



IMPROVING THE COMPETITIVENESS MANAGEMENT SYSTEM OF FOOD INDUSTRY ENTERPRISES ON THE BASIS OF DIGITAL TECHNOLOGIES

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Article history:	Abstract:
Received: 11 th November 2022	Factors that can effect to the competitiveness of food cluster enterprises are taught in this article. At the same time this article gives information about the place in the world market, production specialization for export, goods produced in the domestic market as well as imported products that can replace them and the ratio between sales volume of those products
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INTRODUCTION. Evaluating is the most important thing in increasing the productiveness of control over competitiveness of food industry enterprises. Today managers are widely using the practice of comparing the expected results with the obtained results of functioning enterprises in order to provide competitiveness of food industry enterprises. It means that managers on evaluating the competitiveness management efficiency of food industry enterprises are unaware of news in science, and it limits using the opportunities for growth potential of the competitiveness of the enterprises. Therefore, today it is acquired scientific and practical importance in developing ordinary and complex valuation methodology that gives an opportunity to determine the level of management on the competitiveness of the food industry enterprises

ANALYSIS AND RESULT. As valuation methodology in determining the level of management on the competitiveness of food industry enterprises is a systemic process, it is composed of structural components. According to the analysis of world practice, valuation methodology in determining the level of management on the competitiveness of food industry enterprises consists of assessment object, subject, scientific basis of valuation methodology and its logic. (Table1) It is very important to choose the assessment object correctly. For example, most authoritative food industry enterprises in world market pay great attention to the quality of their products and they widely use valuation methodology in determining the level of management on the competitiveness. However, companies that are just entering the world market adopt tactical plans and they prioritize making decisions that serve to improve their position and reputation in the market and assessing their efficiency.

In the context of the ever-accelerating struggle of competition in the world market, priority is being paid to the use of digital technologies in the management of various industries, including food industry enterprises. In particular, the outbreak of the Covid-19 pandemic further increased the need to use digital technologies in various sectors of the countries' economy. At the same time, while the activities of enterprises operating in all sectors of industry in industrially developed countries are digitized today on the basis of advanced IT technologies, priority is being paid to reforms aimed at promoting the development of digital transformations and their introduction into the activities of industrial enterprises in the practice of developing and developing countries, including Uzbekistan.

Since the beginning of the 2000s, Uzbekistan began to give priority to the development and digitalization of information and communication technologies (ICT). In particular, "comprehensive program for the development of the National Information and communication system of the Republic of Uzbekistan in 2013-2020", "strategy of actions in five priority areas of development of the Republic of Uzbekistan in 2017-2021" and "digital Uzbekistan-2030" and "development strategy of New Uzbekistan for 2022-2026" provide for a number of measures aimed at.¹

According to the analysis of world practice, the introduction of modern IT technologies in the digitization of production processes in the activities of food industry enterprises in industrially developed countries is widely used in digital technologies such as "Energy Management System (EMS)", "central management ERP-system".

¹ Хақимов Ф. Рақамлаштириш – Янги Ўзбекистон тараққиётининг муҳим «драйвери». https://uza.uz/ru/posts/raqamlashtirish-yangi-ozbekiston-taraqqiyotining-muhim-drayveri_365849?q=%2Fposts%2Fraqamlashtirish-yangi-ozbekiston-taraqqiyotining-muhim-drayveri_365849

According to the analysis, the need for the introduction of modern IT technologies into production processes at the enterprises of the food industry is reflected in the following cases in the era of today's informatization:

- high level of security and protection of enterprise data in the field of information, including IT;
- control and monitoring of production processes;
- formation of the ERP system of Central Management at the enterprise;
- product quality control and its certification;
- "Cloud (Cloud)" decision-making in the context of the digital economy.

According to the results of a survey conducted by the UN Food and Agriculture Organization among enterprise managers in order to assess the position of modern IT technologies in the practice of management of more than 10,000 food industry enterprises, which are considered leaders in industrialized countries, it was noted that this type of technology occupies an important place in ensuring information. The results obtained according to the results of the survey conducted were assessed on the basis of a 5.0-point system, information about which is presented in Figure 1.



Figure 1. The importance of IT technologies in the management of food industry enterprises of civilized countries (in a 5.0-point assessment system)²

In particular, according to the results of a survey compiled within the framework of the study on the benefits of using IT technologies in the practice of management of food industry enterprises, modern IT technologies have expanded the possibilities of making operational decisions of enterprise managers in relation to existing processes. In particular, having significantly simplified the complex calculated management processes in production, the enterprise has created sufficient conditions to increase the indicator of management efficiency. In Figure 2, presented below, it is the results of a survey on the preferred aspects of the application of modern IT technologies in the practice of management of food industry enterprises.

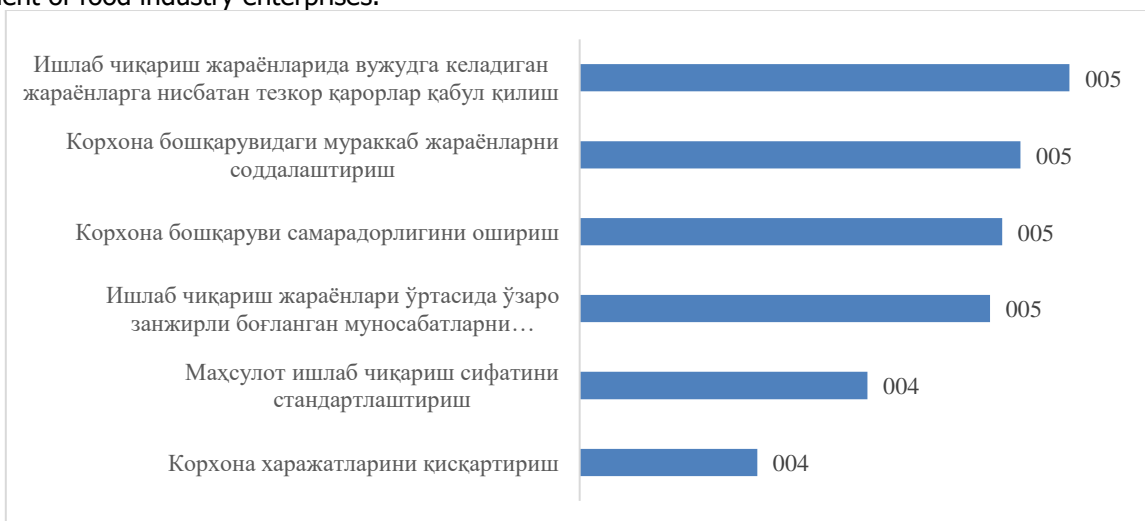


Figure 2. Advantages of using IT technologies in the management of food industry enterprises of civilized countries (in a 5.0-point assessment system)³

² БМТнинг Озиқ-овқат ва қишлоқ хўжалиги ташкилоти маълумотлари асосида муаллиф томонидан тузилган. <https://www.fao.org/statistics/en/>

³ БМТнинг Озиқ-овқат ва қишлоқ хўжалиги ташкилоти маълумотлари асосида муаллиф томонидан тузилган. <https://www.fao.org/statistics/en/>

According to the results of the survey, it was the use of modern IT technologies that expanded the possibilities of controlling the quality of products produced at the enterprises of the food industry. It was noted that the simultaneous and complete control of video images taken on video cameras of various production processes is achieved through the central computer, and the rapid elimination of problems arising in the production process is achieved. In particular, a significant reduction in the costs of the enterprise was achieved due to the standardization of the quality of products produced by the enterprise, which is considered one of the important indicators characterizing the competitiveness of the food industry enterprise.

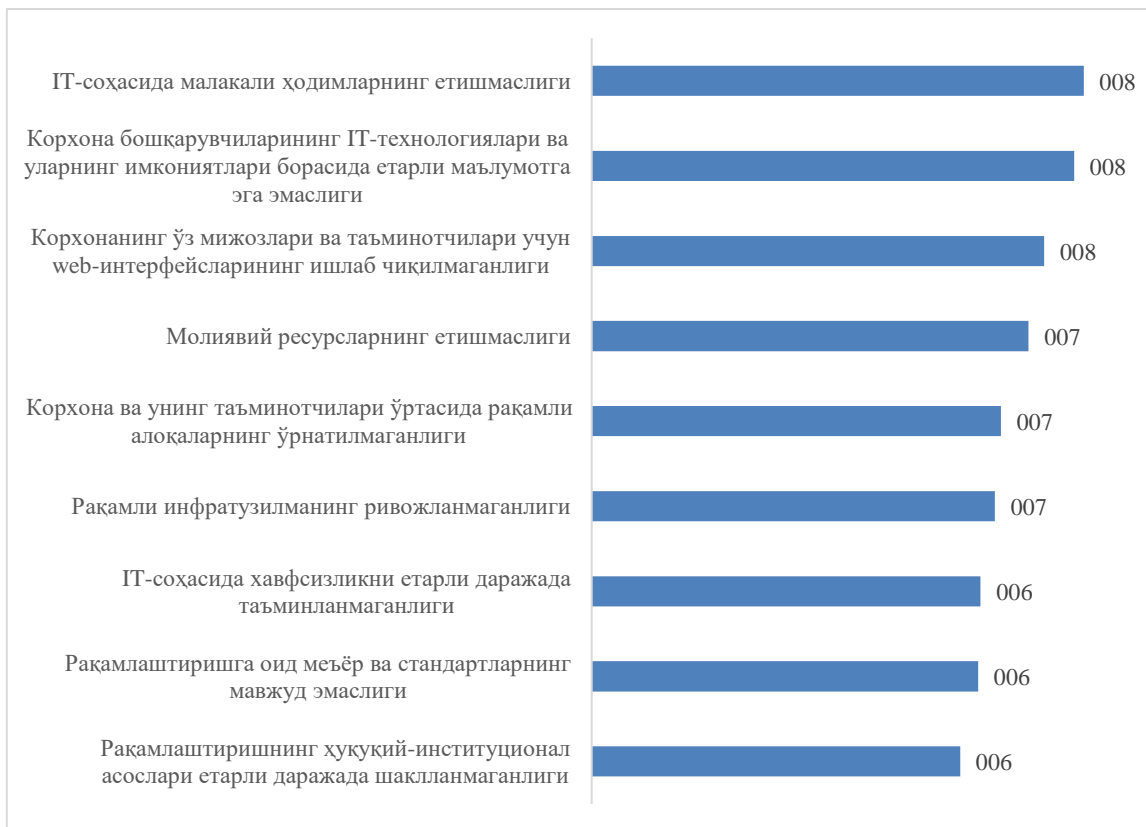


Figure 3. Existing problems with the use of modern IT technologies in food industry enterprises of developing and developing countries with a market economy (in a 10.0-point assessment system)⁴

The UN Food and Agriculture Organization cited the use of modern IT technologies in the practice of management of food industry enterprises at the international level as one of the pressing problems in the group of countries where the market economy is forming and developing, the lack of qualified personnel in this area, the lack of adequate information on digital technologies due to the At the same time, the results of the survey conducted by the organization's experts among about 20,000 enterprise managers, which are forming a market economy and are of significant strategic importance in the economy of developing countries, were evaluated in a 10.0-point assessment system. In Figure 3, presented above, the results of the study are presented.

At the same time, it should be noted that by digitizing the practice of managing food industry enterprises of world countries, the indicator of interaction between producers and consumers has improved by 36%, while the volume of sales of enterprises ' products has been determined to increase by 27% in the medium due to the use of digital technologies.

In particular, in the practice of managing food industry enterprises in the USA, Canada, Japan, Western European countries, the central management of the enterprise is based on the ERP system, through which the following capabilities are achieved in enterprise management:

- transparency of the organization of production processes and cost reduction;
- optimization of product production processes and improvement of its effectiveness, including indicators of labor productivity of the enterprise;
- improvement in product quality, including the expansion of the possibilities of continuous monitoring and control of production processes.

⁴ БМТнинг Озиқ-овқат ва қишлоқ хўжалиги ташкилоти маълумотлари асосида муаллиф томонидан тузилган. <https://www.fao.org/statistics/en/>

According to the analyzes, in the digitization of the management of food industry enterprises, the ERP-system is preferred in the implementation of enterprise management by the fact that it is able to cover the processes of production of a full product, and not at a certain production stage. In particular, the application of the ERP system in the management practice of the enterprise is important in the sustainable development of the enterprise's activities in the long term, enhancing the processes of mutual integration of all participants in the economic activities of the enterprise and The Associated internal and external environment.

The results of the survey among the managers of food industry enterprises of industrially developed countries on the advantages of the ERP-system were presented in Figure 4 on the basis of a 10.0-point assessment sermon.

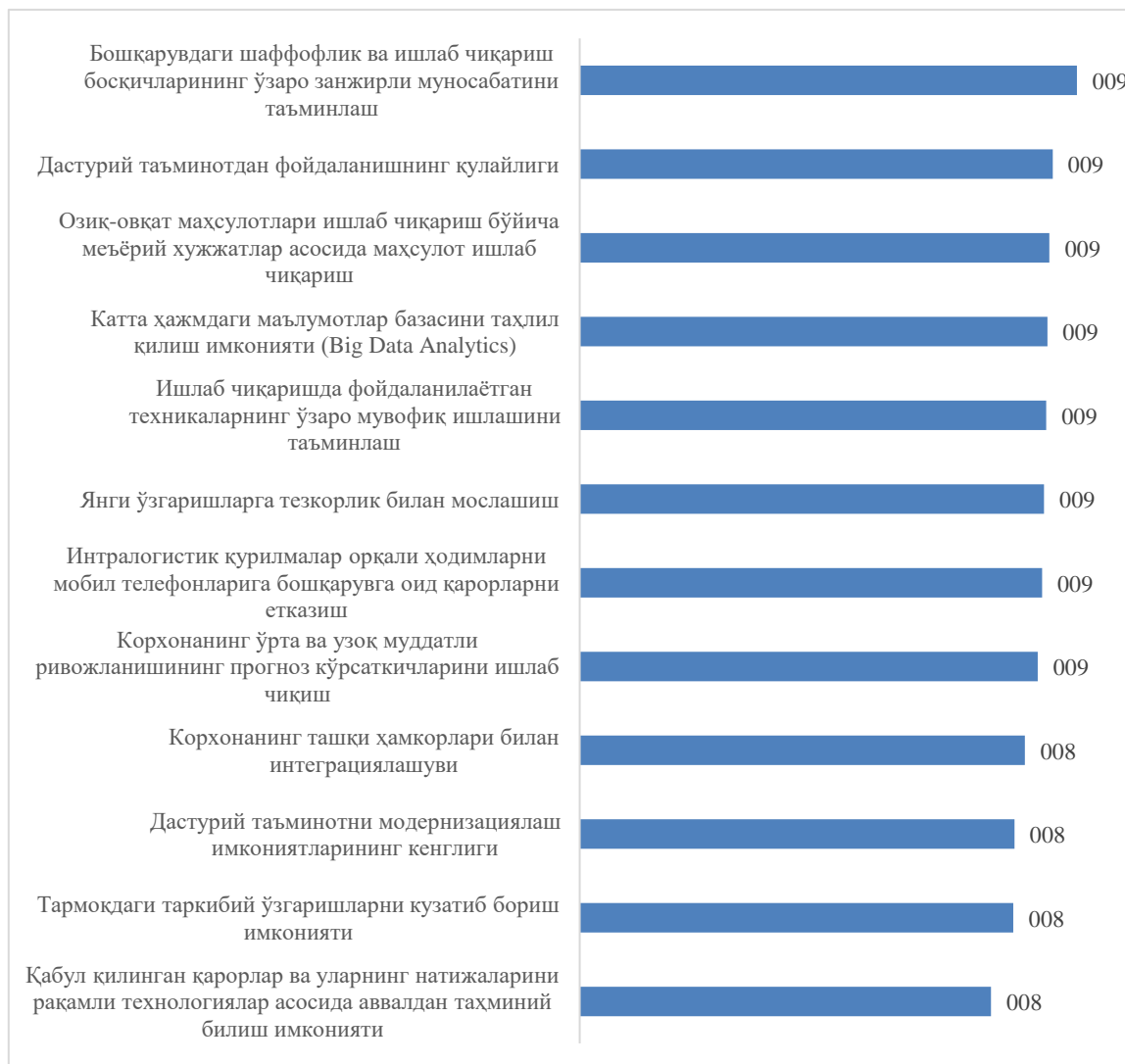


Figure 4. Advantages of the ERP system in the management of food industry enterprises of civilized countries (in the assessment system of 10.0 points)⁵

Intralogistic devices are widely used in food industry enterprises of civilized countries, including the USA, Canada, Japan and Western Europe, in order to accelerate the interaction between the enterprise manager and employees. Through IT, management decisions on the processes of production of products by the enterprise manager are immediately communicated to the employee's mobile phone or pager, and quick elimination of existing problems is achieved. In this case, the enterprises of the food industry use the program "Connectivity Panel". Through this application, the employee's mobile phone or pager will be able to quickly learn about management decisions by connecting to the enterprise's information channel between the manager and employees via "Bluetooth" or "Wi-fi".

Another type of software that is gaining importance in the world practice of digitizing the management of food industry enterprises is the Energy Management System (EMS), which today has become one of the structural components of the ERP system. This digital program is considered an energy management system, and today it is possible to save 30-40% of the cost of electricity by food industry enterprises of developed countries on the basis of this technology. In this way, through the central computer, all the electricity supply at the enterprise is fully controlled, and from the production techniques of products to the condominiums in each room, complete control of the lighting

⁵ БМТнинг Озиқ-овқат ва қишлоқ хўжалиги ташкилоти маълумотлари асосида муаллиф томонидан тузилган. <https://www.fao.org/statistics/en/>

means is achieved based on this technology. As a result, the opportunity arises to optimize the costs of the enterprise for the consumption of electricity.

Another important aspect of digitizing the management of industrial enterprises, including food industry enterprises, is that in this way the possibilities of controlling hoimds by the Enterprise Manager expand. According to the analysis of world practice, in the management of most enterprises, through the introduction of Radio Frequency Identification (RFID) technologies, employees ' reports on their arrival at work, their performance of the tasks assigned to them are fully controlled through the application assigned to the employee's smartphone. Through it, the increase in labor productivity at the enterprise by 32-36 percent in the middle account was determined as a result of research.⁶ According to the results of a survey of about 500 enterprises of the food industry, which established management practices based on digital technologies in the CIS countries, it was found that the efficiency of enterprise management was improved by 67%, various management functions by 15%, the activity of the IT Department of the enterprise by 12% (See Figure 5).



Figure 5. The impact of digital technologies on the effectiveness of the management of food industry enterprises of the CIS countries, as a percentage⁷

Based on the results of studies carried out on improving the competitiveness management system of food industry enterprises on the basis of digital technologies, the management of an enterprise organized on the basis of digital technologies will have effective economic activity compared to enterprises specializing in management in the traditional form. In our opinion, it is advisable to form central management on the basis of the ERP system, as in the practice of developed countries in the digitization of the management of food industry enterprises of our country in subsequent years. At the same time, we believe that the schematic structure of digitalization of the management of food industry enterprises of our country on the basis of modern IT technologies should be implemented in the order presented in Figure 6.

⁶ Цифровизация: Новые перспективы или сложная задача? Результаты опроса руководителей предприятий пищевой промышленности о текущем состоянии, трудностях и будущем цифровой трансформации. Исследование, проведенное CSB-System AG. 2018. 16 с.

⁷ Цифровизация: Новые перспективы или сложная задача? Результаты опроса руководителей предприятий пищевой промышленности о текущем состоянии, трудностях и будущем цифровой трансформации. Исследование, проведенное CSB-System AG. 2018. 16 с. маълумотлари асосида муаллиф томонидан тузилган

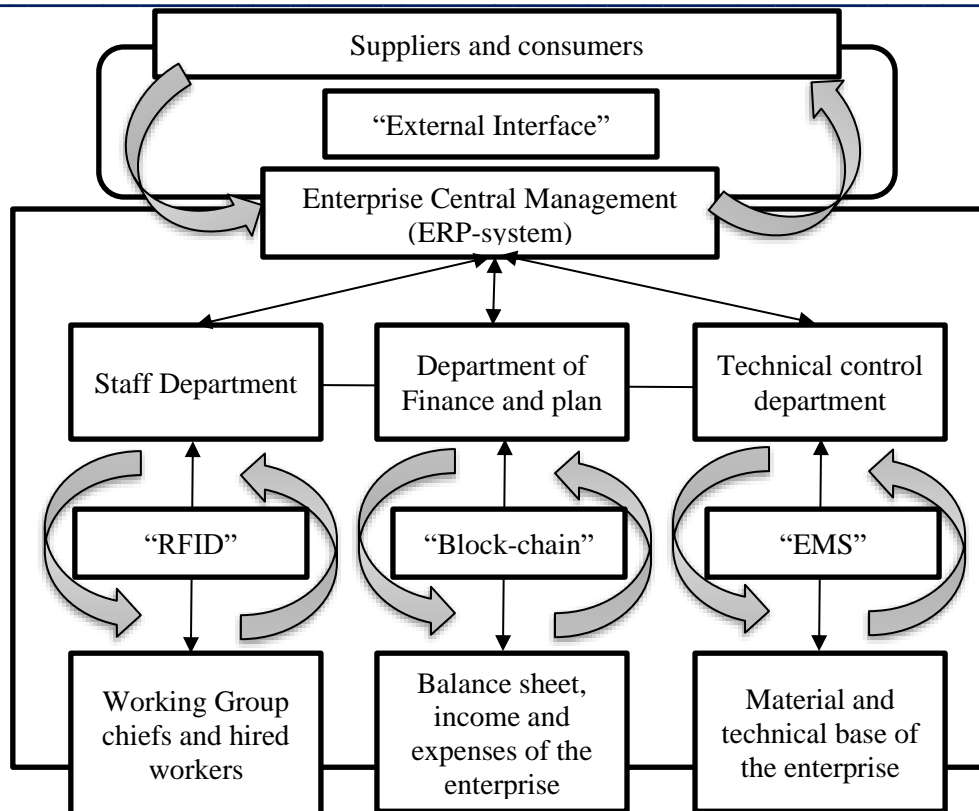


Figure 6. Schematic structure of digitalization of the management of food industry enterprises on the basis of modern IT technologies ⁸

The schematic structure of digitization of the management of the proposed food industry enterprises on the basis of modern IT technologies includes:

- using "Radio Frequency Identification (RFID)" technologies to control employees and increase labor productivity at the enterprise;
- using the Block-chain program to control the financial activities of the enterprise
- the material and technical base of the enterprise, in particular, through the program "Energy Management System (EMS)" all means of electrical processing;
- we believe that the interaction of the enterprise with the external environment should be digitized through the External Interface program.

As a result of the introduction into practice of the schematic structure of digitalization of the management of the proposed food industry enterprises on the basis of modern IT technologies, the following are achieved:

- the costs of the enterprise decrease, the volume of revenues increases;
- optimized, with reduced electricity consumption of the enterprise;
- fully control and standardization of the quality of products produced by the enterprise;
- with full control of the employees of the enterprise, strict labor discipline is established, and labor productivity increases;
- the integration of the enterprise with the external environment increases, and its adaptability to changes in the market increases;
- the efficiency of the financial management of the enterprise increases;
- the implementation of decisions made on management will accelerate, and their effectiveness will increase;
- in product production processes, time consumption is optimized and significantly accelerated.

In our opinion, on the basis of the schematic structure of digitalization of the management of food industry enterprises on the basis of modern IT technologies, the indicator of the competitiveness of enterprises is improved by digitizing the management of food industry enterprises in our country, and their prestige in World Markets is further increased. In particular, the country's opportunities for food security will expand. This, in turn, makes it possible to achieve the strategic goals pursued by the socio-economic reforms carried out in our country and create sufficient conditions for solving priority tasks.

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⁸ Муаллиф томонидан тузилган.

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