern realities.

The adoption of the Strategy "Digital Uzbekistan-2030" and the "road map" for its implementation in 2020–2022 creates, first of all, the legal basis for the transition to the digital economy. The document includes such priority areas as the development of digital infrastructure, e-government, the national digital technology market, education and advanced training in the field of information technology.

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The strategy provides for the approval of two programs: digitalization of regions and digitalization of industries. Thus, there are two approaches – territorial and sectoral. Undoubtedly, this will ensure the more complete coverage and effective implementation of the document.

Along with this, ensuring the digitalization of industry today remains one of the most important tasks of the technological development of the economy of Uzbekistan.

A significant factor stimulating digitalization in various sectors of the economy is the increased availability of modern digital and network technologies, new software, various digital devices and equipment, information and communication technologies based on the Internet and mobile communications.

In the modern economy, the digitalization of industry is evidenced by the use of new types of equipment, which include: robotic devices, waste-free and unmanned technologies, flexible processing complexes, automatic production facilities, unmanned vehicles, automated technical and technological platforms at various stages of the production process, equipped with digital sensors, sensors, etc. Computer information systems, digital and network technologies, due to the high quality, speed and reliability of transmission, storage and processing of digital signals and other properties, ensure timely decision making aimed at increasing labor productivity, competitiveness, the development of innovations and their introduction in production processes.

The most important advantage of digitalization is to increase the productivity of the company by reducing the time required to develop a new product, release it to the market and deliver it to the consumer, as well as to optimize the resources of the company, which increases the efficiency of its work as a whole. The modern concept of enterprise digitalization was first introduced in 1996 in the book “Being Digital” by Nicholas Negroponte, who at that time headed the MIT Media Lab. However, in those times was only a matter of theory, only now there is a technical opportunity to put into practice the ideas of a digital enterprise. In modern conditions, the real need for the digitalization of industrial enterprises is rising, since the problem of processing huge amounts of data that occurs in large manufactures can only be solved by using machines.

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Modern technologies allow machines not only to perform automatic actions, but also to interact with each other in different fields of activities of the company.

Digital transformation of the enterprise. As mentioned earlier, for the transition to a digital company or business organization, it is necessary to conduct general digitalization and integration of production and other processes vertically, from product development to production, logistics and in-service maintenance. However, there is also a need for horizontal integration, which goes far beyond one organization and covers both the company itself and its partners, suppliers and customers. Digital transformation using a variety of modern technologies should be based on an appropriate digital platform. A digital platform is a set of digital data, models and tools that are informationally and technologically integrated into a single automated management system for the targeted subject area, in addition, this platform should organize the interaction of stakeholders among themselves. It is very important to emphasize that for the transition to the digital form of business, it is necessary to conduct a digital transformation of the organization, which involves the use of the entire pool of modern ICT technologies to dramatically increase the productivity and value of enterprises. Perhaps it is better to say it in another way: a radical increase in the productivity, competitiveness and value of enterprises today is realizable with the parallel digitization of business processes and their fundamental reengineering (BPR, Business Process Reengineering).

A digital enterprise involves digitalizing and integrating processes vertically across the entire manufacture from product development and procurement to manufacturing, logistics, and in-service maintenance. In turn, the horizontal integration of the digital enterprise extends beyond internal operations to include suppliers, consumers, and all key partners across the entire value chain. It uses a variety of technologies, from tracking and monitoring devices to integrated planning integrated with real-time execution. All this is done on the basis of the corresponding digital platform and all together makes up the socalled digital ecosystem of the digital enterprise. Summarizing all of the above, a radical increase in the volume of production and the value of the enterprise, as well as

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its competitiveness in the market, is possible only under the condition of a comprehensive digital transformation of all business processes.

Based on the general concept of digitalization, its goal is to increase the speed of decision-making in production, to increase the variability of production processes, and to reduce the number of employees involved in the work. When the goals are achieved through digital transformation, a higher level of productivity, cooperation, collaboration, quality control, support and predictability of production results is achieved. This makes it possible to dramatically increase the profit, competitiveness and overall market value of the enterprise. Analysis of the main directions of digitalization of an industrial enterprise. Digital transformation is currently being implemented in almost all areas of industry, including the digitalization of mining, mechanical engineering, aviation, space, energy, food processing, and many others. As part of this process, active work is necessarily carried out with the Internet of Things, or in this case with the “Industrial Internet of Things” (IIoT). Often, the information passes by the human operator, which reduces the likelihood of abnormal and emergency situations due to the human factor.

Of course, digitalization in industry and in other areas of production is not only a huge opportunity for development and increasing profits, but also serious risks, since a failure in a single system can cost much more than standard failures and accidents. Therefore, software and technical solutions for creating a modern digital enterprise are subject to increased requirements.

Digitalization of an industrial enterprise. Before digitalizing companies, it is necessary to conduct comprehensive research beforehand, which will allow you to know in advance how modern concepts and technologies can affect their business. It is necessary to have accurate data on the capacity and capabilities, the general state of the target enterprise, in order to correctly set the goals of digital transformation and achieve a positive result in the end.

What does digitalization bring? The benefits of digital transformation are best seen in examples. One of the most successful projects implemented to date can be considered a project of the company Siemens, where not only develop, but also implement smart

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systems. The corporation has launched an electronics factory in Amberg which specializes in the production of industrial controllers. The company produces more than 1,000 products with a volume of about 12,000,000 controllers annually. More than 75% of all work performed is carried out by works and automated machines, production is integrated with the design subsystem – design systems transmit all the necessary data about technological processes directly to production. The codes applied to the models inform the equipment about the technological route and the requirements for each operation performed. This technology allows you to achieve a product quality indicator at the factory at the level of 99.999%.

Every day, more than 50 million records of a production and technical nature are created in production, which can be used to analyze the entire life cycle of manufactured products. By introducing IoT in production, companies want to convert the benefits of "Industry 4.0" technologies into clear business indicators. For example, the manufacturer of machine tools, the Japanese corporation FANUC, reduced equipment downtime and thus received $40 million more revenue for the year. In the production of Stanley and Black tools & Decker after the introduction of IoT, the number of defects and marking errors decreased by 16%. And Singapore-based electronics manufacturer Flextronics has reduced energy consumption at its factories by 20%. If we talk about global cases, one of the most striking examples is the Chrysler plant in Toledo, which produces more than 700 car bodies every day. At the same time, 259 German KUKA robots are involved, which "communicate" with 60,000 other devices and machines. And all this data exchange and storage is organized in a cloud environment. As a result, the productivity and flexibility of such a plant is significantly increased, not to mention the efficiency of process management. In the field of digitalization, Uzbekistan is still inferior in the development and dissemination of technologies to many Western and Asian countries, but we are also working in this direction in the most active way. Already, many industrial companies are optimizing their business models and production through digital transformation. Examples include JSC "UzAutoMotors", SamAuto, Navoi Mining and Metallurgical Combine, Almalyk Mining and

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Metallurgical Combine, British Tobacco Company Uzbekistan, Artel Group of Companies and others.

References:

1. Курпаяниди, К. (2021). Actual issues of digitalization in the industrial sector of the economy of Uzbekistan. Общество и инновации, 2(4/S), 201-212.

2. Kagermann H. (2015). Change through digitization – Value creation in the age of Industry 4.0. In Management of permanent change (PP. 23–45). Springer Gabler, Wiesbaden.

3. Abdullaev A.M., & ets. (2019). Actual issues of activization of financial factors development of entrepreneurship in Uzbekistan. Kazakhstan Science Journal,2(3), 49-58.

4. Ashurov M.S., and ets. (2020). Entrepreneurship and directions of its development in the context of the COVID-19 pandemic: theory and practice. GlobeEdit Academic Publishing

5. Butaboyev, M., Urinov, A., Mulaydinov, F., & Tojimatov, I. Digital economy.

6. Горовик, А. А., Мулайдинов, Ф. М., & Лазарева, М. В. (2018). Дистанционное образование как необходимое средство обучения в условиях современной экономики узбекистана. In Цифровой регион: опыт, компетенции, проекты (pp. 122-125).

7. Kokand, F. M., Kokand, R. T., & Kokand, D. M. (2020). Trends in solving problems in the development of an innovative economy. Journal of Advanced Research in Dynamical and Control Systems, 12(6), 1205-1209.

8. Мулайдинов, Ф. М. (2021). КИЧИК БИЗНЕС ВА ТАДБИРКОРЛИКДА КРАУДФАНДИНГ ИМКОНИЯТЛАРИ. Academic research in educational sciences, 2(Special Issue 4), 23-32.

9. TURSUN, S., TUYCHIEVICH, B. M., & MUROTOVICH, M. F. (2020). Effects of the Global Crisis on the Economy of Uzbekistan During the Coronovirus Pandemidia and Measures to Ease IT. JournalNX, 6(05), 277-280.

Issn 2181-2632 DOI: https://doi.org/10.5281/zenodo.6646867

10. Mulaydinov, F. M. (2021). CROWDFUND OPPORTUNITIES IN SMALL BUSINESS AND ENTREPRENEURSHIP. Academic research in educational sciences, 2, 23-32.

11. Mulaydinov, F., & Nishonqulov, S. (2021). The role of information technologies in the development of the digital economy. The role of information technologies in the development of the digital economy.

12. Farkhod, M., Azadkhon, K., Gulkhon, M., & Oybek, A. (2020). Advantages of the transition to a digital economy in the innovative development of Uzbekistan. Journal of Advanced Research in Dynamical and Control Systems, 12(6), 1226-1232.

13. Mulaydinov, F., & Nishonqulov, S. (2021). Raqamli iqtisodiyotni rivojlantirishda axborot texnologiyalarining orni-The role of information technologies in the development of the digital economy.

14. Mulaydinov, F. M. (2019). Econometric Modelling of the Innovation Process in Uzbekistan. Форум молодых ученых, (3), 35-43.

15. Farkhod, M. (2020). Econometric Modelling of the Innovation Process in Uzbekistan. International Journal of Psychosocial Rehabilitation, 24(02).

16. Mulaydinov, F. (2021). Digital Economy Is A Guarantee Of Government And Society Development. Ilkogretim Online, 20(3), 1474-1479.

Issn 2181-2632 DOI: https://doi.org/10.5281/zenodo.6646867