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SCIENCE AND EDUCATION: INNOVATIONS AND PROSPECTS

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споживачами свідчить про те, що якістю продукції споживачі в цілому задоволені, як і зручністю приготування;

4) найбільш вагомими параметрами, на які потрібно звертати увагу в найближчій перспективі виробникам м'ясних напівфабрикатів залишаються атрибути «ширина асортименту м'ясомістких напівфабрикатів», а також «цінова доступність та чутливість до ціни». Ці параметри при опитуванні споживачів є для них достатньо важливими, проте не задоволеними. Тому в майбутньому виробники повинні концентрувати свої зусилля на розширенні асортименту м'ясомістких напівфабрикатів, які були б доступними за ціною.

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USE OF INFORMATION SYSTEMS FOR AUTOMATION OF MANAGEMENT PROCESSES AT ENTERPRISES

In the modern conditions of the development of the digital economy, enterprises are faced with the need to increase management efficiency, optimize resource use and ensure rapid management decision-making. One of the most important tools for achieving these goals is the implementation of information systems that allow automating a significant part of management processes, ensuring the processing of large volumes of information and improving the

coordination of the activities of various divisions of the enterprise. Enterprise management information systems form the basis of the modern digital infrastructure of the organization and ensure the integration of data, processes and technologies into a single information environment.

Automation of management processes involves the use of specialized software that provides collection, processing, storage and analysis of information necessary for making management decisions. In traditional conditions, a significant part of management activities was performed manually, which led to significant time consumption, errors and difficulty in coordinating the work of various structural divisions of the enterprise. The use of information systems allows you to significantly increase management efficiency by automating routine operations and accelerating data processing.

An important element of enterprise management automation is the implementation of corporate information systems that integrate various functional subsystems of the enterprise into a single information platform. Such systems include enterprise resource planning systems, customer relationship management systems, supply chain management systems and other specialized software solutions. One of the most common categories of corporate information systems is enterprise resource planning systems. Such systems provide integration of information on finances, production, personnel, logistics and other key aspects of the enterprise's activities in a single database, which contributes to increasing the transparency of management processes and improving coordination between different divisions of the organization[1].

Enterprise resource planning systems automate key business processes, including production management, financial accounting, inventory management, purchasing, and sales. They operate on the basis of an integrated software platform that uses a common database and provides a single information model of the enterprise[2]. Thanks to this, managers have the opportunity to quickly receive information about the status of enterprise resources and make management decisions based on current data.

The use of corporate information systems helps to increase the efficiency of enterprise management by automating a significant part of routine operations. For example, automation of accounting processes allows to reduce the number

1 Laudon K. C., Laudon J. P. Management Information Systems: Managing the Digital Firm. 16th ed. Pearson, 2020. 669 p.

2 Stair R., Reynolds G. Principles of Information Systems. 13th ed. Cengage Learning, 2021. 704 p.

of errors associated with manual data entry, as well as to reduce the time for information processing.

Another important area of automation of management processes is the use of customer relationship management systems. Such systems are designed to collect and analyze information about customers, manage sales and organize effective interaction with partners and consumers of products. CRM systems allow you to automate the processes of order processing, manage marketing campaigns and analyze customer behavior. The use of such systems helps to improve the level of customer service and increase the efficiency of the company's sales activities[3].

An important aspect of management automation is the use of decision support systems that allow analyzing large amounts of data and generating recommendations for optimal management decisions. Such systems use data analytics, statistical analysis, and forecasting methods, which allows enterprise managers to evaluate various scenarios of the situation and choose the most effective management strategies.

Information systems also play an important role in ensuring the transparency of enterprise management. Thanks to the use of centralized databases and integrated information platforms, enterprise management is able to monitor the implementation of production plans, analyze financial indicators, and evaluate the efficiency of various divisions.

One of the important characteristics of modern enterprises is the desire to create a so-called real-time enterprise, in which management decisions are made on the basis of up-to-date information available at any time. This approach involves the use of integrated information systems that provide constant access to data and the ability to respond promptly to changes in the market environment.

Further development of enterprise management information systems is associated with the widespread introduction of digital technologies that allow processing large amounts of data and ensuring the integration of various business processes within a single information platform. In modern conditions, enterprises operate in a dynamic economic environment that requires rapid response to market changes, consumer demand and competitive conditions.

3 Turban E., Pollard C., Wood G. Information Technology for Management: Driving Digital Transformation. 12th ed. Wiley, 2021. 512 p.

Therefore, automation of management processes based on information systems is becoming one of the factors for increasing the efficiency of enterprises.

Enterprise management information systems provide the formation of a single information space within which various structural divisions of the organization interact. Thanks to this, the enterprise management gets the opportunity to carry out a comprehensive analysis of the organization's activities, monitor the implementation of production plans and promptly respond to deviations from planned indicators. An important aspect of the use of information systems is their ability to ensure the integration of data from various sources, which allows creating a complete information picture of the enterprise's activities[4].

Automation of management processes covers various levels of enterprise management. At the strategic level, information systems provide support for long-term planning, analysis of market trends and formation of strategic decisions. At the tactical level, they are used for production planning, resource management and coordination of activities of structural units. At the operational level, information systems provide automation of current operations, such as production accounting, inventory control, order processing and document management[5].

One of the important areas of enterprise management automation is the use of electronic document management systems. Such systems allow you to automate the process of creating, processing, storing and transferring documents within the organization. The use of electronic document management helps to reduce information processing time, reduce costs for paper documents and increase the transparency of management processes. In addition, electronic document management allows you to ensure control over the implementation of management decisions and increase discipline in the performance of tasks.

An important aspect of using information systems is the automation of financial management of the enterprise. Modern software complexes allow for automated accounting, analysis of financial indicators and formation of financial reporting. The use of such systems allows the management of the enterprise to promptly receive information about the financial condition of the organization[6].

4 Laudon K. C., Laudon J. P. Management Information Systems: Managing the Digital Firm…669 p.

5 Stair R., Reynolds G. Principles of Information Systems…704 p.

6 Turban E., Pollard C., Wood G. Information Technology for Management: Driving Digital Transformation…512 p.

In addition, information systems are widely used in the field of personnel management. Human resource management systems allow you to automate the processes of personnel accounting, payroll, employee performance evaluation and personnel development planning. Thanks to the use of such systems, enterprises can more effectively manage human resources, increase employee motivation and ensure the development of professional competencies of personnel.

Modern information systems also provide the ability to use analytical tools to support management decision-making. In particular, business intelligence systems allow for the analysis of large volumes of data and the identification of patterns that can be used to improve the efficiency of enterprise management. The use of such systems allows managers to receive analytical reports and make informed management decisions[7].

Cloud technologies play an important role in the process of automating management processes. Cloud information systems allow enterprises to use software and computing resources via the Internet without the need to create a complex local IT infrastructure. This reduces the costs of implementing and maintaining information systems, and also ensures the flexibility and scalability of the enterprise's information infrastructure.

However, the implementation of information systems at the enterprise is accompanied by a number of organizational and technical problems. The main problems include the high cost of implementing software, the need to adapt business processes to new information technologies, as well as the need to train personnel to work with new systems. In addition, an important issue is ensuring information security and protecting corporate data.

Despite certain difficulties, automation of management processes based on information systems is a necessary condition for increasing the efficiency of modern enterprises. The use of digital technologies allows you to optimize the use of resources, increase labor productivity and provide competitive advantages in the market.

In today's digital economy, enterprises are increasingly using innovative technologies such as artificial intelligence, machine learning, and big data analysis. These technologies allow for the creation of intelligent management

7 Davenport T. H., Harris J. G. Competing on Analytics: The New Science of Winning. Updated edition. Harvard Business Review Press, 2017. 240 p.

systems that can automatically analyze information, predict developments, and offer optimal management solutions. The use of such technologies opens up new opportunities for improving the efficiency of enterprise management. Information technologies allow for the integration of business processes, increase management transparency, and create conditions for effective management decision-making. The further development of automation of management processes at enterprises is largely related to the correct selection and implementation of information systems. The effectiveness of the use of such systems depends not only on the technical characteristics of the software, but also on the organizational preparation of the enterprise for the changes that accompany the process of digital transformation. The implementation of information systems requires a comprehensive approach that includes the analysis of existing business processes, determining the needs of the enterprise in digital management tools, and forming a strategy for the development of information infrastructure.

The first stage of implementing an information system at an enterprise is to conduct a detailed analysis of the current state of management processes. At this stage, the main problems in the management organization are identified, the effectiveness of existing information processing procedures is assessed and opportunities for automation are identified. Special attention is paid to the analysis of information flows between various structural divisions of the enterprise. The result of such analysis is the formation of requirements for the information system, which should provide support for the key business processes of the enterprise[8].

The next stage is the selection of software that most fully meets the needs of the enterprise. The modern market presents a significant number of corporate information systems that differ in functionality, scalability and cost of implementation. When choosing a system, it is important to take into account the specifics of the enterprise's activities, its size, management structure and development prospects.

After selecting the software, the stage of direct implementation of the information system begins. This process includes configuring the software, adapting the system to the specifics of the enterprise's activities, transferring data from previous information systems and training personnel to work with new

8 Laudon K. C., Laudon J. P. Management Information Systems: Managing the Digital Firm… 669 p.

software. Training enterprise employees to use new information technologies is of particular importance, since the effectiveness of automation largely depends on the level of digital competencies of personnel.

An important stage of implementing an information system is testing its operation in the conditions of real enterprise activity. During testing, the correct functioning of the software is checked, the speed of information processing is assessed and possible errors or shortcomings of the system are identified. Based on the results of testing, system settings are adjusted and individual functional modules are improved.

After the implementation of the information system is completed, the stage of its operation and further development begins. In the process of using the system, new needs of the enterprise may arise, related to the expansion of the functionality of the software or the integration of additional modules. That is why modern information systems usually have a modular structure, which allows their functionality to be gradually expanded in accordance with the needs of the enterprise.

In addition, information systems contribute to increasing the transparency of enterprise management. Thanks to centralized data storage, the enterprise management is able to promptly control the activities of various departments, analyze key performance indicators and make informed management decisions. This is especially important for large enterprises, whose activities are characterized by a complex organizational structure and significant amounts of information[9].

One of the important advantages of using information systems is the ability to conduct a comprehensive analysis of the enterprise's activities. Modern business analytics systems allow processing large amounts of data and generating analytical reports that reflect the main trends in the development of the enterprise. Such systems use a variety of data analysis methods, including statistical methods, forecasting models and optimization algorithms.

An important direction in the development of enterprise management information systems is the integration of various information technologies within a single digital ecosystem. Such integration involves the unification of corporate information systems, electronic document management systems, analytical platforms and other digital tools into a single information

9 Turban E., Pollard C., Wood G. Information Technology for Management: Driving Digital Transformation…512 p.

infrastructure. This allows for continuous exchange of information between different subsystems of the enterprise and increases management efficiency.

The development of big data technologies also has a significant impact on the development of automation of management processes. Large volumes of information accumulated in corporate information systems can be used to analyze the activities of the enterprise, forecast demand for products and optimize production processes. The use of big data processing technologies allows enterprises to obtain new knowledge about the market and consumer behavior, which helps to increase the competitiveness of the organization[10].

At the same time, the development of enterprise management information systems is accompanied by the need to ensure a high level of information security. Corporate information systems contain significant amounts of confidential information that requires reliable protection from unauthorized access and cyber threats. For this purpose, information protection methods are used, in particular, access control systems, cryptographic data protection methods and information security monitoring systems.

Information technologies allow enterprises to respond more quickly to changes in the external environment, optimize resource use and improve the quality of management decisions.

Further development of enterprise management information systems is associated with the use of intelligent technologies, automated data analysis and integration of digital platforms. This opens up new opportunities for creating effective management systems that are able to ensure a high level of adaptability of enterprises to changes in the economic environment. The use of information systems to automate management processes at the enterprise is closely related to the optimization of business processes. Business processes are a set of interrelated actions and operations aimed at achieving certain goals of the enterprise. In traditional conditions, a significant part of such processes was carried out manually or using separate software tools, which led to fragmentation of information and complicated the coordination of the activities of different departments. The implementation of modern information systems allows integrating business processes into a single information environment.

10 Davenport T. H., Harris J. G. Competing on Analytics: The New Science of Winning…240 p.

One of the important aspects of business process automation is the use of business process management systems. Such systems allow modeling, analyzing and optimizing the processes of the enterprise. Using specialized tools, enterprises can describe the structure of their processes, determine the sequence of operations, control the execution of tasks and evaluate the efficiency of the work of departments. The use of such systems contributes to increasing the transparency of the enterprise's activities and improving coordination between structural elements[11].

Information systems also play an important role in the process of managing the production activities of an enterprise. Automation of production processes allows to increase the efficiency of equipment use, optimize the use of material resources and reduce the cost of production. Modern production management systems allow to plan production processes, control the implementation of production tasks and analyze the results of the enterprise's activities.

Production resource management systems, which provide planning and control of the use of materials, equipment and labor resources, have become widely used. Such systems allow to optimize production processes, reduce equipment downtime and increase the efficiency of production capacity use. In addition, production automation helps to improve product quality, as it allows to control technological parameters and ensure the stability of production processes[12].

An important area of use of information systems is the automation of logistics processes of the enterprise. Logistics covers the processes of supply, transportation, storage and distribution of products. The use of information systems allows to optimize logistics processes, ensure effective inventory management and reduce the costs of transporting products. Modern supply chain management systems allow to coordinate the interaction between suppliers, manufacturers and consumers of products, which contributes to increasing the efficiency of the enterprise.

Automation of logistics processes also involves the use of warehouse operations management systems. Such systems provide control over the movement of goods in the warehouse, automate the processes of receiving, storing and shipping products. The use of warehouse management systems

11 Laudon K. C., Laudon J. P. Management Information Systems: Managing the Digital Firm… 669 p.

12 Stair R., Reynolds G. Principles of Information Systems…704 p.

allows to reduce the loss of goods, increase the accuracy of inventory accounting and ensure the effective use of warehouse space[13].

The use of information systems in the field of enterprise management also contributes to improving the quality of strategic planning. Modern information technologies allow analyzing large amounts of data related to the activities of the enterprise and its external environment. Based on such analysis, managers can develop more effective enterprise development strategies and predict possible changes in the market situation.

Management decision support systems play an important role in strategic management. Such systems use data analysis methods, mathematical models and optimization algorithms to generate recommendations for choosing the most effective management decisions. The use of such systems allows increasing the validity of management decisions and reducing the risks associated with the activities of the enterprise[14].

Modern enterprises are increasingly using digital platforms to organize interaction with partners and customers. Digital platforms provide the opportunity to exchange information between various participants in business processes and create conditions for the development of e-commerce and e-business. The use of such platforms contributes to the expansion of product sales markets and increases the efficiency of enterprise interaction with customers.

An important factor in the development of automation of management processes is also the development of mobile technologies. The use of mobile devices allows enterprise employees to access corporate information systems at any time and from any place. This contributes to increasing the efficiency of management and provides the ability to quickly respond to changes in the enterprise's activities.

At the same time, the use of information systems requires significant investments in the development of the enterprise's information infrastructure. Enterprises must ensure the availability of modern computer equipment, reliable communication channels and information protection systems. In addition, it is necessary to constantly update software and provide technical support for information systems.

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14 Davenport T. H., Harris J. G. Competing on Analytics: The New Science of Winning…240 p.

The prospects for further development of enterprise management information systems are associated with the use of new digital technologies, such as artificial intelligence, big data analysis, the Internet of Things and automated forecasting systems. These technologies allow you to create intelligent management systems that can analyze large amounts of information and automatically generate recommendations for optimizing the enterprise's activities.

Thus, the use of information systems to automate management processes is one of the key areas of development of modern enterprises. Information technologies contribute to increasing management efficiency, improving coordination of structural divisions and creating conditions for ensuring sustainable development of the enterprise in the digital economy.

According to official regional statistics, there are over 78 thousand small and medium-sized enterprises operating in Vinnytsia region, including 606 medium-sized enterprises, 9673 small enterprises and over 65 thousand individual entrepreneurs. In addition, there are about 2626 farms in the region, which indicates the significant development of the agrarian sector of the economy. Over 250 thousand people are employed in the small and medium-sized enterprises sector, which is approximately a third of the economically active population of the region. About 150 thousand people work in small business, which emphasizes its important role in ensuring employment of the population of the region .

The industrial sector of the region's economy also has significant potential. Over 57 thousand employees work at industrial enterprises in the region, and the average monthly wage in industry exceeds 11–12 thousand UAH depending on the year and the economic situation. The main industries are food industry, energy, woodworking, construction materials production and mechanical engineering .

The volume of industrial products sold by the region's enterprises amounts to tens of billions of hryvnias. For example, in some reporting periods, the region's enterprises sold products worth over 32 billion hryvnias, which is approximately 3.4 % of the total industrial production of Ukraine. This indicates the significant role of the region in the formation of the national economy .

The agricultural sector plays a significant role in the structure of the region's economy. Vinnytsia region is traditionally one of the leaders of Ukraine in terms

of agricultural production. Enterprises of the agro-industrial complex specialize in the production of grain crops, sugar beets, meat and dairy products. The active development of the agricultural sector contributes to the formation of a significant number of processing enterprises that ensure the production of finished food products.

The region is also implementing investment projects aimed at modernizing industry and developing innovative production. In particular, a number of investment projects worth almost UAH 200 million were implemented in the industrial sector, which contributed to the creation of new jobs and the development of the region's production infrastructure .

The development of entrepreneurship in Vinnytsia region is also supported by regional economic development programs. Within the framework of such programs, business plan competitions are held for novice entrepreneurs, financial support is provided to startups, and consulting and educational events for entrepreneurs are organized. This contributes to the development of innovative entrepreneurship and the formation of a favorable business environment in the region.

Thus, Vinnytsia region is characterized by a sufficiently developed structure of entrepreneurship and industry.

Digitalization of the economy and management in Vinnytsia region is one of the important directions of development of the region in the conditions of modern digital transformation. The region is gradually introducing information technologies in the field of public administration, business, education and provision of administrative services. This contributes to increasing the efficiency of management, development of entrepreneurship and improvement of the quality of life of the population.

An important role in the digitalization of the region is played by the city of Vinnytsia, which is considered one of the leaders among Ukrainian cities in the field of implementing digital technologies in municipal administration. The city is actively developing electronic services for citizens, electronic document management systems, electronic petitions and other tools of electronic democracy. The use of digital platforms allows to increase the transparency of the activities of local governments. One of the important tools of digitalization is the implementation of state electronic services, in particular the mobile application Diya, which provides citizens with the opportunity to

receive administrative services online. Thanks to this, residents of the region can use digital documents, issue various certificates and carry out other administrative procedures without visiting government institutions.

In the field of entrepreneurship, digitalization is manifested in the implementation of modern enterprise management information systems, the use of cloud services, e-commerce and automated accounting systems. Many enterprises in the region are gradually switching to the use of digital platforms for production, finance and logistics management. This allows optimizing business processes, increasing labor productivity and ensuring more efficient use of resources.

Of particular importance for the economy of the region is the digitalization of the agricultural sector. Vinnytsia region is one of the leading agricultural regions of Ukraine, so the introduction of digital technologies in agriculture has significant potential. Modern agricultural enterprises use precision farming systems, GPS monitoring of equipment, automated production management systems and analytical platforms for yield analysis. This allows increasing the efficiency of agricultural production and reducing resource use costs.

A separate direction of digital development is the creation of IT infrastructure and support for the IT sector. Vinnytsia is home to IT companies and technology startups that develop software, web technologies, and digital services. The development of the IT industry contributes to the creation of new jobs and the formation of an innovative environment in the region.

In general, the digitalization of Vinnytsia Oblast contributes to the modernization of the region's economy, increasing management efficiency, and the development of innovative entrepreneurship. Further implementation of digital technologies in various areas of activity creates the prerequisites for the sustainable socio-economic development of the region and increasing its competitiveness in the digital economy.

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