Development of Human Capital Management at the Transition to the Digital Economy of the Republic of Uzbekistan

Fatima NAZAROVA ¹, Umida SANGIROVA ², Nafisa ABDURAZAKOVA ³, Zafarjon BEKNAZAROV ⁴

¹Dr.Prof.(DSc), Department of Management Tashkent Financial Institute
²PhD Department of Economics Tashkent Institute of Irrigation and Agricultural Mechanization Engineers, Tashkent, Uzbekistan
³PhD Department of Economics Tashkent Institute of Irrigation and Agricultural Mechanization Engineers (TIIAME) Uzbekistan, Tashkent
⁴PhD Department of Insurance and Pensions Tashkent Financial Institute

Abstract—The purpose of the study is to identify the importance of human capital in the era of the digital economy. The authors substantiate the relevance of knowledge as an element of human capital to ensure its effective functioning in the modern economy. The influence of widespread digitalization in all socio-economic processes on the development of this type of human capital is noted. The importance of knowledge has led to the fact that the study focused on identifying the problems of the modern system of modern education through the prism of difficulties faced by graduates of educational institutions. According to the authors, the assessment of human capital should be expressed in assessing the level of qualifications and potential employees of the enterprise. As part of this study, a survey is conducted of economic entities in the Republic of Uzbekistan in order to identify the problem of the formation of human capital at the beginning of an individual career path in the digital economy and determine the level of financial literacy of workers (the problem of human capital growth in the digital economy). To form a comprehensive idea of the prospects for the development of human capital for these studies, the method of calculating the results was applied.

Keywords- digital transformation, manager – subordinate, talent management, personal, digital economy,

I. INTRODUCTION

The place and role of human capital in the digital economy requires the development of new concepts and approaches in the management of human capital. Today, the question is how the knowledge acquired and owned by an individual is generated, used and managed. Modern methods of communication provide quick access to knowledge - the Internet provides an opportunity for education and training through online courses. To ensure competitive advantage, leading organizations are struggling to hire the most highly qualified teachers who can help develop their ideas and strategies. The digital economy as a whole is changing not only the ways in which human capital is acquired, but also its use and development. Internet access, video calls, mobile applications, virtual reality, etc. change traditional employment, as well as its elements, such as, for example, working time and place of work. Every day new professions are created for which there is no need for direct personal communication between employees and
employers. Communications between company employees located in different countries and on different continents become available.

So it comes to practice that people from different continents can work together on this project without personal contact. Thus, virtual mobility is developing, which is much cheaper compared to the previous approach, when employees went on a business trip, and organizations incurred significant costs for transportation, hotels, etc. More educated and competent specialists have and can dictate higher requirements for the employer, since they themselves can determine where they want to work and evaluate what conditions are offered by competing organizations. The digital economy presents a new serious challenge to those organizations that do not want to invest in the development of human capital.

II. ANAYLIS OF THE USED LITERATURE

It is widely recognized that employees play an important role in the success of an organization [32] (Ute Klammer). Currently, society is entering a period of digital economy formation, which will lead to radical changes in production processes and business models.

One of the key approaches to the success of an organization in the digital economy is the development of methods and approaches to human capital management. Due to changes in technology, old management skills may not be sufficient in the transition to a new economy. The digital economy will change the relationship between managers and employees. The traditional management paradigm changes from employees who are constantly monitored and who are required to be compliant and loyal to the organization, to a new management paradigm, where it is more important to create conditions for the maximum realization of the individual, build equal, partnership relations based on high trust, as well as free choice employees combined with high responsibility [2] (Tkachenko, S. et al. (2019)). Serious changes are taking place in production due to the reduction in the share of manual labor. A large amount of activity is devoted to programming and managing high-performance equipment, including 3 – D printers, robotics, machine learning, the Internet of things, virtual reality and artificial intelligence. The European Commission predicts that by 2020, 90% of jobs will require digital competency and there will be a shortage of 75,600 specialists in the field of information and communication technologies.

Currently, in the Republic of Uzbekistan and other countries there is a shortage of highly qualified specialists, such as managers and specialists - chemical engineers, electrical engineers, IT engineers and analysts and others, especially in industry [11] (Tulaboev, A., & Oxley, A. (2012)). Unskilled employees may be

under the threat of replacement, if they cannot either raise it or undergo training in new, demanded specialties. The evolving digital economy presents new, additional requirements for staff competencies and qualifications. To create an appropriate balance of qualifications, it is necessary to understand what new knowledge, competencies and skills will be in demand in the future.

In the current environment, employers must provide existing staff skills and competencies. Failure to comply with these requirements can lead to several undesirable consequences, such as improper hiring of employees and increase in staff turnover, which will lead to lower financial results [32] (Ute Klammer). When restructuring and modernizing production, employers can use advanced training to avoid layoffs in industry 4.0, for example, assembly.

It is well known that leadership structure and management style influence the success of an organization [40]. Previously, management theory was considered exclusively from the position of a hierarchy - the most important was the managers who gave instructions to the managers, and they distributed tasks to
subordinates. Over time, this model became ineffective. Nowadays, the benefits of teamwork are often used [41].

Management in the era of the digital economy creates a need for the development of new competencies in leadership practices, sets the conditions for digitalization as the most important source of long-term economic growth. These are mainly “soft” skills - intangible skills that help to interact and communicate with others and which are difficult to track, verify and demonstrate. This group includes, for example, emotional intelligence, communication and negotiation skills, time management, building trust, conflict resolution, strategic thinking, leadership, decision making, flexibility, persuasiveness, and other non-cognitive skills [33] (Westoby, Gibert Anais, Tozer Wade, 2017).

Therefore, the purpose of this article is to actualize the theory of human capital of organizations as a key factor in ensuring the development of organizations in the digital economy.

III. METHODOLOGY

Analysis and development of an assessment model for the traditional model of enterprise human capital management, using economic and mathematical methods. The end result of scientific research is the calculation of the integral indicator of the assessment of human capital, based on the methods of applied statistics.

IV. RESULTS AND DISCUSSIONS

After analyzing the literature review, it can be noted that there are several basic theoretical approaches to human capital management that have evolved over time. The problems associated with the essence of human capital (Table 1) and its role in production have always been of interest to economists.

The transformation of the term "human capital" has been going on for many years. The initial components of human capital, such as education, healthcare, and professional mobility, are complemented by motivation, commitment, and the behavior of workers (non-cognitive skills) [2] (Tkachenko, S. et al. (2019)).

The next stage in the development of human capital is characterized by the fact that there is a justification of its structure. At the first stage, it included investments in healthcare, training and development, employment, and the search for the necessary information.
Later, from the 1990s to the present, human capital expanded its scope of activity and began to be regarded as a source of competitive advantage [2] (Tkachenko, S. et al., 2019).

Despite the significant contribution of scientists to the formation of the concept of “human capital”, there is no single accepted structure, the definition of what elements are included in its composition and how they relate and interact with each other. Therefore, the following structure of human capital is proposed (Fig. 1). In general, human capital is considered as a combination of the following characteristics of an individual person - knowledge, communication, skills, talent, health, experience and creativity, in which investments are made, which over time are capitalized and bring added value to the organization.

Swiss non-governmental organization "The World Economic Forum" (World Economic Forum) developed the report "of The of Future of Jobs 2016 " (Fig. 2) [35], which was attended by 371 firms from 15 different countries from 9 different sectors. The report collected data from the first half of 2015 characterizing the level of mass employment, specialists, and new emerging professions. Most of the respondents (almost 50%) were chief specialists, top managers, executive directors, etc.

The study participants determined that the main obstacle for organizations in the new economy is, firstly, an incomplete understanding of destructive changes (51%), and secondly, limited resources (50%).

This begs the question, if they do not understand well the new changes that are taking place in the digital economy, then how will they determine what skills and knowledge they need? This is one of the organization’s problems in the digital economy, for which an analysis of the literature on human capital management on an individual level has been carried out in this section. Initially, the role of training and staff development was considered. Then some factors of human capital, such as motivation, employment, and creativity. Finally, talent management, their development, attraction and retention are presented.

Training and development of employees.

Scientists have long realized that human capital, especially education and training, plays a key role in the productivity of employees and companies (Becker 1993, Schultz 1961, Mincer 1974).

Hatch and Dyer have proven that employee training enhances their knowledge and skills.
Modern organizations are faced with the problem of lack of skills and constant demand for new products and services, so their employees must be trained and possess the necessary skills and knowledge. Training helps to increase the use of labor (the ability to identify, assimilate, transform and apply valuable external knowledge).

Skills, knowledge and skills are the driving force behind economic development, employment and competitiveness. They form the basis of productivity growth and innovation. However, Uzbekistan and other countries are facing serious challenges related to the skills required in the digital economy. Even at present, there is already a mismatch between the requirements of employers and the available personnel on the market, which hinders the growth of employment.

At the forum “Bridging the Differences in Growth and Job Creation Skills - Business Perspectives”, held as part of the Bulgarian Presidency of the Council in the European Union on March 22 and 23, 2018, Jacek Kravczyk, Chairman of the Employers' Group in the European Economic and Social Committee, spoke about that overcoming skills shortages is the biggest challenge for European business. Y. Kravchik also added that productivity in Europe is reduced by 2% due to a lack of skills. Where does this lack of skills come from? Jacek Kravczyk believes that this problem stems from the fact that many adult workers in Europe have very weak digital skills and therefore it is difficult to increase their productivity against the backdrop of new technologies.

The system of education and training of personnel should timely provide specialists with the competencies required for various organizations.

However, to date, employers themselves are not able to determine what personnel competencies will be relevant for them in the future [34].

An analysis of the scientific literature allows us to identify several learning opportunities, which are shown in table 1.

Table 1. Modern types of training

<table>
<thead>
<tr>
<th>Kinds of learning</th>
<th>Definition</th>
<th>Asource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source definition training at workplace</td>
<td>Non-formal training, which plays an important role in employee training. It usually depends on an experienced employee who transfers his skills and knowledge to a new employee. The advantages of this method are that it can be easily organized and managed. Often brings benefits to the organization, because it requires less resources and does not require special equipment. The disadvantage is that it is not always the most effective.</td>
<td>Eraut M., Alderten J., Cole G., Senker P.</td>
</tr>
<tr>
<td>Self training</td>
<td>It is based on the principle that people learn and stay longer in the organization if they find something suitable for themselves. The student learns depending on how convenient it is, but for this, responsibility and a desire to learn new knowledge are needed.</td>
<td>Armstrong M.</td>
</tr>
<tr>
<td>Mentoring</td>
<td>One of the methods of staff training when a more experienced employee shares his knowledge, skills with an inexperienced employee.</td>
<td>McCracken, Mcvor R., Treacy R., and Wall T.</td>
</tr>
<tr>
<td>Electronic training</td>
<td>Includes use of computer, Internet and web technologies to provide training materials, and staff manuals. Many companies turn to web platforms. In today's world, organizations can offer their employees quick access to ongoing training using tools such as Youtube and innovators</td>
<td>Armstrong M.</td>
</tr>
</tbody>
</table>
Digital games They are a combination of digital interaction and game-based learning. The advantages of this method are the student’s active participation, the sequence of tasks and goals, the provision of real-time feedback for self-assessment, the ability for students to constantly test their hypotheses. Such games support the motivation of employees and their ability to think, creativity and the ability to solve problems. Unfortunately, despite the relevant characteristics, the development and implementation of training-based digital games is still insufficient (Stefano Perinia, Rossella Luglietta, Maria Margoudib, Manuel Oliveira, Marco Taischa, 2017).

Source: compiled by the authors

Another key objective is the development and career management of employees in the organization. Employers should be able to manage and evaluate employee development in order to avoid skills shortages and obsolescence [16] (Hilorme, T., Tkach, K., Dorenskyi, O., Katerna, O., 2019). Thus, by measuring the level of staff development, it is easier for employers to make a decision on the effective development of talents and to avoid a decrease in qualifications and lack of competencies, as well as staff turnover.

Motivation, commitment and creativity.

Motivation also plays an important role. The motivation of employees to perform certain actions includes a set of factors (external and internal) that help them fulfill and solve assigned tasks. The main forms of stimulation can be both tangible and intangible. Therefore, there is a need to measure the motivation of various employees in the organization [4] (Borschyova, 2016).

(Borschyova, 2016). For example, at the Tashteploenergo enterprise, after five years of work, each employee receives an additional monthly salary annually. Another way to motivate employees is a personal example of leadership, which is to show how employees should behave in a modern organization - to constantly develop and set ambitious tasks for people that cannot be solved in the traditional way, but tasks must be realistic so as not to demotivate them.

By studying the engagement of employees, companies can better manage their productivity and costs, increase their income, assess the risk associated with the dismissal of employees, create work programs to retain and develop talent. Employees who feel biased are more likely to work harder for the benefit of the company, seeing that their contribution affects its success [11] (Tulaboev, A., & Oxley, A. (2012)).

The engagement of employees is related to their creativity. Creativity is used to create something new [4] (Borschyova, 2016). The employees involved can become carriers of creative ideas. To evaluate creative thinking, you can use cases, creative tasks and trainings [24].

Talent management, development, attraction and retention.

Talent management is characterized by the involvement of qualified employees, the integration of new employees, as well as the retention of personnel to meet the current and future goals of the organization. Today, organizations must be able to attract, develop and retain their talents to achieve their strategic goals and meet future business needs. Talents can be found internally or externally. Internal recruitment is more economical, but not all positions in the organization can be filled with internal recruitment, and when this is not an option, an external talent search is used [24].
Source: compiled by the author according to

On digital platforms such as Toptal, Upwork, LinkedIn and others, employers can find talent with relevant skills in the job market. For example, the experience of the Chicago-based consultancy company West Monroe Partners, which operates in the technology sector, shows that it is very difficult to find talent outside the company. Greg Lyok, senior director of the company says that there are few specialists in the labor market with relevant knowledge and skills, such as those who understand technological tools and are used to build machine learning systems in a corporate environment.

He adds that an ideal candidate should have good communication and soft skills. These employees are the most valuable in the company. The company's strategy is to hire people who are willing to work in a team outside their narrow speciality. The company focuses on mixing people and getting the best out of everyone.

Another important aspect is the development of talent in the organization. One of the ways when the employer provides personal growth and development of their employees [23]. Another alternative is new training and initiatives to acquire new skills, as well as job rotation [29].

Loss of talent is associated with the financial costs of the organization, such as replacing an employee, recruiting and training a new employee. One approach to preserving talent is reward. Another approach is job rotation or changing tasks, as some employees feel limited or dissatisfied with their work [24].

According to the Canadian advisory company Mercer LLC for 2017 (Fig. 3) [34], organizations use the following tools to learn about talent.

Over 60% of organizations in this study use innovative learning methods such as games, mobile applications, and virtual instruments.

Features of organization management in the digital economy.

Digital technology is changing and has already changed the relationship between management and employees. Due to its appearance, such tools as Big Data, Internet of Things, Virtual Reality, Quantum Computing, Autonomous Robots and others allow to satisfy the organization’s basic needs: speed, convenience, simplicity, quality and others.
Industry 4.0, which is at the heart of the digital economy, leverages software advances in resource planning. This means getting better programs that perform ever-better analysis. It also allows you to make the production process even more optimized, economical and easy to manage and maintain. Thus, the loss of production as technological defects, defects in processes, etc. will be minimized. For example, Siemens uses manual labor at the beginning and end of production at a factory in Amberg, Germany [36]. The rest of the time, operations are performed by robots. This reduced the level of marriage after modernization: in 1989, marriage was 500 units per million, and today 15 units per million. Thanks to the exemption from monotonous labor in the company, employees can tackle intellectual problems, and the factory receives 13 thousand proposals annually.

In the digital economy, new management principles are emerging, and traditional management is more often avoided, where relations with employees are built from the position of “Manager - Subordinate”. Management is trying to control, verify, punish or reward the employee. Personnel are required to be compliant, loyal, and loyal to the organization [2] (Tkachenko, S. et al. (2019)). Increasingly, there is a transition to network structures - decentralization, reduction of hierarchy and the introduction of self-management, self-organization of teams, such as at Microsoft. The hierarchical management model no longer allows a flexible response to changes in view of its inertia and bureaucratization of decision-making processes. Decentralization is necessary to the level that allows optimizing management, providing the necessary autonomy to local government structures and ensuring full self-expression of managers. The new management principle focuses on the employee as a key resource and the creation of conditions for the realization of his potential and skills to achieve effective work.

In conditions of flexible and temporary employment, the transition to a digital economy in the modern world has an impact and fundamentally changes the structure of work, career growth of employees and stimulates continuous training and professional development. It also leads to the transformation of working time and allows you to work remotely.

The role of managers is changing in network organizations [2] (Tkachenko, S., Berezovska, L., Protas, O., Parashchenko, L., & Durmanov, A., 2019). Unlike people involved in the planning, distribution and monitoring of the implementation of operational tasks, they are increasingly becoming leaders who have requirements to create conditions for the maximum self-realization of the individual. Personnel development is manifested in the fact that it becomes possible to participate in managerial decisions [1] (Tetiana, H., Maryna, C., Karpenko, L., Michail, M., & Svetlana, D., 2018). Relations between managers and employees become equal, based on high trust, partnership, combined with high responsibility. The manager helps employees, provides the conditions for their effective work [2] (Tkachenko, S. et al. (2019)).

This transformation is associated with a distrust of the traditional management model. Leaders must develop emotional intelligence, continuously learn and take care of their staff. They should be mentors, influential people and inspirers. This is due to the so-called Y and Z employees entering the labor market. They tend to work for employers who can trust, recognize the contributions of others, discover new ideas, receive feedback and have the ability to work remotely. For example, the Hays recruiting company and the Comunica PR agency conducted a study of how developed the remote work market is in Uzbekistan [26]. The result shows that 63% of employers in organizations use employees' remote work. 38% of those employers believe that in the next 5 years, 11-20% of the employees in their organization will work remotely.

Among the trends of the modern business environment is the creation of a new way of cooperation with partner organizations and even with competitors, based on the exchange of knowledge and information, the creation of additional value that already has a network nature.
V. ACKNOWLEDGMENT

Forbes Insights, Adobe and Workday would like to thank the following executives and thought leaders for their contributions to this report: Gunjan Aggarwal, Vice President, HR, Head Talent Acquisition, Diversity Recruiting and M&A, Ericsson Deb Card, Partner, Information Services Group Wendy Moran, Director of Talent Acquisition, Gold’s Gym Larry Pernosky, Chief Human Resources Officer, Amedisys Dan Staley, Principal, PwC

VI. CONCLUSIONS

Digital technologies in the economy pose employers and businesses with new challenges in the production process. Modernization and updating of technologies are unthinkable without the development of human capital. The main goal of the organization is to increase labor productivity, increase surplus value, and increase profitability. The presence of global competition creates new conditions in the production process, which depend on interrelated tasks and factors - the employer and human capital. The business and the world are faced with crucial tasks in the formation of new additional knowledge, skills and competencies. The main role of the employer is to invest in the continuous qualification of personnel, to increase their skills, performance and creativity, sociability in order to return their investments. Employees are becoming increasingly responsible. At the same time, employers should pay attention to what type of training they need, and also help their employees in development.

It is true that manual labor is declining due to developing technologies. In many cases, artificial intelligence replaces and automates repetitive tasks. Employers are faced with the task of identifying their employees who want to improve themselves and wish to cover various aspects of work - management, problem solving and other areas that require a human element. In this way, costs are reduced and staff is prepared for change. In this case, the organization is ready for the future.

Employees usually work full time and are placed at a specific workplace. Digital economy tools enable organizations to find people with the necessary knowledge and skills, no matter where they are in the world. Accessible communications are carried out between employees located in different countries. They also allow employees to work full time, part time or as contractors. These changes lead to a wider use of social networks, the exchange of ideas through video, virtual reality and other tools. They are also suitable for finding personnel, as well as for finding talent in different labor markets.

The rapid development of digital technology offers a new approach to management. Modern organizational structures should become more flat - horizontal. The hierarchical model should be gradually replaced. It cannot function properly in the light of the requirements of the digital economy.

The future of humanity and organizations in the digital economy is in the hands of human capital. If employers do not pay attention to him, then they have a bleak future.

The allocation of resources to motivate staff - tangible and intangible - encourages employees to learn new technologies. These are prerequisites for performing complex tasks that bring success to the organization. Thus, qualified personnel are delayed, future tasks are carried out, and efficiency in the digital economy is achieved. Employers need to invest time and resources in order to be prepared for the future.

REFERENCES


Is the era of management over? World Economic Forum. URL: https://www.weforum.org/agenda/2017/12/is-management-era-over


https://www.researchgate.net/publication/331789763_Modern_challenges_in_health_and_safety_at_construction_industry


