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PRINCIPLES AND METHODS OF HUMAN RESOURCES DEVELOPMENT UNDER MODERN ECONOMIC CONDITIONS

Melnychuk V.,
Ph.D. in Economics,
Assistant Lecturer at the Department of Economic Cybernetics
Igor Sikorsky Kyiv Polytechnic Institute
ORCID: 0000-0001-8246-4076
Semenchenko N.
Doctor of Economic Sciences, Professor,
Professor at the Department of Economic Cybernetics
Igor Sikorsky Kyiv Polytechnic Institute
ORCID: 0000-0001-7519-6560
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Abstract

The article describes modern trends in the development of human capital. The principles that should be included in the development of human capital in the conditions of digitalization are argued; the principles of progressiveness, complexity, adaptability, perspective, proactivity and economy are chosen. It was determined that the key principle is proactivity, which gives an advantage in preparation for changes caused by digital transformations, quick adaptation, acquisition of new abilities and digital skills. the methodological toolkit for the analysis and development of the human capital of industrial enterprises, which involves its evaluation in terms of value, analysis of the impact of human capital on economic indicators, cause-and-effect analysis of the conditions and results of the use of human capital, verification of digital competences of employees in digitalization strategies, forecasting of economic effects for the enterprise, is substantiated under the influence of changes in human capital based on digitalization.

Keywords: human resources, digitalization, human resources development, digital economics, economic changes

Introduction. For quite a long time, a person was considered only an expendable factor in production, and investments in education were considered unproductive. However, the transition to industrialization and the scientific and technological revolution of 1950-1960 inevitably changed the attitude to human capital and education, which, in turn, became the impetus for the emergence of the theory of human capital [1] . The consequences of the revolution caused global transformations in the world, in particular, the role of man, his education, previously acquired experience and professional qualifications became even more significant in the economy.

The active introduction of digital technologies in the 21st century began to change not only economic processes, but also all spheres of human life, as a result of which it led to a change in work, namely, an increase in the role of intellectual and creative work. The nature of employment has also changed (it became possible to work remotely), the requirements for the level and quality of education, as well as professional qualifications, have increased even more.

The concept of "human capital" has also undergone significant changes over the past centuries and is constantly supplemented with new characteristics, transforming from an industrial system to an informational and virtual one. Given the rapid development of the Internet, digital technologies, and artificial intelligence over the past ten years, new conditions for doing business are being created, as well as the need for human capital development in digitalization conditions. Freelancing, outsourcing, gig -economy, management of contingent personnel, and robotics are just a few of the latest terms directly related to the development of human capital.

Having considered the main characteristics of human capital, the interpretation of the concept of "human capital" in the conditions of digitalization of the economy was proposed [2].

Human capital is a productive and rapidly adaptable to social, and economic changes and digital transformations resource of the economic system with immanent properties, formed thanks to the accumulation of experience, knowledge, competencies, and abilities, expressed in added value.

The digital transformation (digitalization) of all spheres of the economy undoubtedly calls for the creation of a new concept of human capital development, which would be relevant in the current environment, which is constantly transforming. The concept of "human capital", which appeared during the period of industrialization and with the transition to new stages of the development of society, acquired new features, and for now, needs to outline its characteristics in the conditions of digitalization of the economy.

Main part. With the development of digitalization, productive characteristics are undergoing greater changes, and if we take into account the aspect of the adaptive environment, then human capital is formed

based on new meaningful characteristics due to the digitalization of the economy from the standpoint of employees and employers (Figure 1).

Ability to be flexible and adapt to societal demands. For employees today, this meaningful component is key, as adapting to new trends enables the employee to be competitive in the labor market.

Ability to learn and constantly improve qualifications. If a person does not learn throughout his life, he is stuck in the past, the digital divide widens, while job offers decrease.

Ability to master a new profession. This component concerns changes like work and the introduction of technologies, along with which professions are changing. Yes, the once prestigious profession of a computer adjuster has disappeared with the advent of new technologies, and instead, employers need masters of repairing computers and various equipment, system administrators, and all kinds of engineers. If a person does not learn a new profession, another qualified worker can take his place.

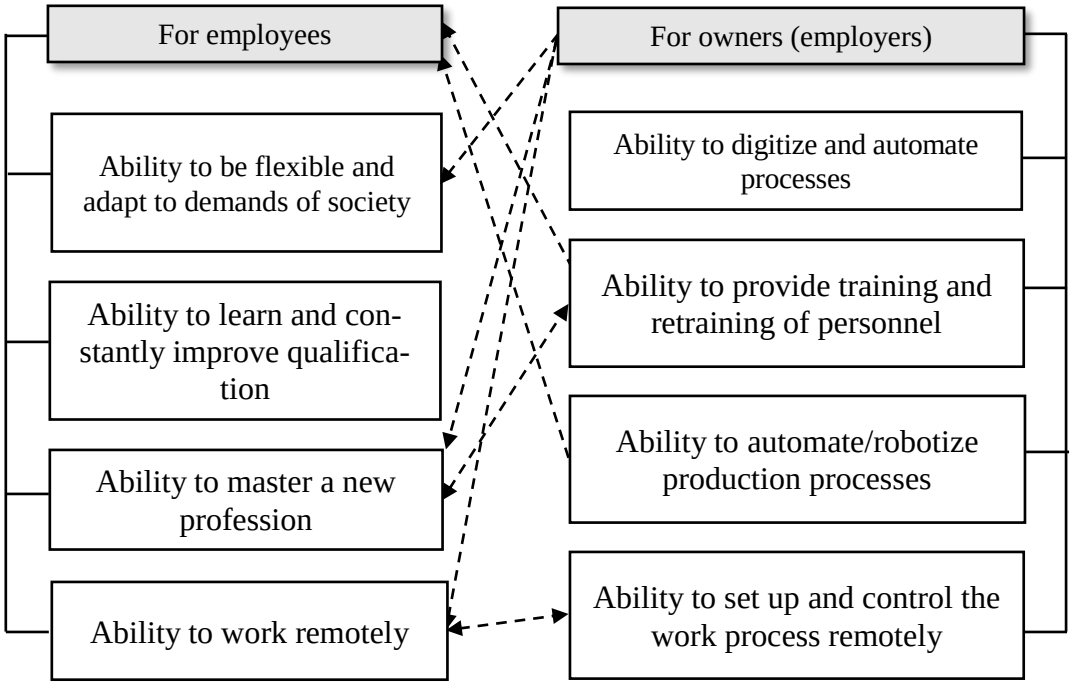

Figure 1. – Meaningful productive characteristics of human capital under digitalization of the economy from the standpoint of employees and owners (employers)
(formed by the authors)

Ability to work remotely. This component has a proactive nature, as the transition of most processes to the online format is predicted.

The ability to set up and control the work process remotely correlates with the previous component, as the employer or company owner needs to set up processes so that in the future it is possible to manage production and business processes without leaving home or even being in another country.

The ability to digitize and automate processes characterizes the owner as a progressive leader who understands global trends and strives to develop his own business under the requirements of today's society, to form an efficient production that can compete on domestic and international markets.

The ability to provide training and retraining of personnel implies a correlation between the increase in the level of knowledge of human capital and the deepening of digitalization, and in the future and virtualization of processes, since thanks to employees, modernization of production can be made.

Ability to automate/robotize production processes. The implementation of this component will require qualified personnel, attracting investment in re-equipment, and motivating all participants in the process to modernize and improve working conditions to increase labor productivity and receive acceptable incomes.

The development of human capital should be based on somewhat traditional principles, but with the transformation of economic processes and the environment based on digitalization, the approaches that are embedded in their observance are changing.

So, for example, *the principle of progressiveness* can be defined in a new way. It is necessary not only to follow trends and follow the example of developed countries but also to build our scenarios that would be unique and take into account the opportunities and the level of development of digital skills of human capital. Certain industrial enterprises have experience in the digitalization of processes, for example, in the administration or selection of employees, while enterprises in the IT sphere have long been reformatted, they only need to adjust and finalize the mechanism. Certain enterprises have not yet started the digitalization process. Human capital must be able to continuously learn and develop their skills to meet the demands of the labor market. New skills and competencies are becoming essential for success at work as digital technologies are constantly evolving. The principle of progressiveness, based on the experience of digitalization of Ukrainian

and foreign companies, is aimed at helping in the training and development of human capital.

Regarding *the principle of comprehensiveness*, it is worth noting that attention should be paid not only to all factors that affect the development and activity of human capital but also to those factors that may appear in the future. That is, predict possible changes and be ready that these factors will also determine the further development of events, as well as determine which factors of production are directly influenced by human capital. So, for example, there is an opportunity to take into account the changes that may occur if the future vector of Ukraine's development is directed to virtualization. The principle of complexity also helps us understand that human capital is not just the sum of individual skills and knowledge, but a system that consists of different elements that interact with each other. Because digital technologies are not self-sufficient, but only tools that can be used to solve problems and achieve goals, comprehensive problem-solving requires human capital that can think critically and analyze.

The principle of proactivity should be considered the key among all principles. If it were not for the force majeure circumstances of 2020, society would not be ready for the transition to digital rails. This event was the first push that made it possible to realize the need to move most processes into the digital space. This gradual partial transfer of certain processes to a remote format using cloud technologies, platforms for video conferences, and other tools made it possible to continue work during the full-scale war. People have become more flexible and mobile, moving to less affected regions, not leaving their jobs, but moving into a digital environment. Analysis of prospects for the development of society and readiness for changes is a key characteristic of the principle of proactivity. In the context of human capital development, the principle of proactivity means the ability to learn new things, readiness for changes, constant search for new growth opportunities, and maintaining one's competitive position in the labor market. Proactive people, that is, those who not only adapt to the challenges of society but also analyze and prepare for possible further changes, have an advantage in today's digital environment.

The principle of adaptability or flexibility is a supplement to the principle of proactivity, because proactivity involves predicting possible changes in the future, while adaptability helps to adapt to changes, taking into account different situations and moving to a new concept of development as much as possible, both for an individual and for the enterprise as a whole. The ability to be flexible means to increase prospects and productivity, because it is precisely such human capital and an enterprise that is characterized by flexibility that can stand in a competitive and changing environment. People who cannot adapt to new realities become unemployed, and enterprises go bankrupt and disappear. That is, the principle of adaptability in the context of the development of human capital in the conditions of digitalization means the ability to adapt to new technologies to change one's skills and competencies under the needs of the labor market. For example, businesses can adapt their operations to digital technologies by using cloud storage for data processing or automating their business operations.

The next principle, which is selected for our concept, is *the principle of economy*, which involves the minimization of costs for production processes. This principle in the concept of digitization can be applied through the implementation of digital competence strategies since the digitization of document flow and communications can simplify the relationship between departments, increase awareness, and automate decision-making. The principle of economy means that it is necessary to use the minimum amount of resources to achieve the maximum result, and in the context of the development of human capital in the conditions of digitalization use digital technologies to train and upskill people faster, with lower costs and maximum efficiency.

Another principle that is worth paying attention to is *the perspective principle*, which will foresee not only changes in society that must be predicted in the future but also take into account the prospects of the organization itself and human capital in new realities. Digitization will transition to virtualization, new aspects of development will begin to appear, for which you must be ready and which will bring new perspectives both for employees and for the enterprise as a whole.

The development of human capital should be accompanied by a methodological toolkit that will provide both an analysis of the level of development and determine the necessary digital competencies for the implementation and implementation of its development strategies [3].

First of all, it is necessary to assess the human capital of the enterprise in terms of value. There are different methodical approaches to evaluating human capital. For example, for its assessment of a separate enterprise, it is suggested to apply the following indicators for several years: net profit of the enterprise; the average monthly salary of one employee in US dollars; the number of innovative developments; the rate of turnover of highly qualified personnel; professional development of employees; the number of employees with higher education [4].

A cost approach is used to determine the value of human capital based on the following methods [5]:

– the method of determining initial costs involves calculating costs for the formation and reproduction of human capital and further discounting these costs. It is the basis for determining the initial (accounting) value of human capital;

– method of accounting for restoration (reproduction) costs. The cost of restoration is equal to the cost necessary to create an exact copy of the given intangible asset. The essence of this method is to assess the subjective value of an employee for a specific company. The estimate can be obtained as a result of modeling the situation of a sudden dismissal of an employee and calculating the amount of costs for the formation of knowledge and skills of a new employee, as well as the unearned profit during this formation;

– replacement cost accounting method. The costs of replacing an employee include the cost of selection, hiring and training of the replaced workforce, which is formed from the following group of costs [5].

From our point of view, for the effective use of human capital at enterprises, it is worth finding out the value of human capital for the enterprise, which will provide an opportunity to determine how much the enterprise is equipped with, and what share such capital makes up in the total cost. For this purpose, you can use the AK model (R. Lucas) [6], what takes into account the value of human capital in terms of value. Applying appropriate procedures to the model allows you to determine the value of human capital through the equation of net income from the sale of products, depending on the technological parameter, physical capital (fixed assets), the number of employees, and the level of human capital possessed by a typical representative of the workforce.

The next methodical metric for use in the development of human capital can be the analysis of the influence of human capital on the economic indicators of the enterprise [7]. Knowing the value of human capital, it is advisable to determine whether it has an impact on the resulting indicators of the enterprise, such as labor productivity, gross profit per person, and income from the use of the labor of one employee, which can be carried out with the help of correlation analysis. This will allow us to determine the importance of human capital in the efficiency of the production and economic activity of the enterprise.

Investing in the development of human capital in the context of digitalization requires finding out whether, indeed, the conditions created for development provide the expected results from the use of such capital after development measures [8]. For this purpose, it is advisable to apply a cause-and-effect analysis of the conditions and results of the use of human capital. To do this, you can use *taxonomic analysis*, which allows you to determine cause-and-effect relationships between indicators of financial and economic activity and the development of human capital in the conditions of digitalization. As indicators of the conditions for the effectiveness of the development of human capital, the following can be used: the share of wages in net income, average monthly wages, capital resources, the level of investment per person, and the general level of staff turnover. It is advisable to evaluate the conditions of the effectiveness of the use of human capital by such indicators as labor productivity, gross profit per person, added value of human capital, the ratio of the growth rate of gross profit and the growth rate of the cost price, as well as the ratio of the growth rate of labor productivity and the growth rate of the wage fund. Based on collapsing parameters and taxonomic analysis, it is possible to establish indices of the conditions for ensuring the effectiveness of human capital and the effectiveness of the use of human capital. Their comparison will make it possible to determine the type of economic behavior of enterprises and the necessary economic actions to improve the digital competencies of employees.

The next methodical tool is the verification of digital competencies of human capital for digitization strategies [9]. Such a verification using Saati's method [10] and the index of digital competence allows you to determine the necessary set of digital skills for each of the digitalization strategies, which will optimize their implementation and ensure the effectiveness of implementation.

of digitization strategies through the use of human capital developed based on digitization requires economic and mathematical modeling to determine the predictive data of the feasibility of investing in several measures, including increasing the armed forces of employees with digital technologies and software, investing in training and improving the qualifications of employees, increasing employee wages with a high level of digital competencies. Forecasting economic effects for the enterprise under the influence of changes in human capital based on digitalization will allow the establishment of the expediency of implemented economic and organizational measures.

Conclusions. In general, the study of the concept of "human capital" made it possible to distinguish its economic meaning and key features that were characteristic of different periods from the period of industrialization, informatization to modern times, where society acquires signs of digitization and partial virtualization. In the studies of scientists, the content of the concept of human capital did not change significantly, acquiring new features with the transition to new stages of development, but a modern definition of human capital, which would include elements of digitalization of the economy, was not formed. Undoubtedly, the list of characteristics that human capital must possess is becoming more complex and taking on new forms, which include the ability to master digital competencies, be adaptable, and be able to work remotely. The principles and methods of evaluating the development of human capital described in the article provide an opportunity to comprehensively approach the change of the development strategy of enterprises, since, by verifying the presence of digital competencies among employees, there is an opportunity to increase the efficiency and competitiveness of the enterprise.

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