DEVELOPMENT OF SOFTWARE FOR DIGITAL INDUSTRIAL STRUCTURE TRANSFORMATION PROCESSES

A.B.Rustamov
assistant professor of TATU Karshi branch, i.f.f.d., (P.hD)

Abstract. Today, the development of information technologies and systems allows not only to facilitate the work and management of the regional industry, but also to improve the activity of all industrial enterprises and increase production efficiency. In the article, the development of the management hierarchy and simulation model of the software platform in the development of software for the transformation processes of the complex industrial structure, in the improvement of the competitiveness of the ICT use system in the improvement of the industrial structure of the region, is considered.

Keywords: Industry, information technology, industry structure, systems, trends, convergence, business solutions, intelligent platform technologies, cloud services.

Currently, the role of information technology in all fields is incomparable. In the regions, large-scale work is being carried out in order to develop and improve the usability of digital industrial sectors. Programming the processes of digitalization of the Canoat structure and developing its software, achieving results through the software defines the main goal and task of our research. The question arises, what facilities and opportunities does the software create for us. Therefore, digitization of industrial structures in the regions creates great opportunities for producers and users of manufactured products.

The industrial sector is such a sector that all regions are paying attention to, so it is impossible not to associate this sector with information technology. The ability to obtain information about all types of industrial products produced is important today, because these opportunities prevent excessive time and costs for manufacturers and users. Also, there are opportunities to exchange and sell and buy products with other industrial enterprises, provided that certain parts of incomplete products produced by different industrial enterprises are placed in the system.

On the home page of the software, we can also see certain services that provide interactive services for system users. Therefore, the following software tool will help to automate production processes in industrial sectors of the region through information technologies in a certain part of the industrial structure of the region and help to get to know the products of manufacturers in all regions and get other information. This will contribute to the improvement of the process of

digitization of industrial structures in the region and the sustainable development of several tasks of enterprises.

As a result of research, it is possible to introduce many new modern information technologies in the processes of transformation of the industrial structure in the region, we proposed to create a portal "Trade in industry" that uses all the possibilities and has a large data base as a result of research. Based on this point of view, the platform management hierarchy was developed. This is shown in Figure 1 below.
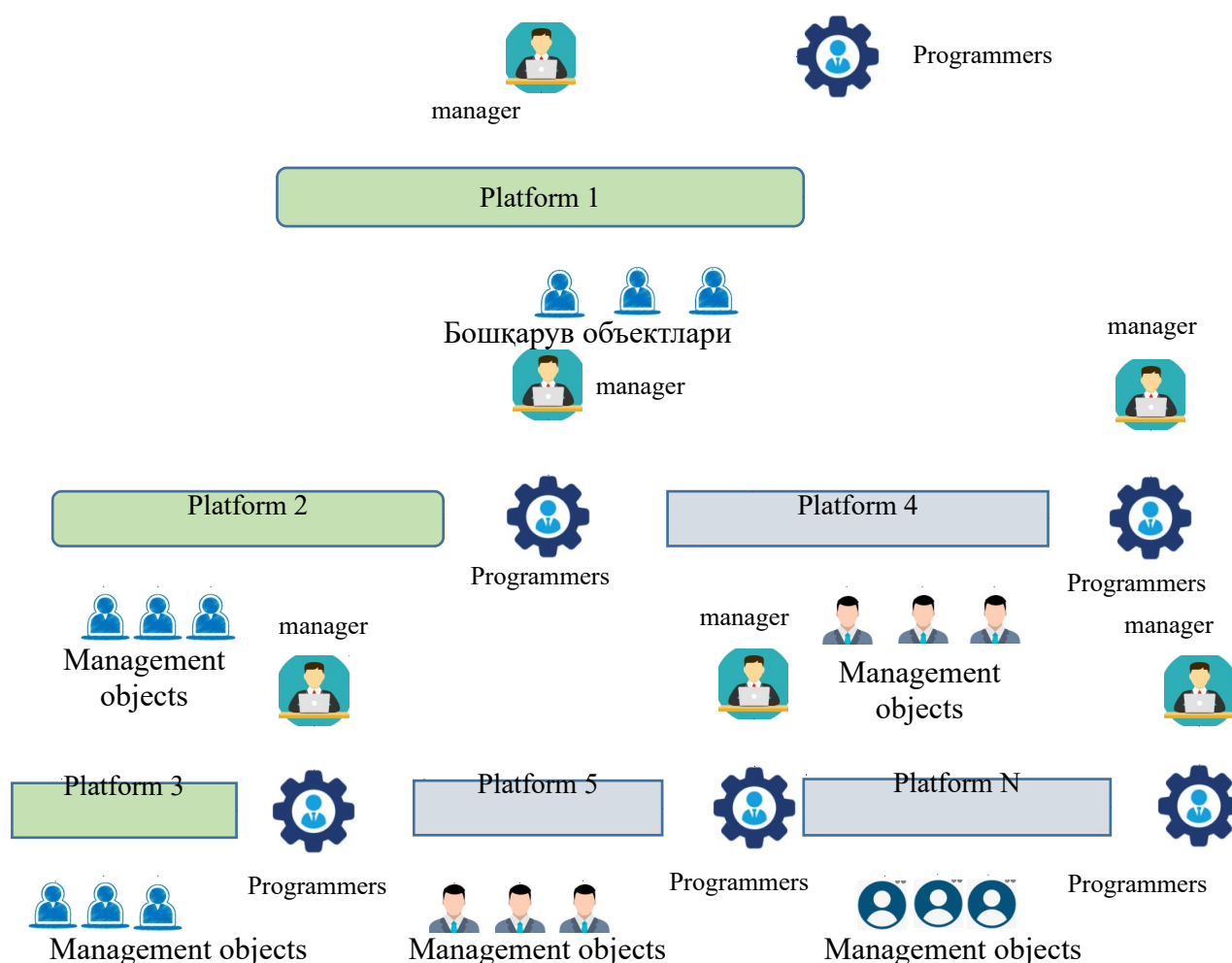

Figure 1. Management hierarchy of the "Trade in industrial" platform

Based on the development process of the management hierarchy of the "Trade in industrial" platform, we can say that based on the above, it is logical and reasonable to conclude that the digital economy is a new economic reality, characterized by the following circumstances: the digital economy is the final stage of globalization, in which the world all assets and resources will be digitized; new channels are being formed within and outside of platform-based system interaction; From this point of view, the hierarchy of managers is used in the

development of the industrial structure of the region. This makes it possible to carry out this system in a wide range. Also, during the creation of the platform, an imitation model was created. The simulation model of the platform is shown in Figure 2.
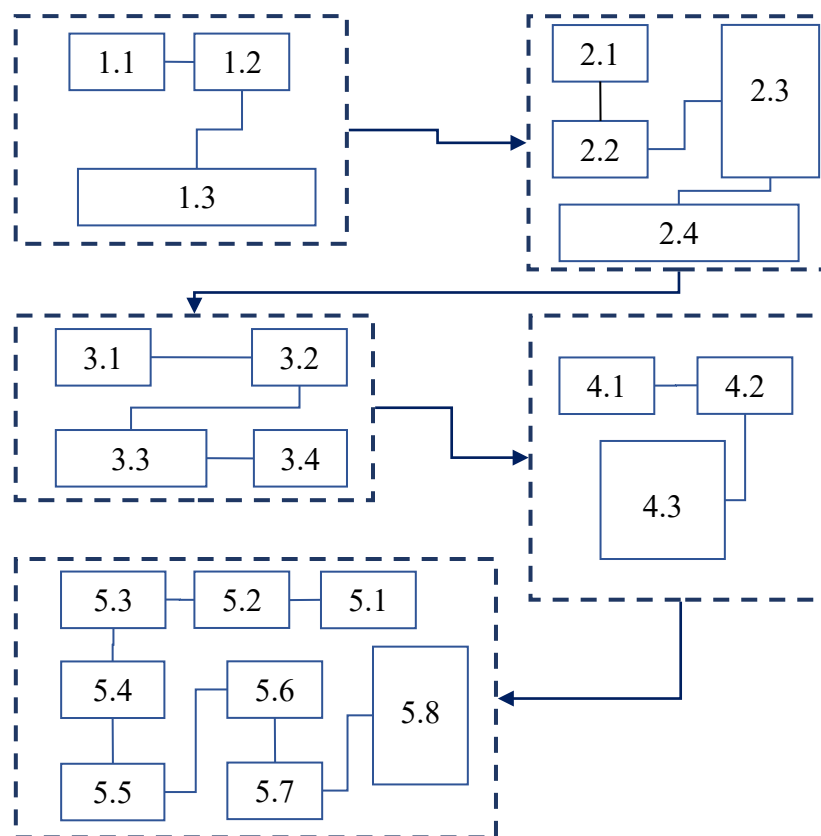

Figure 2. An imitation model of the "Trade in industrial" platform.

When creating an imitation model of the "Trade in industrial" platform, we worked on the following block schemes. Here is a platform for improving the industrial structure of the region with the help of information technology. This platform is made up of the following blocks.

The first block is made up of three sections, which the ideologist-region develops the necessary projects for improving the industrial structure using ICT (1.1), creates the software tool of the industrial structure according to the project developed by the programmers-ideologist (1.2), and the software created by the platform-programmers is a tool in which an electronic system for improving the industrial structure has been developed (1.3).

The second block is the light industry of the region. Paper industry (2.1), construction materials industry (2.2), glass and porcelain industry (2.3), wood processing industry (2.4) etc.

The third block is the heavy industry of the region. Machine building

industry (3.1), construction road utility engineering industry (3.2), metal structures and products industry (3.3), petrochemical industry (3.4) and other industries are listed.

The fourth block is to determine the location addresses of the industrial sectors of the region (4.1), obtain the necessary information about the organization (4.2), determine the requisites for contact (4.3).

The fifth block - a service for evaluating the security of industrial enterprises in the field of ICT has been developed. In this security process assessment, the following factors influencing the ICT system were obtained. Natural and Man-made Risks (5.1), Casual User (5.2), Network Risks (5.3), Software Installation Risk (5.4), User Ignorance (5.5), Database Risks (5.6), Alarm Risks (5.7), Personnel Risks risks arising (5.8),

One of the main tasks of this portal software tool is to have centralized information about all types of products produced in the industrial sectors of these regions. The software tool consists of the following sections: home page, industrial structure (categories, regional determination of industrial structure, risk assessment in industrial enterprises, contact (with service providers), registration and access (when using the system)

Homepage. We have introduced the main sections of the software tool above, and now we will get acquainted with what options are available on the main page of the system. As users of the system get acquainted with all kinds of products, SMS message services have also been developed to leave positive and critical comments about some products.

The industrial structure is one of the main sections of the software, in the categories that are integral parts of the industrial system, such as forestry, wood and paper industry, chemical and petrochemical industry, mechanical engineering and metal processing, heavy industry, light industry, food industry.

References

1. Андиева, Е.Ю., and В.Д. Фильчакова. "Цифровая экономика будущего, индустрия 4.0". Прикладная математика и фундаментальная информатика 3 (2016): 214–218.
2. Гондарев Р.С. Методика повышения эффективности бизнеса на рынке B2B услуг на основе стейкхолдерских инструментов управления // Kant. – 2017. – №. 2 (23).
3. Волков А. Инвестиционные проекты: от моделирования до реализации. – Litres, 2019.
4. Singh, Ashish, and Kakali Chatterjee. "Cloud security issues and challenges: A survey". Journal of Network and Computer Applications 79 (2017): 88–115.

5. Bataev, Alexey V., and Dmitriy G. Rodionov. "Cloud computing: Evaluation use under the crisis in Russia". 2018 7th International Conference on Industrial Technology and Management (ICITM). IEEE, 2018.

6. Akatkin, Y., & Yasinovskaya, E. (2019). Data-centricity as the key enabler of digital government: Is Russia ready for digital transformation of public sector: Communications in Computer and Information Science, 947, 439-454.

7. Cimini, C., Pinto, R., & Cavalieri, S. (2017). The business transformation towards smart manufacturing: A literature overview about reference models and research agenda. IFAC-Papers OnLine, 50, 14952– 14957.

8. Рустамов, А. (2022). МИНТАҚА САНОАТ ТУЗИЛМАСИНИ ИННОВАЦИОН РИВОЖЛАНТИРИШДАГИ ЁНДАШУВЛАР ВА ТАМОЙИЛЛАРИ. *Solution of social problems in management and economy*, *1*(7), 108-112.

9. Bahodirovich, R. A., & Turamuradov, S. (2024). RAQAMLI TRANSFORMATSIYALASH JARAYONIDA MINTAQA SANOAT TUZILMASINI MA'LUMOTLAR BAZASINI YARATISH AHAMIYATI. ITALY" ACTUAL PROBLEMS OF SCIENCE AND EDUCATION IN THE FACE OF MODERN CHALLENGES"., 17(1).