1. Introduction

The desire of the Ukrainian society for new stages in the development of information technologies in the economy generates the need for large-scale modifications. Digitalization has an impact on almost all areas of activity, both individual enterprises and the entire industry as a whole. The personnel management system in this regard will not be an exception. At the same time, Digital-HR is a completely new stage in the development of the HR industry, which involves working with personnel at a completely new level, which requires the use of various kinds of innovative digital technologies. The practice of using information technologies indicates that their use significantly speeds up the collection, processing, transfer and use of information, simplifies communication with production personnel. The conducted research suggests that industrial enterprises that have implemented HR digitalization in their work have significant competitive advantages over enterprises that still use traditional paper technologies.

The history of the development of HR-management technologies makes it possible to distinguish four main stages.

1. HR paper technologies. At this stage, information flows are carried out independently one from one, reporting is at the lowest level.

2. Technologies of early computer technologies. At this stage, there is a movement of all the data arrays that were on paper media to hard disks of personal computers and to local information networks.

3. Electronic information databases. The first relational databases appear, the use of which makes it possible to connect various arrays of information with each other.

4. The stage of web technologies. At this stage, the transition to an electronic HR management system, active use of the Internet and its mobile applications is underway [1].

The sphere of digitalization of HR at Ukrainian enterprises is currently only at the initial stage of its inception. Less than 10% of them are currently at the stage.
of modern digitalization, while about 30% still adhere to obsolete paper technologies [2]. Foreign enterprises are far ahead in this area.

Most foreign enterprises have fully digitalized their production and commercial activities in the field of personnel management. According to the results of the Deloitte study, today about 7% of enterprises use mobile information technologies for training production personnel, 10% for labor productivity management, 8% for time planning, 13% for recruiting and 21% for planning staff rest [3, 4].

Industrial enterprises that use the aging paper-based HR technologies face a number of challenges in recruiting and managing staff, among which are the following:
- great difficulties in the formation of a team of employees;
- low efficiency of personnel selection;
- outdated, ineffective methods of personnel search, which as a result leads to unnecessary expenditures of funds and time;
- low efficiency in the use of production personnel;
- the practical absence of a system for improving the qualifications of personnel, etc.

For a practical solution to these problems, it is extremely important to use new Digital-HR technologies. With their help, it becomes possible to make the process of recruiting and employing personnel much easier, to reduce the cost of wages, since automation reduces the number and volume of routine operations for collecting and processing information about potential employees, correspondence with them, etc.

2. Analysis of recent research and publications

Quite a lot of interesting studies by both Ukrainian and foreign scientists are devoted to the study and analysis of various aspects of the transformation and development of the processes of digitalization of the economy. In particular, Bey G.V. and Sereda G.V. the basis of their research was the identification of the characteristic features of the processes of digitalization of the Ukrainian economy in the field of entrepreneurship [5]. Bersin J. conducted a study of the current state and prospects for the development of the digital economy in the member states of the European Union and in our country. They managed to highlight the most important problems of digitalization in the Ukrainian economy [6].
Dlugopolskaya T.I. and Guk Y.V. analyzed in detail the reasons for some failures in the digitalization of the Ukrainian economy. To do this, he used a system of index calculations, based on the results of which certain recommendations were presented, the use of which can achieve a certain improvement in the current situation [7]. Zhukovska V.M. considered the problems of modernizing the modern economy of Ukraine, associated with the development of the digital component. Also, these authors investigated the current trends in the development of digital platforms [8], the formation and use of which also has certain problems today. Belyatsky N.P. and Podupeyko A.A. carried out a detailed analysis of the reasons for the unstable employment of personnel at industrial enterprises in the context of the digitalization of the economy [9]. Sand R. [10] and Lalwani P. [11] put the task of developing the content and tasks of the profession "accountant" in the context of digital agenda and the future of this profession.

Despite the fact that in modern scientific literature, a lot of attention is paid to the analysis of certain sections of the digital economy. Particular attention in this study was paid to the implementation of information technology in industrial enterprises. The authors point out that digitalization processes require changing the requirements for the functional responsibilities of information systems personnel and determining whether they have digital skills and competencies. This direction in existing research is not sufficiently disclosed, it requires further research and development.

3. Research results

Currently, in the field of personnel management of industrial enterprises, there is a rapid development of information technology, the criteria and methods for assessing the effectiveness of production personnel management systems are changing. The internal and external environment of enterprises and organizations is changing significantly. All this leads to fundamental changes in the field of enterprise resource management, and this is especially manifested in the production personnel management system [9]. At this stage of economic development of industrial enterprises, traditional models of production personnel management usually consist of several of the most important subsystems designed to perform certain functions (Fig. 1).
Any comparison of traditional and progressive (digital) concepts of production personnel management involves the identification and substantiation of the distinctive features of each of them (Table 1).

**Table 1. Comparison of the distinctive features of traditional and progressive (digital) concepts of production personnel management**

<table>
<thead>
<tr>
<th>Name of distinctive features</th>
<th>Traditional personnel management system</th>
<th>Progressive (digital) personnel management system</th>
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<tr>
<td>Human capital is the main resource for management activities</td>
<td>The combination of digital technology and talented programmers is the main resource</td>
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<tr>
<td>The staff receives unskilled (insufficiently justified) tasks</td>
<td>The management process is an intellectual activity</td>
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<tr>
<td>The division of labor takes place according to the functional principle</td>
<td>Management decisions are developed based on project activities</td>
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<tr>
<td>The main efforts are focused on the organization of management processes</td>
<td>The staff is an accomplice in the work to increase labor productivity</td>
<td></td>
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<tr>
<td>The work uses standard software products</td>
<td>Mobile applications are actively used, work is aimed at innovative solutions</td>
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In our opinion, the sensitivity of personnel to digital technologies should be assessed as the ability and readiness of each employee to adapt to possible changes in the work of the enterprise caused by the use of digital technologies, to perceive them and apply them in their work to solve problems of increasing labor productivity.

The strategy of digitalization of personnel management, in our opinion, should contain certain principles and directions for achieving the commercial goals of the

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enterprise, as well as reflect the factors and conditions necessary for the implementation of this process. The goal of the digitalization of personnel management is the growth of the enterprise through the growth of labor productivity and the development of the potential of employees. The digitalization of personnel management processes requires the development of certain principles, the use of which makes it possible to form an effective process for the development, implementation and use of modern digital technologies in the field of production personnel management. Among them: a focus on increasing the productivity of the organization's personnel by stimulating the digital sensitivity of individual employees; focus on the continuous development of digital technologies; adaptability, i.e. the digitalization strategy must respond to possible external changes that are dictated by the actual conditions of the digital technology market and respond promptly to these changes (Fig. 2).

![Principles of a digital HR management system](image)

Fig. 2. Basic principles of digital transformation in the personnel management system

It is proposed to implement the Digital-HR strategy in practice in the context of several main directions [9]:

a) the introduction of information technology in the process of searching and hiring personnel of an enterprise: the use of mass social networks in order to find the necessary employees, analytical and cognitive methods of recruiting, the use of automated systems for recruiting employees in their work, the use of modern
technologies that allow remote interviews with potential candidates for vacant posts;

b) the introduction of information technology in the training and development of the most talented employees. This will provide real opportunities to quickly acquire the necessary skills, knowledge and abilities, independently draw up conditions and a training program, develop a base of existing opportunities in the field of education, intensify the practical use of mobile devices, applications for them, etc.;

c) the introduction of information technology in the management process: the introduction of management technologies using artificial intelligence, which provides an analytical study of the learning process itself and its results. It also makes it possible to predict the success of employee training, using the results of the analysis of the results of interviews, to determine the level of the enterprise's need for personnel training. There are real opportunities for the use of cloud technologies in order to effectively use network resources and combine them into a single local educational network. The practical replacement of paper circulation of documents with electronic document circulation is also becoming a reality. The development of platforms for information analysis and forecasting of the level of labor productivity, as well as the degree of use of the production personnel of the enterprise to increase it;

d) increasing the digital competence of employees of the HR department, implementing information policy in the system of advanced training and training of the company's personnel;

e) implementation of digital workstations, digitalization of the working environment: using the company's own databases to search, buy and use information on various enterprise projects, develop an integrated digital platform based on the experience of personnel, provide feedback between personnel and top management of the company, providing staff with real opportunities to provide remote work.

The indicated directions of the digital transformation of personnel management make it possible to determine the essence and significance of the Digital-HR strategy, the implementation of which in practice will ensure the effective functioning of Digital-HR in the above directions.
It seems important and necessary to consider the key trends in the field of personnel management, which, in our opinion, have a significant impact on the development and degree of use of Digital-HR in industrial enterprises. It is proposed to take into account the following types of trends that directly affect the development and improvement of Digital-HR:

a) the presence of prerequisites for conceptual changes in personnel management at enterprises, the transition to VUCA - a new environment for talent management and personnel planning. VUCA stands for:
   - Volatility (volatility, instability, instability, volatility) - the situation changes quickly and unpredictably (based on these changes, you cannot predict the future situation or plan actions);
   - Uncertainty (uncertainty) is the "place" where major disruptive changes happen. And the past in a given place is not a predictor of the future: determining what is to come is extremely difficult;
   - Complexity (complexity) - a "place" where many difficult to understand facts, causes and factors add up to problems;
   - Ambiguity (ambiguity, ambiguity, uncertainty) - a “place” where it is difficult to answer the questions “who, what, where, when, how and why”;

b) a radical change in the place and role of the HR department. Transforming it from a support unit into a business partner of the enterprise, making the fundamental decisions that affect the business success of the enterprise. Creation of such conditions at the enterprise when HR-managers ensure sustainable development and long-term prosperity of the enterprise through the use of the most modern information technologies in human capital management. The HR business partnership model in recent years has been an original trend in the HR management market. The purpose of introducing the position of HR-business partner is to reduce the time spent on solving a particular problem. Ideally, we should talk about a special project manager, the use of which increases the efficiency of the implementation of HR processes. This proposal is of particular importance for large enterprises with a voluminous structure;

c) there is a need to take into account the characteristics of the generations of personnel when choosing methods and management tools. According to the existing theory of generations, the distinctive features of the employees of
generation "U", which in the near future will make up about 40 ... 45% of the labor market, are:

- striving for self-realization;
- high level of digital sensitivity;
- informal communication style;
- requirements for a free work schedule;
- work automation;
- openness in communications, etc.

All this inevitably leads to a change in the paradigm of human resource management in accordance with existing needs, needs and interests;

d) the interest of production organizers (employers) in the automation of all functions performed by the personnel management department is progressively increasing. The development and implementation of programs for automating the processes of recruiting and training personnel provides real opportunities to eradicate routine work and focus on more important tasks that require attention and creativity.

So, digitalization can provide industrial enterprises with a lot of advantages [1]. The obvious advantages of digitalizing production personnel management are:

- a significant reduction in labor intensity, cost reduction and an increase in the efficiency of HR processes in comparison with the work of a living specialist;
- release of labor resources by reducing the time for employees to carry out various business processes. This creates opportunities to release workers to perform other, more important tasks or reduce their total number, while maintaining the pace and volume of work performed;
- reducing the distance in the manufacturer - consumer system. When using digitalization, the consumer uses the manufacturer's services without a personal visit to the enterprise. This allows, firstly, to improve the reputation of the enterprise; secondly, to keep the consumer in touch for a sufficiently long time; thirdly, it provides the consumer with the opportunity to purchase the goods of the enterprise, regardless of its location;
- increasing the efficiency of personnel management processes by increasing the efficiency of each employee who does not spend his working time on many operations transferred to the digital field. Various kinds of digital technologies are
also important, which monitor the quality of the work of the personnel, keep track of their working time, and check the effectiveness of its use by each employee;

- the level of product quality increases, the cost of production decreases. Note that this advantage is not manifested in every enterprise, since it is not always possible to influence the technological content of production processes even with the help of digitalization;

- acquisition of additional competitive advantages by the enterprise and its products. Digitalization can help a company quickly and efficiently get an additional competitive advantage that other market participants who are engaged in the same field of activity do not have. Note that the lack of digitalization, on the contrary, can lead an enterprise to obtain the status of a market outsider and, as a result, to crisis phenomena at the enterprise;

- long-term wide automation of production and management decisions. Digitalization is the foundation for the development of innovative solutions in the field of information technology, which allows you to completely eliminate the prerequisites for control and personal participation of management in certain business processes.

The digitalization of management processes, as an effective tool for improving the production and commercial activities of an industrial enterprise, has not only positive characteristics. It also has certain disadvantages that can cause negative consequences if you do not pay attention to them in time. In our opinion, such disadvantages include:

- excessive costs of the enterprise for the development and implementation of digitalization projects. Note that digitalization does not always provide a real increase in the company's income. Therefore, it is imperative to make a detailed and comprehensive analysis of the task, determine the expected income from digitalization and compare it with the real costs of its implementation;

- the presence of significant difficulties in the implementation of digitalization projects. It is quite easy to break the existing and, possibly, efficiently operating mechanism. However, the consequences of this action can be unpredictable. Therefore, it is necessary to substantiate in detail the digital reform of each business process and predict what the final results can lead to a radical change in business processes when they are transferred to the digital sphere;
the possibility of leakage of commercial information. Information leakage risks increase significantly with the massive introduction of digital technologies. Ensuring the required level of security will inevitably lead to a significant increase in the cost of digitalization projects. And this can cause direct and indirect damage to the image of the enterprise, its consumers and other stakeholders, as well as the entire business as a whole.

4. Conclusion

The results of the study allow us to conclude that the effective functioning of Digital-HR causes fundamental changes in the field of personnel management, in the structure and nature of the functioning of the modern market for various types of goods and services, suggests a real need to develop the activity of enterprises and organizations in the field of information technology. The main attention in the formation of the information environment of the enterprise is placed on the creation of the information infrastructure. At the same time, it should be noted that a very important role is played by the creation of a system and the necessary culture of using Digital-HR, i.e. formation of information (digital) competencies among employees. Therefore, when forming a strategy for the information development of an enterprise, special attention should be paid to the used and projected production personnel management systems. Hence, it follows that the most important task that determines the effectiveness of personnel management in the context of the widespread use of digital technologies is to ensure the effective work of personnel and increase their labor productivity, only in this case it is possible for the enterprise to switch to an innovative path of development and use of its digital activity. In our opinion, the practical use of the Digital-HR strategy will allow enterprises to use fundamentally new information approaches to the management of labor potential, workplaces at the enterprise and the system of labor relations in their production and commercial activities. All this is possible if industrial enterprises introduce modern systems of information (digital) technologies into the basis of their activities, which will provide them with an innovative way of improvement and development.

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