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SPECIFIC FEATURES OF THE DEVELOPMENT OF ELECTRICAL ENGINEERING ENTERPRISES IN THE CONDITIONS OF DIGITALIZATION OF THE ECONOMY

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ОСОБЕННОСТИ РАЗВИТИЯ ЭЛЕКТРОТЕХНИЧЕСКИХ ПРЕДПРИЯТИЙ В УСЛОВИЯХ ЦИФРОВИЗАЦИИ ЭКОНОМИКИ

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Abstract. Article discusses the concept of digitalization, its role and importance in the development of the electrical engineering industry. The essence of the digital transformation process, the strategy of applying this process to the activities of enterprises and ways of implementing this strategy, including the introduction of modern information systems and software products improvement of the quality of products and services, trends in the development of electrical engineering products in the industry were discussed.

Аннотация. В статье рассматривается понятие цифровизации, ее роль и значение в развитии электротехнической отрасли. Рассмотрены сущность процесса цифровой трансформации, стратегия применения этого процесса к деятельности предприятий и пути реализации этой стратегии, в том числе внедрение современных информационных систем и программных продуктов, повышение качества продукции и услуг, тенденции развития электротехнической продукции в отрасли.

Keywords: digitization, digital transformation, electrical engineering industry, cloud technologies, big data, automation, robotics.

Ключевые слова: цифровизация, цифровая трансформация, электротехническая отрасль, облачные технологии, большие данные, автоматизация, робототехника.

In the Republic of Uzbekistan, based on the experience of ensuring sustainable economic development at the expense of innovative factors, the innovative activity of modern industries and increasing the competitiveness of manufactured products (work, services) are becoming important. Also, the organizational-economic mechanism of increasing the efficiency of digital economic activity in the enterprises of the electrical engineering industry, the classification of digitalization of economic processes in the production system and its characteristics, the innovative development strategy of enterprises and the methods of evaluating innovative projects, the conceptual method of increasing the efficiency of digital transformation processes in high science capacity branches of industry The research of these directions reveals important scientific directions in this regard. In Uzbekistan, attention is being paid to the rapid development of the leading sectors of the economy,

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including the electrical engineering industry. Great efforts are being made to equip industrial enterprises with high-level modern equipment and technologies, and to implement them in production, to transition to an innovative economy. In this regard, "...the most important guarantee of sustainable economic growth is the production of competitive products, finding new international markets for them and increasing exports, making full use of the transit potential." In solving these tasks, deepening of scientific research in areas such as increasing digital transformation activity in electrical engineering enterprises, determining the trends and priorities of implementation of innovative-investment activities, evaluating the effectiveness of innovative projects, improving the financial mechanism of implementing digital economic activities in enterprises is of particular importance. is enough.

The decision of our President "On additional measures to further develop the electrical engineering industry and increase the competitiveness of local products" has opened the door to new opportunities for the future of the industry. It is noteworthy that a new era has begun for the enterprises of the electrical engineering industry (https://lex.uz/ru/docs/5841077).

Setting a scientific problem

The issues of improving the organizational and economic mechanisms of industrial enterprises in the conditions of digital transformation of the economy are the scientific researches of foreign scientists N. Rakesh, J. Wind, D. C. Pigosso, F. Lee, M. Fischer, R. K. Rainer, G. Westerman, D. Romero, I. C. Melo and others. Reflected [1-7].

In the works of A.A.Abduvaliyev, A. B. Bobojonov, S. S. Gulomov, B. A. Begalov, A. Sh. Bekmurodov, A. A. Musaliyev, T. Z. Teshabayev, N. Nabiyeva, K. U. Turabayeva, D. N. Rakhimova, S. M. Khodjayev and a number of other local scientists, the theoretical framework of the digitalization policy of the national economy and applied studies are reflected [8-16].

Analysis and results

The successful implementation of digital transformation in order to introduce high technologies into the production area of electrical engineering enterprises and rationally use the existing raw material base will lead to the integration of enterprises and customers, increase operational efficiency and increase the competitiveness of enterprises in the market. to ensure automation and management of all stages of supply, as well as through this, to reduce logistics and procurement costs, to improve the quality of products and services due to the introduction of modern information systems and software products, to reduce their cost and the level of production stoppages, to phase out workplaces By introducing modern digital technologies such as robots, artificial intelligence, cloud computing, goods, and the Internet in production processes, it is desirable to increase the volume of sales and improve customer service, and to improve the mechanisms of interaction with customers.

In this regard, practical work is being carried out in the Republic of Uzbekistan to develop the electrotechnical industry, effectively organize the activities of network enterprises, and expand the nomenclature of electrotechnical products with high added value.

In recent years, attracting foreign direct investments and modern technologies to the network, processing of local raw materials, production of modern electrical engineering and electrical household products competitive in the export markets, replacing imports, has been launched [17].

In the conditions of the digital economy, the following features are important in the sustainable development of industrial enterprises, including electrical engineering enterprises:

1. Applying the best practices of foreign countries in order to improve the effectiveness of the

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transformation processes of electrotechnical enterprises.

2. Automation of production processes, robotics and 3D-results to further optimize work in electrotechnical enterprises.

3. The use of innovative technologies, reduction of energy consumption, and establishment of alternative energy sources open up wide opportunities to increase energy efficiency in electrical engineering enterprises.

4. Use of data analytics and data intelligence (AI) technologies, digitization of industry and improvement of efficiency of control of operational processes.

5. Ensuring information security of electrotechnical industry enterprises.

6. To increase the volume of copper processing and attract investment to localize the production of household appliances due to the effective use of the local raw material base and the development of the industry based on advanced technologies

7. Establishment of research and development (R&D) centers in the electrical engineering industry

These features will be important in the digitization of electrical engineering enterprises and should be implemented on the basis of corporate strategies in their development [18].

The decision of the President of the Republic of Uzbekistan "On additional measures to further develop the electrical engineering industry and increase the competitiveness of local products" opened the door to new opportunities for the industry. It was mutually beneficial for both local entrepreneurs and foreign investors. The share of production of electrical engineering products in the republic's industry is also increasing year by year. For example, in 2017, this share was 2.1 percent, in 2021 it was 4.5 percent, and by 2023 it reached almost 8 percent. The analysis showed that during the past period, the enterprises of the electrical engineering industry recorded the highest growth rates in the industry of the Republic (https://kurl.ru/muLay).

In the stable development of the economy of new Uzbekistan, industry, in particular, the electrical engineering industry, plays an important role. In recent years, large-scale reforms implemented in our republic have turned the electrical engineering industry into one of the important factors driving the economy. In particular, in 2017, the number of electrical engineering enterprises in the republic was 48, and by the end of 2023, this indicator increased 9.4 times and reached 451. According to the analysis, in 2023, more than 2,000 types of electrical engineering enterprises will make a total of 26.4 trillion. Soum worth of products were produced. This is 118.4 percent more than in 2022. 81.9% of the products produced in the network enterprises are products with high added value. At the same time, the share of high-tech products in the total manufactured products is 60.1 percent. In 2020-2023, the production volume increased 1.7 times, and the export volume increased 3.2 times [19].

Uzbekistan's accession to the GSP+ preferential system created conditions for expanding trade relations for enterprises operating in the electrotechnical industry system. As a result, in 2023, more than 200 types with a total value of 1.05 billion. Innovative electrical engineering products equivalent to US dollars (104.7% more than the forecast) were exported to 68 countries such as the European Union, CIS countries, Great Britain, Turkey, China, UAE. For information: If in 2017, 4.8 trillion. products worth 189.7 million soums were produced. if the dollar part or 20.2 percent was exported, by 2023, 23.8 trillion. 1,047 million soums worth of products were produced. dollar part or 47.6 percent was exported.

Conclution

International experience shows that today digital technologies are rapidly developing mainly in the scientific community, private sector and electrical engineering industry. Therefore, the state is

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creating a favorable ecosystem by supporting innovative projects and IT companies in these areas. Also, the state should support modern methods of digital education in the field of supporting the innovative and digital ecosystem, develop norms for effective regulation of innovative services, help in the development of new markets, and reduce risks arising from the deepening of technological processes. it is appropriate to take measures. In conclusion, it can be said that the qualitative development of economic sectors, the social sphere and the state management system in the current period of human development and in the near future is directly related to the widespread introduction of digital technologies. The prospect of our country's development also depends on the development of the digital economy and the level of coverage of digital technologies.

References:

1. Rakesh, N., & Wind, J. (2020). *Transformation in Times of Crisis: Eight Principles for Creating Opportunities and Value in the Post-Pandemic World*. Notion Press.

2. Li, F. (2020). The digital transformation of business models in the creative industries: A holistic framework and emerging trends. *Technovation*, *92*, 102012. https://doi.org/10.1016/j.technovation.2017.12.004

3. Fischer, M., Imgrund, F., Janiesch, C., & Winkelmann, A. (2020). Strategy archetypes for digital transformation: Defining meta objectives using business process management. *Information & Management*, *57*(5), 103262. https://doi.org/10.1016/j.im.2019.103262

4. Rainer, R. K., & Prince, B. (2021). *Introduction to information systems*. John Wiley & Sons.

5. Romero, D., & Vernadat, F. (2016). Enterprise information systems state of the art: Past, present and future trends. *Computers in Industry*, *79*, 3-13. https://doi.org/10.1016/j.compind.2016.03.001

6. Melo, I. C., Queiroz, G. A., Junior, P. N. A., de Sousa, T. B., Yushimito, W. F., & Pereira, J. (2023). Sustainable digital transformation in small and medium enterprises (SMEs): A review on performance. *Heliyon*, *9*(3).

7. Abduvaliev, A. A. (2020). Tsifrovaya ekonomika: tendentsii i perspektivy. Tashkent. (in Uzbek).

8. Bobozhonov, A. B. (2018). Metodologicheskie aspekty razvitiya biznesa informatsionnykh produktov i uslug v Uzbekistane. Tashkent. (in Uzbek).

9. Gulyamov, S. S. (2019). Va boshqalar. Raqamli iqtisodiyotda blokcheyn texnologiyalari. Tashkent. (in Uzbek).

10. Begalov B. A. (2015). Analiz trebovanii pol'zovatelei pri otsenke kachestva informatsionnykh sistem, sozdavaemykh dlya sub"ektov malogo biznesa. *Ekonomika i innovatsionnye tekhnologii,* (1). (in Uzbek).

11. Bekmurodov, A. Sh., & Musaliev, A. A. (2006). Informatsionnyi biznes. Tashkent. (in Uzbek).

12. Teshabayev, T. Z., Otakuziyeva, Z. M., & Bobokhujaev, Sh. I. (2020). Spetsifika kontseptual'nogo razvitiya informatsionnoi ekonomiki v Uzbekistane. *Dostizheniya ekonomiki, biznesa i ekonomiki i innovatsionnye tekhnologii*, (2). (in Uzbek).

13. Nabieva, N. (2021). Nauchno-teoreticheskie osnovy razrabotki marketingovykh strategii razvitiya predpriyatii sfery uslug v usloviyakh tsifrovoi ekonomiki. *Obshchestvo i innovatsii, 2*(4), 19-26. (in Uzbek).

14. Турабаева К. У. (2021). Osobennosti razvitiya elektronnoi torgovli v usloviyakh tsifrovoi ekonomiki. *V agropromyshlennom komplekse. Mezhdunarodnaya nauchno-prakticheskaya*

konferentsiya, 25-26. (in Uzbek).

15. Rakhimova, D. N. (2021). Strategy of socio-economic development of the regions of Uzbekistan in the conditions of the digital economy. *Organizatsiya i upravlenie ekonomikoi i proizvodstvom v usloviyakh tsifrovoi ekonomiki: teoriya i praktika. Tashkent,* 19-22. (in Uzbek).

16. Xodjayev, S. M. (2023). Sovershenstvovanie sistemy elektronnogo pravitel'stva v usloviyakh tsifrovoi ekonomiki. Tashkent. (in Uzbek).

17. Qodirov, S. I. (2022). Osobennosti ispol'zovaniya tsifrovykh tekhnologii na promyshlennykh predpriyatiyakh. *Ekonomika i innovatsionnye tekhnologii,* (58), 360-368. (in Uzbek).

18. Mamayusupova, M. S. (2023). Rol' i znachenie elektrotekhnicheskoi produktsii v ukreplenii vneshnetorgovoi politiki i prodvizhenii eksporta. *Ekonomika i finansy,* (4 (164)), 14-20. (in Uzbek).

19. Mamayusupova, M. S. (2023). Increasing the export potential of electrotechnical industry products as an important factor of development. *Nazariy va amaliy tadqiqotlar xalqaro jurnali, 3*(2), 65-72. https://doi.org/10.5281/zenodo.7732836

Список литературы:

1. Rakesh N., Wind J. Transformation in Times of Crisis: Eight Principles for Creating Opportunities and Value in the Post-Pandemic World. Notion Press, 2020.

2. Li F. The digital transformation of business models in the creative industries: A holistic framework and emerging trends // Technovation. 2020. V. 92. P. 102012. https://doi.org/10.1016/j.technovation.2017.12.004

3. Fischer M., Imgrund F., Janiesch C., Winkelmann A. Strategy archetypes for digital transformation: Defining meta objectives using business process management // Information & Management. 2020. V. 57. №5. P. 103262. https://doi.org/10.1016/j.im.2019.103262

4. Rainer R. K., Prince B. Introduction to information systems. John Wiley & Sons, 2021.

5. Romero D., Vernadat F. Enterprise information systems state of the art: Past, present and future trends // Computers in Industry. 2016. V. 79. P. 3-13. https://doi.org/10.1016/j.compind.2016.03.001

6. Melo I. C., Queiroz G. A., Junior P. N. A., de Sousa T. B., Yushimito W. F., Pereira J. Sustainable digital transformation in small and medium enterprises (SMEs): A review on performance // Heliyon. 2023. V. 9. №3.

7. Абдувалиев А. А. Ракамли иқтисодиёт:тенденциялар ва истиқболлар. Ташкент, 2020. 190 с.

8. Бобожонов А. Б. Ўзбекистонда ахборот маҳсулотлари ва хизматлари бизнесини ривожлантиришнинг услубий жиҳатлари: дис. иқт. фан. Т.: ТДИУ, 2018, 155 с.

9. Gulyamov S. S. Va boshqalar. Raqamli iqtisodiyotda blokcheyn texnologiyalari. Ташкент: Iqtisod-Moliya, 2019. 396 с.

10. Бегалов Б. А. Кичик бизнес субъектлари учун яратилаётган ахборот тизимлари сифатини баҳолашда фойдаланувчилар талабининг таҳлили // Иқтисодиёт ва инновацион технологиялар. 2015. №1.

11. Бекмуродов А. Ш., Мусалиев А. А. Информационный бизнес. Т.: ТГЭУ, 2006. 288 с.

12. Teshabayev T. Z., Otakuziyeva Z. M., Bobokhujaev Sh. I. Specificity of conceptual development of information economy in Uzbekistan // Iqtisodiyot va innovatsion texnologiyalar. 2020. №2.

13. Набиева Н. Научно-теоретические основы разработки маркетинговых стратегий

развития предприятий сферы услуг в условиях цифровой экономики // Общество и инновации. 2021. V. 2. №4. P. 19–26.

14. Турабаева К. У. Рақамли иқтисодиётда электрон савдонинг ривожланиш ҳусусиятлари // In The Agricultural Sector. International scientific-practical conference. 2021. P. 25- 26,

15. Рахимова Д. Н. Strategy of socio-economic development of the regions of Uzbekistan in the conditions of the digital economy // Рақамли иқтисодиёт шароитида иқтисодиёт ва ишлаб чиқаришни ташкил этиш ва бошқариш: назария ва амалиёт. Ташкент: ТМИ., 2021. P. 19-22.

16. Xodjayev S.M. Raqamli iqtisodiyot sharoitida elektron hukumat tizimini takomillashtirish. Diss. avtoreferati. Ташкент, 2023. С. 53.

17. Qodirov S. I. Sanoat korxonalarida raqamli texnologiyalardan foydalanish xususiyatlari // Iqtisodiyot va innovatsion texnologiyalar. 2022. №58. С. 360-368.

18. Mamayusupova M. S. Tashqi savdo siyosatini mustahkamlash va eksportni rag‘batlantirishda elektrotexnika mahsulotlarining o‘rni va ahamiyati. Iqtisodiyot va moliya // Ekonomika i finansy. 2023. V. 4. №164. P. 14-20.

19. Mamayusupova, M. S. (2023). Increasing the export potential of electrotechnical industry products as an important factor of development // Nazariy va amaliy tadqiqotlar xalqaro jurnali. V. 3. №2. P. 65-72. https://doi.org/10.5281/zenodo.7732836

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