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INFORMATION AND COMMUNICATION TECHNOLOGIES FOR ENHANCING PRODUCTIVITY AND HUMAN CAPITAL ENGAGEMENT IN THE AGRICULTURAL SECTOR

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Summary. *The article analyzes the current state of the use of information and communication technologies in the management of human capital in the agricultural sector. The main problems of the functioning of personnel management systems of agricultural enterprises have been identified, including an insufficient level of digitalization of management processes, limited possibilities for monitoring labor performance, a low level of employee involvement in production processes, a shortage of qualified personnel, and an insufficient level of staff motivation. It has been established that the absence of digital tools for supporting managerial decision-making reduces the efficiency of labor resource utilization and restrains the development of agricultural sector enterprises. Particular attention is paid to the role of information and communication technologies as a tool for increasing productivity and engagement of human capital. The possibilities of using digital personnel management platforms, mobile technologies, work performance monitoring systems, and analytical tools to support managerial decision-making are analyzed. The impact of digitalization on improving management transparency, enhancing communication between employees and management, optimizing production processes, and forming a motivational environment is substantiated. Approaches to the formation of a digital model of human capital management of agricultural enterprises based on the use of information data, analytics, and modern technological solutions are considered. Conceptual directions for the application of information and communication technologies to improve the effectiveness of managerial decisions and the development of the labor potential of agricultural enterprises are proposed. Conclusions are drawn regarding the strategic importance of digital technologies as a factor in increasing labor productivity, the efficiency of human resource utilization, and the competitiveness of agricultural enterprises. Recommendations are proposed for the development of digital infrastructure, the implementation of decision support systems, the improvement of staff digital competence, and the enhancement of human capital management mechanisms. The implementation of the proposed approaches will contribute to increasing the efficiency of agricultural enterprises and ensuring the sustainable development of the agricultural sector of the economy.*

Key words: *digital transformation, human capital, agricultural enterprises, personnel management, efficiency improvement, digitalization of management.*

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ІНФОРМАЦІЙНО-КОМУНІКАЦІЙНІ ТЕХНОЛОГІЇ ДЛЯ ПІДВИЩЕННЯ ПРОДУКТИВНОСТІ ТА ЗАЛУЧЕНОСТІ ПЕРСОНАЛУ В АГРОСФЕРІ[1]

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Резюме. *Проаналізовано сучасний стан використання інформаційно-комунікаційних технологій в управлінні людським капіталом агросфери. Виявлено основні проблеми функціонування систем управління персоналом аграрних підприємств, серед яких недостатній рівень цифровізації управлінських процесів, обмежені можливості моніторингу результативності праці, низький рівень залученості працівників до виробничих процесів, дефіцит кваліфікованих кадрів та недостатній рівень мотивації персоналу. Встановлено, що відсутність цифрових інструментів підтримання управлінських рішень знижує ефективність використання трудових ресурсів і стримує розвиток підприємств аграрного сектора. Окрему увагу приділено ролі інформаційно-комунікаційних технологій як інструменту підвищення продуктивності та залученості людського капіталу. Проаналізовано можливості використання цифрових платформ управління персоналом, мобільних технологій, систем моніторингу виконання робіт та аналітичних інструментів для підтримки управлінських рішень. Обґрунтовано вплив цифровізації на підвищення прозорості управління, покращення комунікації між працівниками та керівництвом, оптимізацію виробничих процесів і формування мотиваційного середовища. Розглянуто підходи до формування цифрової моделі управління людським капіталом аграрних підприємств, що базується на використанні інформаційних даних, аналітики та сучасних технологічних рішень. Запропоновано концептуальні напрями застосування інформаційно-комунікаційних технологій для підвищення ефективності управлінських рішень і розвитку трудового потенціалу підприємств агросфери. Зроблено висновки щодо стратегічного значення цифрових технологій як чинника підвищення продуктивності праці, ефективності використання людських ресурсів та конкурентоспроможності аграрних підприємств. Запропоновано рекомендації щодо розвитку цифрової інфраструктури, впровадження систем підтримання управлінських рішень, підвищення цифрової компетентності персоналу та удосконалення механізмів управління людським капіталом. Реалізація запропонованих підходів сприятиме підвищенню ефективності діяльності аграрних підприємств та забезпеченню сталого розвитку аграрного сектора економіки.*

Ключові слова: *цифрова трансформація, людський капітал, аграрні підприємства, управління персоналом, підвищення ефективності, цифровізація управління.*

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Statement of the problem. The agricultural sector of the economy faces challenges related to the need to increase labor productivity and the efficiency of human capital use in the context of the digital transformation of the economy. Traditional approaches to labor organization and personnel management in agricultural enterprises often do not meet the requirements of the modern production environment, which is characterized by increased competition, a shortage of qualified personnel, seasonality of work and increased requirements for performance. Insufficient use of information and communication technologies in personnel management processes, limited opportunities for monitoring work results and a low level of

[1] *Дослідження проведено в межах виконання проєкту фундаментальних наукових досліджень, прикладних наукових досліджень та науково-технічних (експериментальних) розробок молодих вчених ПТ-07-2025 «Б» на тему «Інформаційно-комунікаційні технології для підвищення продуктивності та залученості людського капіталу в агросфері» (відповідно до Наказу МОН України від 27 грудня 2024 року № 1801) (державний реєстраційний номер 0125U000008)*

employee involvement in production processes reduce the effectiveness of management decisions and hinder the development of agricultural enterprises. This leads to irrational use of labor resources, increased costs and a decrease in the competitiveness of the agricultural sector.

A promising direction for increasing the efficiency of agricultural enterprises is the introduction of modern information and communication technologies into human capital management processes, which provides the possibility of digital monitoring of employee activities, analysis of labor performance and support for management decisions. The use of digital platforms, mobile technologies and analytical tools contributes to increasing the transparency of management, improving communication between employees and management, optimizing production processes and creating a motivational environment. At the same time, the process of digitalization of the agricultural sector is accompanied by a number of problems, including an insufficient level of digital infrastructure, limited investment opportunities of enterprises, low digital competence of personnel and the lack of a systematic approach to the implementation of information and communication technologies in the practice of human resource management. This necessitates the need for scientific substantiation of approaches to the use of digital technologies to increase the productivity and involvement of human capital of agricultural enterprises.

Analysis of recent research and publications. A large number of Ukrainian and European scientists are studying the use of information and communication technologies in the agricultural sector. Viktoriya Hrosul, Olena Kruhlova and Alina Kolesnyk study the digitalization of agriculture and the impact of information and communication technologies on the development of enterprises in Ukraine [1]. Natalia Metelenko, Nadiya Svintsova and Vitalina Nikitenko study the digitalization of the agricultural sector as a tool for implementing green technologies [2]. Marianna Stehney, Inna Irtyshcheva, Iryna Kramarenko, Olena Ishchenko and Oleksandr Irtyshchev study the transformation of HR strategies focused on innovation and business model reengineering [3]. M. V. Nehrey studies the digital transformation of the agricultural sector [4]. Bohdan Melnyk studies the economic benefits of the digital transformation of the agricultural sector [5]. However, the issue of using information and communication technologies to increase productivity and employee engagement in the agricultural sector requires further study and research.

The objective of the study is to analyze the capabilities of information and communication technologies to increase labor productivity and human capital involvement in the agricultural sector. The study is aimed at identifying the main problems of traditional approaches to personnel management in agricultural enterprises, assessing the potential of digital technologies to increase the efficiency of labor resources, improve communication and employee motivation, as well as identifying key areas and prospects for implementing information and communication solutions in the human capital management system of agricultural enterprises.

Statement of the task. To achieve the set goal, the study involves analyzing the current state of the use of information and communication technologies in the processes of human capital management of agricultural enterprises in order to identify key problems that hinder the increase in labor productivity and personnel involvement. Special attention is paid to assessing the effectiveness of traditional approaches to labor organization and personnel management and determining their compliance with modern conditions of digital transformation of the agricultural sector. The study is aimed at determining the potential of information and communication technologies to increase the efficiency of labor resources, improve communication between employees and management, support management decisions, as well as identify possible problems and risks that arise in the process of implementing digital solutions in the human capital management system of agricultural enterprises**.**

Presentation of the main research material. The modern development of agricultural enterprises is characterized by the growth of the role of human capital as a key resource for

ensuring economic efficiency and competitiveness of production. Unlike material and technical resources, human capital has the ability to accumulate knowledge, develop competencies and adapt to changes in the production environment, which determines its strategic importance for the functioning of agricultural enterprises. In this context, it is advisable to consider the human capital of agricultural enterprises as a set of professional knowledge, practical skills, experience, motivational characteristics and behavioral models of employees, which form their ability to ensure the effective implementation of production tasks and achieve economic results of the enterprise. A feature of the human capital of agricultural enterprises is its direct connection with technological processes of production and natural factors of the functioning of the industry. Agricultural production is characterized by seasonality of work, dependence on climatic conditions, use of specialized equipment and the need for prompt management decisions. This leads to increased requirements for the professional training of employees, their ability to quickly respond to changes in production conditions and effectively interact within production processes. At the same time, the shortage of qualified personnel, migration processes and uneven level of professional training of employees create additional risks for the stable development of agricultural enterprises, which enhances the importance of effective human capital management. An important characteristic of the human capital of agricultural enterprises is its economic efficiency, which is manifested through labor productivity, quality of work, level of resource use and ability of employees to ensure innovative development of production. The effectiveness of human capital is determined not only by the level of professional competencies, but also by motivational factors, organizational working conditions, level of personnel management and possibilities of using modern technologies. That is why human capital should be considered not only as a labor resource, but also as a strategic asset of an enterprise that requires systematic development, investment and management.

The conditions of digital transformation of the economy are significantly changing the approaches to the formation and use of human capital of agricultural enterprises. The importance of digital competencies of employees, the ability to work with information systems, analyze production data and use modern technological solutions in production activities is growing. This expands the functional role of employees and increases the requirements for their professional training, which necessitates the integration of information and communication technologies into human capital management processes.

Human capital of agricultural enterprises is a complex socio-economic category that combines professional, intellectual and motivational characteristics of employees and determines the ability of the enterprise to ensure effective functioning and development in a competitive environment. The growing role of information and communication technologies creates prerequisites for increasing the effectiveness of the use of human capital, which requires further research into the mechanisms of its digital support and management. The effectiveness of the activities of agricultural enterprises is largely determined by the level of labor productivity and the degree of involvement of personnel in production processes. Labor productivity reflects the effectiveness of the use of labor resources and characterizes the ability of employees to ensure the required volume of production with optimal expenditure of time and resources. In the agricultural sector, this indicator is of particular importance, since production processes are associated with limited time periods for work, dependence on natural and climatic conditions and the high cost of technical resources. Under such conditions, even a slight increase in labor productivity can provide a significant increase in the economic results of the enterprise [1].

Along with labor productivity, an important factor of efficiency is staff involvement, which characterizes the level of interest of employees in the results of the enterprise's activities, their readiness to perform tasks with high quality and to show initiative in production processes. Involvement is formed under the influence of motivational mechanisms, working conditions, organizational culture and the quality of personnel management. In agricultural enterprises, the

problem of insufficient involvement is often associated with the seasonal nature of employment, uneven workload and limited opportunities for professional development of employees, which reduces the level of their interest in long-term cooperation with the enterprise.

Labor productivity and staff involvement is closely related and mutually influence each other. Increasing the level of involvement contributes to a more responsible attitude of employees to the performance of tasks, an increase in the quality of work and a more rational use of resources, which is directly reflected in labor productivity. At the same time, a high level of production organization and effective management create conditions for the realization of the professional potential of employees, which increases their motivation and involvement. Ensuring the effectiveness of the activities of agricultural enterprises requires a comprehensive approach to labor resource management, which takes into account both economic and behavioral aspects of personnel functioning.

In the context of the digital transformation of the economy, approaches to increasing labor productivity and staff engagement are changing under the influence of information and communication technologies. The use of digital tools allows monitoring labor results, analyzing the efficiency of production operations, optimizing the distribution of labor resources, and forming a transparent system for assessing employee performance. This creates the prerequisites for increasing the validity of management decisions, improving communication between management and employees, and forming a motivational environment focused on achieving results. Labor productivity and staff engagement are interrelated factors of the economic efficiency of agricultural enterprises, which determine the effectiveness of human capital use and the competitiveness of production. Increasing their level requires the use of modern management approaches and digital technologies that provide the possibility of comprehensive analysis of personnel activities and support for management decisions in the field of human resources management. Digitalization of the economy forms new approaches to personnel management of agricultural enterprises, changing the mechanisms of labor organization, interaction between employees and management, as well as the processes of making management decisions. Traditional methods of labor resource management, based on administrative approaches and limited information capabilities, do not provide the necessary level of efficiency and validity of decisions in modern conditions of agricultural production. The introduction of information and communication technologies creates opportunities for the transition from intuitive management to databased management, which increases the efficiency of human capital use and the performance of enterprises.

Digitalization of personnel management involves the use of information systems to collect, to process and to analyze data on employee activity, performance of production tasks and use of labor resources. This allows ensuring transparency of management processes, increasing control over labor productivity and creating conditions for objective assessment of personnel performance. The use of digital personnel management platforms and mobile technologies contributes to improving communication between employees and management, rapid exchange of information and coordination of production processes, which is especially important for agricultural enterprises with geographically distributed production units.

An important direction of transformation of personnel management is the use of analytical tools and systems of support of management decisions, which provide the possibility of forecasting needs in labor resources, optimizing their distribution and assessing the effectiveness of management measures. This allows reducing the influence of subjective factors in the decision-making process, increasing the accuracy of planning and forming justified management strategies for the development of human capital. As a result, digitalization creates the prerequisites for increasing labor productivity, improving personnel motivation and reducing enterprise costs.

Digital technologies are also changing approaches to the professional development of employees, providing opportunities for distance learning, advanced training and the formation of digital competencies. This contributes to the adaptation of personnel to the use of modern technological solutions in production and increases their ability to perform professional functions. The conditions of digitalization form new requirements for employee competencies, which necessitates a systematic approach to the development of human capital in agricultural enterprises.

Considerable attention is paid to the integration of flexible forms of learning, combining traditional educational methods with digital technologies. The implementation of learning management systems provides the possibility of continuous professional development of personnel regardless of their location. An additional role is played by virtual and augmented reality technologies, which allow simulating real work situations and thereby reducing the adaptation time of new employees [6].

Digitalization is a key factor in the transformation of human resource management in agricultural enterprises, ensuring an increase in the validity of management decisions, the efficiency of the use of labor resources and the effectiveness of enterprises. The use of information and communication technologies creates conditions for the formation of a modern human capital management system focused on increasing labor productivity and staff involvement, which determines the need for further development of digital tools in the field of labor resource management in the agricultural sector. The conditions of the digital transformation of the economy increase the requirements for the efficiency of human capital management in agricultural enterprises, however, the existing practice of labor organization and personnel management often does not meet the modern needs of the industry development (Fig. 1).

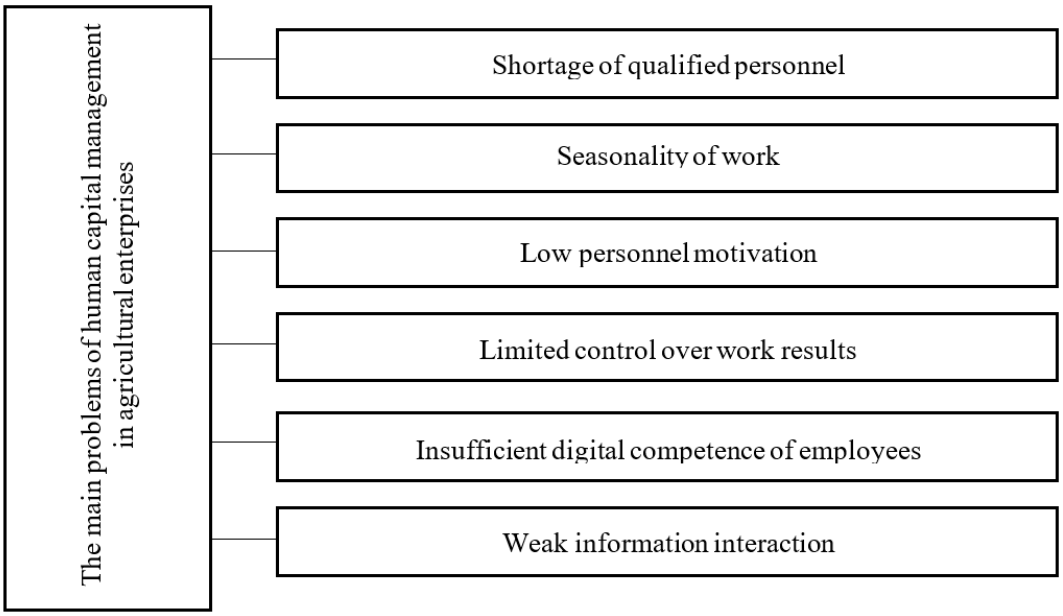

Figure 1. Main problems of human capital management of agricultural enterprises

* Formed by the authors based on [3; 7].

One of the key problems is the shortage of qualified personnel, which is due to migration processes, aging labor resources and insufficient level of training of specialists to work with modern equipment and technologies. Insufficient provision of enterprises with professional personnel reduces labor productivity, limits the possibilities of implementing innovations and creates risks of disruption of production processes.

The seasonal nature of agricultural production has a significant impact on the effectiveness of personnel management, which creates an uneven load on employees and instability of employment. During peak work periods, enterprises require significant involvement of labor resources, while in the off-season the problem of retaining personnel and maintaining their motivation arises. Such specificity complicates long-term planning of human capital development and the formation of stable labor teams, which negatively affects the quality of work and the effectiveness of enterprises.

An important problem remains the low level of staff motivation, which is often associated with limited opportunities for professional development, insufficient transparency of the performance evaluation system and uneven distribution of incentive payments. The lack of clear mechanisms for linking work results and remuneration reduces employees' interest in increasing labor productivity and the quality of production tasks. This leads to inefficient use of labor resources and increased costs for the enterprise.

Limited control over labor results is also a significant factor in reducing the effectiveness of human capital management. In many agricultural enterprises, employee performance is assessed based on fragmentary information or subjective observations of managers, which reduces the objectivity of management decisions. The lack of systematic collection and analysis of data on the performance of production operations complicates planning the use of labor resources and determining the real performance of employees.

The conditions of digital transformation also actualize the problem of insufficient digital competence of employees, which limits the possibilities of using modern information and communication technologies in production processes. The low level of digital skills complicates the implementation of information management systems, mobile technologies and analytical tools, which reduces the efficiency of digitalization of enterprises and slows down their innovative development. This generates additional costs for personnel training and adaptation to new technological conditions. The insufficient level of information interaction between employees and management also negatively affects the efficiency of agricultural enterprises. Limited communication channels, untimely exchange of information and the lack of integrated digital management platforms complicate the coordination of production processes and the adoption of operational management decisions. This leads to loss of time, irrational use of resources and a decrease in the effectiveness of performing production tasks.

The combined impact of these factors leads to a decrease in labor productivity, an increase in production costs and a decrease in the competitiveness of agricultural enterprises. Existing problems of human capital management limit the possibilities of effective use of labor resources and hinder the development of enterprises in the conditions of digital transformation of the economy. This necessitates the use of modern information and communication technologies to increase the validity of management decisions and to optimize the use of personnel and form an effective system of human capital management of agricultural enterprises.

In the context of the digital transformation of the economy, information and communication technologies are an important tool for increasing labor productivity and employee engagement in agricultural enterprises, providing the opportunity to transition from traditional approaches to labor resource management to databased management. The use of digital technologies allows you to systematize information about employee activities, increase the transparency of production processes and create the prerequisites for informed management decisions (Fig. 2). This is especially important for the agricultural sector, where the effectiveness of activities largely depends on the timeliness of work, personnel coordination and rational use of resources.

One of the key areas of digitalization of personnel management is the use of digital personnel management platforms that provide integration of information about employees, their

professional characteristics, performance results and participation in production processes. Such solutions allow automating the processes of work planning, task distribution and control of production operations, which increases the efficiency of labor resources and reduces the influence of subjective factors in the management process. The presence of a centralized information system creates conditions for the formation of a transparent system for assessing employee performance and increasing their motivation.

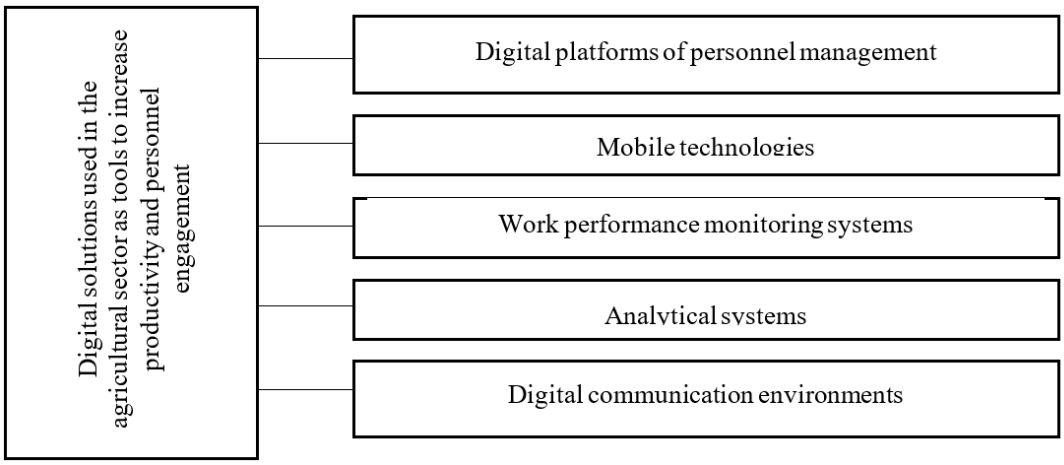

Figure 2. Digital solutions used in the agricultural sector as a tool to increase personnel productivity

* Formed by the authors based on [5; 8].

Mobile technologies play an important role in increasing staff engagement, providing employees with immediate access to production information, tasks, and communication channels regardless of the location of work. In agricultural production, characterized by the territorial distribution of production processes, mobile solutions allow for increased coordination of employee activities, reduced information transfer time, and rapid response to changes in production conditions. This contributes to increased employee responsibility for work results and creates a sense of their involvement in the enterprise's production processes.

Work performance monitoring systems are essential for increasing labor productivity, as they provide the ability to collect data on the use of equipment, the time of operations, and the results of employee activity. The use of such systems allows for increased accuracy in work planning, optimization of labor resources, and timely detection of deviations from planned indicators. This creates the prerequisites for increasing the efficiency of production process management and reducing enterprise costs.

Analytical systems are an important component of the digitalization of personnel management, as they provide the ability to process large amounts of information and form analytical conclusions regarding the efficiency of human resource use. The use of analytical tools allows you to forecast personnel needs, assess employee performance, determine factors affecting labor productivity, and justify management decisions. This helps to increase the accuracy of planning and form strategic approaches to the development of the enterprise's human capital. Digital communication environments also play an important role in increasing staff involvement, ensuring effective interaction between employees and management. The use of modern means of communication allows you to quickly transfer information, coordinate the implementation of tasks, and form a common understanding of the enterprise's production goals. Improving communication helps to increase the level of trust between participants in the production process and creates conditions for the formation of a motivational environment.

The cumulative impact of information and communication technologies on management decisions is manifested in increasing their validity, efficiency and effectiveness. The use of digital tools allows management to receive up-to-date information about personnel activities, predict the results of production processes and timely adjust management actions. This ensures increased labor productivity, optimization of resource use and increased economic efficiency of agricultural enterprises. Information and communication technologies are an important factor in the transformation of personnel management and the formation of a modern human capital management system aimed at increasing the effectiveness of agricultural enterprises.

Increasing the efficiency of using human capital in agricultural enterprises in the context of digital transformation requires a systematic approach to integrating information and communication technologies into personnel management processes. Existing approaches to digitalization of human resources management are often fragmentary and do not provide a comprehensive impact on labor productivity and employee engagement. In order to eliminate these limitations, the study developed a conceptual model of using information and communication technologies to increase the productivity and engagement of human capital in agricultural enterprises, which is based on the interconnection of information flows, analytical data processing and mechanisms of managerial influence on personnel. The proposed model is based on the logic of consistent transformation of information into the effectiveness of personnel activities through a system of management decisions (Fig. 3).

The starting element of the model is information and communication technologies that provide digital recording of production processes, employee activities and the use of enterprise resources. The use of digital platforms, mobile solutions and monitoring systems allows you to form arrays of structured data on the performance of production operations, labor productivity and the level of staff involvement. The presence of a reliable information base creates the prerequisites for moving to the next stage of the model, related to analytical data processing.

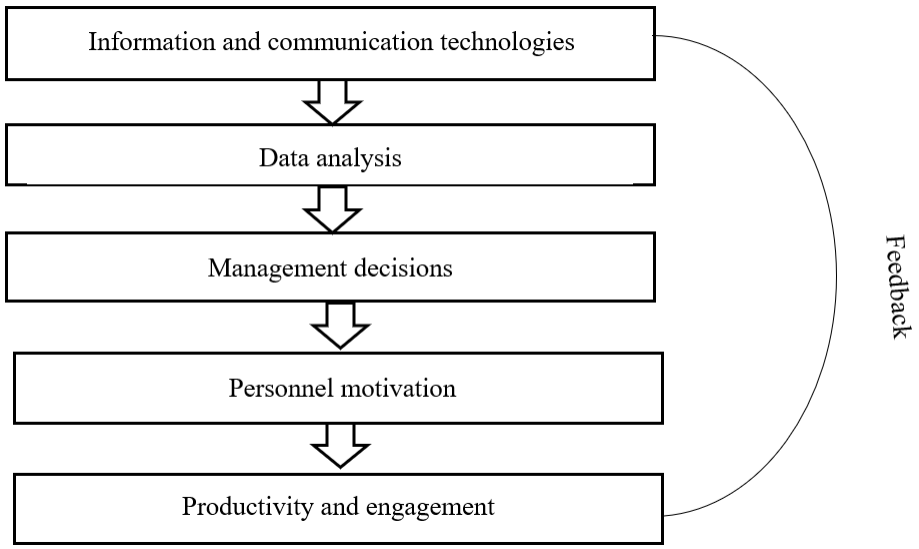

Figure 3. A model for using information and communication technologies to increase productivity and human capital involvement in agricultural enterprises

* Formed by the authors.

The analytical component of the model involves the use of information processing tools to assess the efficiency of labor resources, determine factors influencing labor productivity and predict the results of personnel activities. Data processing provides the ability to form

substantiated management conclusions regarding the optimization of labor resources, improvement of labor organization and increase employee motivation. In this context, an important role is played by the integration of a management decision support system, which provides automation of analytical processes, the formation of recommendations and increasing the validity of management actions of the enterprise management.

The results of analytical processing of information are transformed into management decisions aimed at increasing the efficiency of human capital use. Such decisions include optimizing the distribution of labor resources, adjusting production processes, improving the system of employee incentives and developing professional competencies of personnel. The implementation of management decisions creates conditions for the formation of a motivational environment that increases the involvement of employees in the performance of production tasks, stimulates their interest in the results of the enterprise's activities and contributes to increasing responsibility for the results of work.

The final result of the model is an increase in labor productivity and efficiency of the agricultural enterprise. Productivity growth is achieved through more rational use of labor resources, improved quality of work and reduced unproductive time. At the same time, the level of staff involvement increases, which has a positive effect on the stability of labor collectives and long-term performance of the enterprise. The relationship between the elements of the model is cyclical, since the results of personnel activities are again recorded by information systems, which ensures the continuity of the management process and the improvement of management decisions.

The conceptual model of the use of information and communication technologies provides a comprehensive approach to human capital management of agricultural enterprises and allows integrating digital tools, analytical mechanisms and management solutions into a single system for increasing labor productivity and staff engagement. The practical application of the model creates the prerequisites for increasing the economic efficiency of agricultural enterprises and the formation of a modern digital human capital management system.

The introduction of information and communication technologies into the human capital management system of agricultural enterprises creates the prerequisites for achieving both economic and organizational effects that directly affect the performance of enterprises. Digitalization of personnel management provides the opportunity to increase the validity of management decisions, optimize the use of labor resources and improve the coordination of production processes, which forms a comprehensive positive impact on the efficiency of the enterprise. The economic effect is manifested through increased labor productivity, reduced unproductive time costs, improved quality of work and more rational use of material resources. The organizational effect is associated with improved information interaction, increased transparency of management and the formation of a motivational environment focused on achieving results.

The use of information and communication technologies provides the possibility of digital monitoring of employee activities and the performance of production operations, which increases control over labor productivity and allows for timely detection of deviations from planned indicators. This contributes to improving the quality of work, reducing production losses and forming a responsible attitude of employees to the performance of professional duties. At the same time, analytical tools create opportunities for assessing the effectiveness of human resources, identifying factors affecting labor productivity and predicting the results of personnel activities, which increases the accuracy of management planning and the effectiveness of management decision-making.

An important result of digitalization is an increase in the level of staff motivation, which is achieved through the transparency of performance evaluation, the objectivity of incentive systems and improved communication between employees and management. The presence of

digital management tools allows you to establish a clear connection between work results and remuneration, which increases employees' interest in achieving production indicators and contributes to the growth of their involvement. This has a positive effect on the stability of labor collectives, reduces the level of staff turnover and creates conditions for the long-term development of the enterprise's human capital.

Conclusions. Information and communication technologies act as an important factor in increasing labor productivity and improving the efficiency of human capital utilization in agricultural enterprises under conditions of economic digital transformation. Their use ensures a transition from traditional personnel management approaches to data-driven management, which increases the validity of managerial decisions, transparency of performance evaluation, and efficiency of labor resource utilization.

The study found that labor productivity and employee engagement are interrelated factors of the efficiency of agricultural enterprises, while existing problems of human capital management, in particular the shortage of qualified personnel, seasonality of work, insufficient level of digital competencies, and limited information interaction, restrain enterprise development and require modern management approaches.

A conceptual model for the use of information and communication technologies to increase productivity and engagement of human capital in agricultural enterprises has been developed, which provides for the integration of digital tools, analytical mechanisms, and a decision support system into a single management cycle. The practical application of the proposed model contributes to increased labor productivity, optimization of labor resource utilization, improvement of personnel motivation, and growth of the economic efficiency of enterprise activities.

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