УДК 651.004
JEL Classification: O31, M51, R4
DOI 10.35433/ISSN2410-3748-2022-2(31)-3

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INNOVATIVE TECHNOLOGIES IN THE PERSONNEL AND LOGISTICS MANAGEMENT SYSTEM

The article considers the relationship of innovative technologies and information tools with the modern management process. Currently, every organization needs to introduce digitalization at all stages of its activities, this is primarily due to the need rapid adaptation to constantly changing external factors. Optimization of business models for The account of this process makes it possible to increase the efficiency of all work, regardless of its type and scope. In modern conditions, information technology has a significant impact on the development of logistics infrastructure in various industries. Investment in modern technologies of logistics processes makes companies the most competitive, as the available modern technologies allow developing a specific delivery schedule with an accuracy close to 100%. Undoubtedly, one of the most important elements of organizing logistics processes is tracking, which can become either one of the activities or a separate information technology service. The service allows you to track all possible movements of a particular cargo online as simply and quickly as possible. The potential of blockchain technology for the development of logistics infrastructure was especially noted, as these technologies allow businesses to reduce costs through automation, simplification of payments, transparency at all stages of supply chains. It is concluded that it is necessary to pay attention to logistics based on data management. Thanks to data technology companies can predict the demand for products and thus plan and coordinate their actions in advance. The most competitive are logistics service providers who are re-profiling the logistics infrastructure from labor-intensive to knowledge-intensive, using operational information to create and further implement innovative products and services.

Keywords: *digitalization, enterprise activity, digital technologies, management process, personnel, operational efficiency, development of logistics infrastructure, information technologies, outsourcing of logistics processes, protection of user information, use of blockchain technologies.*

ІННОВАЦІЙНІ ТЕХНОЛОГІЇ В СИСТЕМІ УПРАВЛІННЯ ПЕРСОНАЛОМ ТА ЛОГІСТИЦІ

У статті розглянуто зв'язок інноваційних технологій та інформаційних інструментів із сучасним процесом управління. В даний час кожна організація потребує впровадження цифровізації на всіх стадіях своєї діяльності, це пов'язано насамперед із необхідністю швидкої адаптації до постійно мінливих зовнішніх факторів. Оптимізація бізнес-моделей за рахунок цього процесу дає можливість підвищення ефективності всієї роботи, незалежно від її виду та сфери застосування.

В сучасних умовах інформаційні технології значно впливають на розвиток логістичної інфраструктури в різних галузях. Інвестування у сучасні технології логістичних процесів робить компанії найбільш конкурентоспроможними, оскільки сучасні технології дозволяють розробляти певний графік поставок з точністю, близькою до 100%. Безперечно, одним із найважливіших елементів організації логістичних процесів є трекінг, який може стати як одним із видів діяльності, так і окремою послугою інформаційної технології. Сервіс дозволяє максимально просто та швидко відстежити всі можливі пересування конкретного вантажу онлайн. В статті особливо відзначений потенціал технології блокчейн для розвитку логістичної інфраструктури. Доведено, що дані технології дозволяють бізнесу знижувати витрати завдяки автоматизації, спрощенню платежів, прозорості на всіх етапах ланцюгів постачання. Зроблено висновок необхідність приділити увагу логістиці з урахуванням управління даними. Завдяки даним технологіям підприємства можуть прогнозувати попит продукції і цим планувати і узгоджувати свої дії заздалегідь. Найбільш конкурентоспроможними є постачальники логістичних послуг, які перепрофілюють логістичну інфраструктуру з трудомісткої в наукомістку, використовують оперативну інформацію для створення та подальшого впровадження інноваційних продуктів та послуг.

Ключові слова: *цифровізація, діяльність підприємства, цифрові технології, процес управління, персонал, ефективність функціонування, розвиток логістичної інфраструктури, інформаційні технології, аутсорсинг логістичних процесів, захист інформації користувачів, використання блокчейн технологій.*

Problem statement in general and its connection with important scientific and practical problems. At present, the issue of implementation digitalization in any field of activity companies, especially in the management process, is quite relevant. IT-technologies are actively used in all spheres of life, and in each they have a positive effect, increasing the efficiency and speed of performing routine actions, as well as their accuracy.

The ever-growing needs of society are forcing the use of more modern technologies, which leads to the new types technologies' emergence, such as cloud storage, various Internet platforms specializing in many areas. In addition to all of the above, digitalization affects the sustainable development of the company, which helps to improve its status, performance, and competitive advantages appear due to adjustments to the organization's business processes. [14, 16, 19].

Scientists define digitalization as the process of introducing and using innovative technologies and the principles of the digital economy in the socio-

economic spheres of social activity, accompanied by total automation, robotization and the introduction of artificial intelligence [12].

Analysis of recent research and publications. The necessity of innovative activities implementation in different spheres of economy has been studied by many foreign and domestic scientists. Aspects of innovation marketing are described in the works of F. Kotler, D. Crevens. Among the specialists who in their works single out logistics, innovations and HR-management as the important factors for the success of innovative activities, it should be noted such as: L.V. Balabanova, I. Berezin, N.V. Belotserkovskaya, J. Goldstein, N.N. Ermoshenko, N.S. Ilyashenko, S.M. Ilyashenko, B. Kiselev, N.Yu. Konina, O.P. Kostina, Ya. Matveev, Ya.S. Matkovskaya, L.N. Ogoleva, F. Pavlenko, M. Porter and others. Scientists have deeply worked out the methodological and theoretical-methodological foundations of innovation in personnel management and logistics. However, the applied aspects of the application of methods and tools for implementation of these innovations, as well as innovative logistics tools in the activities of domestic producers have remained insufficiently studied.

The purpose of the work is to analyze the role and place of innovative as well as informative technologies in the activities of domestic enterprises and institutions, to outline the range of tools and methods how they could be implemented.

Presentation of the main research material. At the moment, the number of companies that recognize the need for digitalization is growing. They are actively engaged in the search for innovative solutions that allow the company to gain an advantage over competitors. But it is not enough just to introduce innovative technologies into business, high performance can only be achieved through constant contact with both employees and people, and it is the HR sphere that allows you to determine the need for change and gives an initial impetus to them.

Nevertheless, digitalization is significantly less takes the basics of conducting "office" work, launching innovative processes. On fig. one directions in the field of management are presented where digital technologies are most actively integrated into the organization's processes.

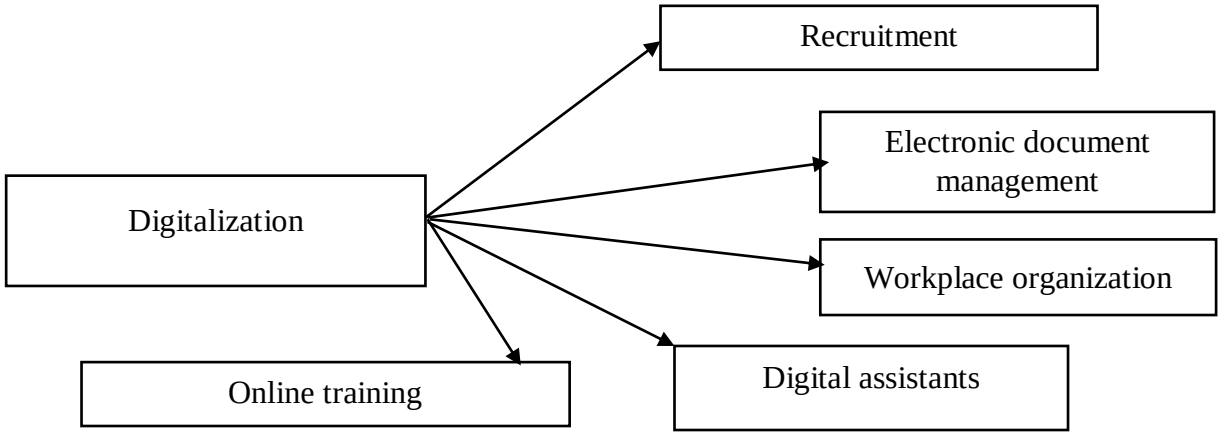

Fig. 1. Directions for the use of digitalization in personnel management

Many employees no longer need to be constantly present and tied to a specific workplace, and the amount of manual labor is gradually decreasing. Some professions have switched to a remote format, that is, an employee can work remotely from anywhere, while this will not affect the effectiveness of the workflow in any way. But without appropriate highly qualified training of personnel, this process will not lead to the desired results [5].

Currently, many companies need such personnel who can quickly adapt to changes both outside and inside the organization, that is, they expect their employees to demonstrate such abilities as the rapid accumulation of experience, the perception of new information, and quick learning.

In management processes, a person cannot be replaced by a robot, since the actions that an employee performs are difficult to automate, at least at present. For the employer, first of all, well-developed communication skills, the presence of higher education are needed, and knowledge of foreign languages is increasingly in demand.

It is thanks to digitalization that at the moment there are a huge number of online learning platforms that do not require a full-time presence. Thanks to them, the employee can pass the necessary course, training or even improve your classification. Distance learning makes it possible to gain knowledge regardless of location, and by the end of the entire course, a valid electronic diploma, certificate or certificate is issued [5, p. 31].

Digital technologies also facilitate the recruitment process, that is, the search and selection of candidates for a vacant position. First of all, thanks to special websites, HR processes have become more automated in the following operations: search and selection of personnel or candidates, staff production, posting vacancies, resume analysis and their evaluation [11, p. 50-52].

In addition to all this, the organization has the opportunity to create the so-called remote staff - these are employees working remotely. They can interact and perform the necessary tasks with the help of specialized platforms, websites, applications. Most often, mental labor specialists (PR managers, marketers, translators, analysts or programmers) work in this format. The introduction of a remote format into work allows you to increase the efficiency of all company activities, because it does not require an imitation of the work process, since no one monitors and evaluates it, but a specific result.

The emergence of an information and electronic environment in an organization allows not only employees, but also managers to track their work more clearly, the risk of making mistakes is reduced, and their identification and processing becomes faster and better [7, p. 58].

Another positive feature of the introduction of digitalization and IT technologies in the sphere of doing business is the use of electronic document management. Thanks to the use of this tool, more efficient management is provided through automatic control and transparency of the organization's activities at all its levels. Eliminates the need or simplifies the storage of paper documents due to the presence of an electronic archive, and this leads to a

reduction in the cost of managing document flows. Personnel flexibility is provided due to the greater organization of the activities of employees and the ability to store the history of their activities [1, p. 270].

The advent of digital assistants is another plus of digitalization. They contribute to facilitating the decision-making process, learning, changes in corporate culture and management approaches.

Digital assistants can simplify the following blowing business processes [5, p. 60]:

– performing routine operations. For example, generating reports, drawing up standard contracts, applications, and sending requests for the necessary information;

– collection of analytics. First of all, it helps in making managerial decisions. By analyzing a large amount of data, the platform identifies gaps and shortcomings and makes appropriate recommendations, for example, if additional training or the search for new personnel is needed. It also helps in predicting possible changes both within the organization and outside it;

– partial replacement of technical support. The digital assistant allows you to maintain a constant connection with the client, which contributes to faster handling of cases and increase the efficiency of the department as a whole.

In most companies, the role of information technology in the construction and implementation of logistics is key. Leading companies have found solutions to the most important requirements of logistics and began to apply them much earlier than the rest of the market. In companies striving to improve all operational processes, interaction with logistics service providers plays a leading role.

Important for the company is the decision-making process on the development of independent logistics services or the transition to outsourcing. When switching to outsourcing, the company transfers logistics processes to 3PL (Third Party Logistics - the provision of logistics services or a range of

services) to a third-party provider. A 3PL provider can be a group or one company.

The main task of outsourcing is to reduce the costs of the customer company, since logistics processes will be carried out by qualified logistics operators who reduce the costs of their financial activities due to specialization in the field of logistics services [8, p. 27].

For many manufacturing and retail businesses, outsourcing to a third party is becoming necessary, it implements all business processes related to logistics. Outsourcing of logistics services enables the client company to concentrate on issues related to increasing sales, business development and, in particular, increasing the level of marketing. The 3PL provider carries out the functionality of warehouse accounting, inventory, reporting and order processing, shipping and delivery of products. Resources are directed to business growth, given that the introduction of modern technologies in logistics requires significant costs.

At the same time, investing in modern technologies of logistics processes makes companies the most competitive, since the available modern technologies allow developing a specific delivery schedule with an accuracy close to 100%. The IT industry can plan production with maximum precision and avoid costly stockpiling. Companies should strive to create or outsource the most comprehensive communications technology and software to support critical supply chain distribution requirements.

Obtaining signed delivery documents is one of the most important elements in the implementation of a logistics service. Considering that logistics companies not only process large volumes and oversized packages for a certain period of time but also provide partners with information about the status and location of packages and return completed documents that are necessary for invoicing. It is necessary that the entire cycle be significantly shortened, which will allow the industry to reach the optimal deadline.

Tracking can become both one of the activities and a separate information technology service. Companies strive to create the most convenient and modern service for tracking cargo and other mail around the world. The service allows you to track all possible movements of a particular cargo online as simply and quickly as possible.

Websites are currently being developed that combine the tracking systems of more than hundreds of operators and provide all the information in various languages. Also, such services can independently determine which services deliver the goods, even if several operators and transport companies are involved in the delivery.

You can also add a link to each track number, and the service will independently provide images so that the desired tracking number can be easily found visually, and not by alphanumeric code. One of the important aspects is privacy, so these services try to provide for the protection of user information: all personal data that can be seen in the tracking, such as company name or full name and delivery address, are hidden from third parties.

The development of information technology further defines the logistics service as an independent business. Of particular note is the potential of blockchain technology for the development of logistics infrastructure. Blockchain technologies allow businesses to reduce costs through automation, simplification of payments, transparency at all stages of the supply chain.

It should be noted that the world market leaders are actively implementing blockchain technologies to control the quality of supplies, transport raw materials and products, as well as to organize trade. These technologies make it possible to ensure transparency in the production, packaging and delivery process.

The main advantages of blockchain technology in logistics are the ability to reduce the cost of logistics; exclusion of the possibility of data falsification (a document entered once, for example, a bill of lading, a receipt or a certificate of

conformity, remains in the system in its original form forever); the ability to quickly find the link of transportation where the mistake was made, and reduce business costs due to losses.

The widespread introduction of blockchain in logistics, according to the author, will ensure the safety of data, protect the repository of documents from hacking, and eliminate the possibility of changing information about the progress of transportation. Such a system could definitely reduce delivery delays and reduce the chance of fraud, saving billions of dollars throughout the shipping chain. According to the World Trade Organization, the removal of barriers in the international supply chain of goods will increase global GDP by 4.7% and total traffic by 14.5%.

The development of blockchain technology makes it possible to eliminate paper documentation, since it is possible to record each stage of the logistics process using a smartphone. The process of legitimization of this procedure is in the sphere of activity of the business sector and authorities.

Studies of logistics processes conducted in research centers in developed countries indicate that the main directions of development of logistics systems in the coming years will be closely related to computer technology. The main direction of information technology development is connected with Internet technologies. Therefore, special attention should be paid to logistics based on data management. Thanks to these technologies companies can predict the demand for products and thereby plan and coordinate their actions in advance. Stay ahead in a constantly changing market.

Delivering services is key, and data-driven logistics will help improve the "future of logistics." Companies are adapting big data algorithms, data visualization techniques, and predictive analytics to improve process efficiency and service quality by reducing delivery times.

Companies will use geography-based search trends to anticipate the demand for certain products in a region and supply them in advance. Drones and

smart glasses are also elements of modern technology that contribute to the development of logistics. With automation and mobility as part of the support system to compete and stay ahead, smart glasses and drones will help take logistics to the next level. Supported by augmented reality, smart glasses integration will make deliveries easier with manual route finding, facial recognition for error-free deliveries and personalized deliveries.

With the rise of drones and the introduction of smart glasses, the efficiency of first and last mile logistics can be increased, along with the flexibility and speed of delivery in metropolitan areas.

According to a survey conducted in 2020, as part of the Global Logistics Report, respondents (logistics service providers) reported that blockchain (52,79%), artificial intelligence (AI) (51,3%), robotics (44,61%), autonomous vehicles (42,01%) and drones (24,91%) are the top game-changing technologies in logistics.

Conclusion. Despite the active implementation of digitalization, some employers face difficulties in connection with such changes. First of all, this is the lack of specialists with the necessary level of qualification in this field, combined with the necessary level of digital skills. Often, managers themselves have to retrain and purposefully redirect employees already working in their company who already have certain skills and have initial competencies in this area.

Also, not all employees immediately perceive this innovation is like digitalization. Therefore, management needs to develop a plan for the gradual introduction of IT technology for easier adaptation of personnel, this plan can include an appropriate system of motivation and encouragement, a strategy for involving employees in digitalization, and providing the necessary training system.

In our opinion, particular attention should be paid to the extent to which logistics service providers can repurpose logistics infrastructure from labour-

intensive to knowledge-intensive and how they can make full use of market intelligence to create and continue to use innovative products, services, and strategies to promote competence growth. organizations.

Further research should be aimed at scientific substantiation of rational ways of using innovation tools to increase the efficiency of innovation activities of domestic producers.

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Стаття надійшла до редакції 02.11.2022