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Economic sciences

CHANGING THE STRUCTURE OF EMPLOYMENT AND PROFESSIONAL QUALIFICATION REQUIREMENTS IN THE ERA OF DIGITALIZATION OF THE ECONOMY

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Abstract

The article examines the consequences of the digitalization of the economy for the labor market and the personnel training system. It is shown that under the current conditions, we can talk about the cardinal nature of transformations in the professional and educational spheres. At the same time, the main problem is the unprecedented high rate of change. The labor market has been experiencing a decline in manufacturing professions and an increase in the service sector for a long time, but recently the situation has been aggravated by the rapid decline of "traditional" professions with the simultaneous emergence of new ones. At the same time, even for the remaining professions, the qualification requirements for employees have undergone significant changes. This situation has created corresponding challenges for the education system, which in its current form has proved unable to cope with the tasks assigned to it. Today, the Kazakh education system needs to solve two problems simultaneously: to organize streaming training of specialists whose competencies meet the changed needs of the market, and to modernize technologies and teaching methods in accordance with new trends. At the same time, those educational institutions and people who are unable or unwilling to restructure their activities to meet modern requirements will soon have no place in the educational environment.

The modern economy is increasingly moving towards digitalization – the widespread introduction of advanced technologies of the latest generation (information, communication, robotics, artificial intelligence, etc.) into business activities, completely changing the usual business processes. It can be argued that digitalization is a key factor in the transformation of the social structure of almost every country in the world, affecting all spheres of economic and social life. In this regard, the question arises how its consequences will manifest themselves in the future, how deep they will be for both states and the average person. Among the many aspects of this issue, an assessment of the impact of digitalization on the labor market and the personnel training system deserves special attention. At the moment, the situation is developing in such a way that we can talk about the cardinal nature of the changes taking place in the professional and educational sphere.

Keywords: *professional qualification, education system, globalization, labor market, competition, employment, digital learning technologies.*

Introduction

There is an active decline in employment in the industrial sector, the globalization of the labor market and increased competition, and a sharp increase in people engaged in remote work. Many professions are simply disappearing at the moment. Moreover, the list of "disappearing" professions is replenished by those that previously seemed eternal. The new areas of work that have emerged as the digital economy has developed, although they are mostly original, are still unable to compensate for job losses in terms of the number of personnel involved. Digitalization has a significant impact on the functioning of the education system, the form and content of the educational process.

Today, both secondary and higher education are under the influence of two powerful factors at the same time: on the one hand, it is a rapid change in the system of professions and qualifications, on the other, the introduction of fundamentally new digital learning technologies.

It should be noted that the current stage of the scientific and technological revolution, including the phenomenon of digitalization, demonstrates a completely different scale, speed and depth of change compared to all previous ones. Changes today undoubtedly cover all spheres of economic and social life in most countries of the world. At the same time, these changes have a strong impact on the education system, which is one of the fundamental factors of long-term economic growth.

Accordingly, the purpose of the study is to analyze the impact of the digitalization of the economy on the labor market and the professional training system. At the same time, due to the fact that the effects of digitalization have increased significantly recently, it is also necessary to consider the latest trends in professional qualification requirements for graduates.

Material and method

During the research, both theoretical and empirical materials and methods were used, as well as theoretical and applied materials contained in the works of domestic and foreign scientists and specialists.

The analysis of scientific papers allows us to conclude that the issue of the relationship of scientific and technological progress with the structure of employment and the education system has always been given sufficient attention. So, back in 1998, Hannah D. first drew attention to the challenges created by digitalization for higher education [1]. Later, T. Clark pointed out the importance of the field of education for the formation of the knowledge economy and showed the deep contradictions between the modern economic system, the economic structure and technological challenges [2]. Olssen M. and Peters A. The mechanism of the influence of technological changes on the forms and methods of education has been revealed [3]. Khas U. She reviewed the latest trends in the transformation of the labor market under the influence of digitalization [4].

Among the domestic and foreign researchers working in this area, it is necessary to single out such authors as Tebaev J.J., Zagiparov N.G. [5], Baganova A.A., Umirzakov S.Y., Nurpeisova A.A. [6], Shatilo Yu.E. and Kopkova E.S., who studied the impact of digitalization processes on employment and unemployment in the economy [7], as well as Bodrunov S.D., Demidenko D.S. and Plotnikov V.A., who studied the impact of automation and the resulting reduction in employment on the professional training of specialists [8]. Later Belyaev G.Yu. He analyzed the threats facing the education system of Kazakhstan in the context of digitalization [9], and Ivanov V.G., Kaibiyainen A.A. and Miftakhutdinova L.T. considered the problems of education reform in the context of digitalization [10].

In addition, the work used the results of university monitoring conducted by the Committee for Quality Assurance in Education of the Ministry of Education of the Republic of Kazakhstan, as well as the authors' own research on the issue of employment of graduates of economic specialties [11].

A characteristic feature of this issue is that it is very difficult to isolate the changes that are primary in relation to all others. In other words, the processes of digitalization are so all-encompassing that fundamental transformations are simultaneously taking place in all segments of the economy. At the same time, the most important changes from a social point of view are taking place in the labor market.

The rapid transformation of the labor market in most countries, which can be observed today, is the most significant and significant factor in relation to all the transformation processes that occur under the influence of digitalization. The following main directions of transformation can be distinguished:

- a steady decline in the manufacturing sector with a simultaneous increase in the number of people employed in the service sector;*
- the intensification of globalization processes, the spread of remote work practices (including cross-border);*
- significant changes in qualification requirements in most "traditional" professions;*
- a significant reduction (up to the complete disappearance) of some "traditional" professions with the simultaneous appearance of new ones.*

The penetration of digital technologies inevitably leads to a revision of professional competencies in almost all fields of activity. At the same time, changes in qualification requirements in professions, which are now taking place everywhere, pose the most serious challenge both for government policy on the labor market and for the social sphere as a whole.

Digitalization entails a change in many basic technologies and all spheres of life. For example, such an important and all-encompassing area of the economy as banking has undergone drastic changes due to digitalization. Previously, the payment infrastructure required a lot of work and the mandatory presence of a professional operator. Now, employment in this area has decreased significantly in relation to the number and volume of operations. Now every second person has a smartphone in their hand, through which it is already possible to perform all the operations necessary for the average person. There are

already banks in Kazakhstan that use 100% remote communication channels with their customers (for example, Kaspi Bank JSC, Halyk Bank of Kazakhstan JSC, etc.).

With regard to the requirements specifically for professions, similar processes can be observed. Almost every workplace has changed over the past decade, using digital technologies to one degree or another. In addition, the use of digital technologies has often shown that many production processes do not require human presence. New information and communication technologies combined with robotics and automation technologies have made the human presence unnecessary in a variety of technological processes. Thus, digitalization entails the mass disappearance of professions.

The fact of reduced employment due to mechanization and automation is not new in itself. A distinctive feature of digitalization (and related processes) is the massive penetration of information and communication technologies into all spheres of economic activity and public life, which entails a radical reduction in the number of employees. In the context of the digitalization of the economy, the release of a large number of people is inevitable and will necessarily entail serious social consequences.

Results and discussion

Industrial employment has been declining over the past few decades. In developed countries, the growth of the share of people employed in manufacturing stopped back in the early 1960s. Previously, this was called "formation of a post-industrial society". Now it is obvious that we are talking about a deeper and more serious process. Previously, job losses in industry were offset by their growth in the service sector. However, now job cuts are also being observed here. The development of neural networks and artificial intelligence technologies make it possible to completely eliminate the human presence at the desktop. A lot of tasks that previously could only be performed by a human, now occur without his participation. In addition, the emergence of industrial equipment, which does not provide for the availability of workers, has become a new challenge for working professions. Only an operator is needed who will nominally control the production process.

According to an analytical report by the Mackenzie company, between 400 and 800 million people may be out of work in the near future [12]. However, unlike in previous periods, when job cuts were not so widespread, when laid-off workers had a chance to stay working at the same enterprise (in the same organization), or at least in the same industry, now the reduction is increasingly irreversible. The most striking example of such an impact in the Republic of Kazakhstan can be the development of electronic taxi ordering services (InDrive, etc.), which in large cities today have actually killed the profession of taxi dispatcher. Other examples include the professions of a librarian, a typist, a bookstore employee, as well as activities related to printed publications. A lot of people working in these fields don't have any career prospects today. The scale and speed of change is such that retired employees often have no alternative but to change their qualifications.

On the other hand, the emergence of new technologies is accompanied by the emergence of new professions. Although today the number of jobs created as a result of digitalization is not yet comparable to the number that disappears as a result of the same process, this phenomenon in itself is very significant. At the same time, it has a number of distinctive features from similar processes that took place earlier.

The main distinguishing feature is that previously, as some industries disappeared and new ones appeared, the number of jobs created in the "new" areas of production was more or less comparable to the number of "old" jobs in industries that had disappeared due to scientific and technological progress (that is, those laid off from their jobs). Companies in the mining industry or from metallurgical plants could try themselves as employees of automobile plants, now if an employee is dismissed from an industrial enterprise, there is a risk, that he was being fired from the manufacturing sector forever.

The generation gap particularly clearly shows the impact of digitalization on economic development. In previous periods, it was possible to talk about the transfer of the profession "from father to son". Due to the current pace of digitalization, there is simply nothing to transmit. Even within the same profession today, in a very short period of time – the period of life of one conditional generation – there is a complete disappearance of some competencies and their replacement by others.

Every working person is currently faced with the need to constantly update their professional competencies. A few decades ago, it was possible to say that a person could get an education and a profession at the age of 22-25 and live and work safely throughout his life. However, today the speed of technology change is such that every employee is in a "risk zone" to one degree or another. The speed with which the technological basis of production and management processes is changing has led to the fact that the relevance of the education received has become very limited in time. Almost every profession that currently exists may either disappear altogether or change significantly in the near future.

Digitalization has also coincided with a process that has been observed before: a reduction in the manufacturing sector and an increase in the number of people working in the service sector. However, if earlier a similar process in developed countries took place largely due to the transfer of production to the "third world" countries, now the number of workers in industry is inexorably decreasing due to the fact that production technologies require fewer and fewer workers. Because of this, in the European Union and the United States, the proportion of industrial workers in large cities is already less than one percent. At the same time, in the current situation, the process of reducing the number of industrial workers is accompanied by such a phenomenon as long-term unemployment, that is, when a person loses a job and for a long time cannot find it at all. This is primarily due to the fact that job losses are taking on a scale that affects entire industries.

The processes of globalization have a significant impact on the labor market, which is reflected in the emergence, at least in some professions, of a global labor market and the spread of such practices as remote work. Digital technologies allow each person to establish communication with all parts of the world for minimal means and work equally effectively both for a customer who is located in the same city and for a customer who is located several time zones away. However, on the other hand, in such a system, every employee inevitably faces increased competition. Previously, only those candidates who could physically get to their workplace every day could apply for a workplace, but this factor does not play a role at all when working remotely. All this leads to the fact that, in addition to the traditional profession, a person also needs to possess a number of universal skills that can be called mandatory in the digital age.

The education system is a mechanism that meets the needs of the labor market. However, the situation is developing in such a way that the education system itself is currently experiencing a period of peculiar crisis caused by the processes of digitalization. In the vast majority of countries, education systems were formed in previous technological structures, and for this reason, structurally, functionally and ideologically meet the requirements and challenges of that time. Nowadays, education in its traditional form is becoming less and less in demand.

Aware of the challenges posed by digitalization, leading countries are taking the necessary measures to improve their educational systems. For example, in the United States, improving education has been one of the priorities of public policy for more than fifteen years [13]. It should be noted that in Kazakhstan this issue received attention only in 2017 [14].

The speed of the changes is an important factor. Digitalization and the introduction of new technologies accelerate all processes without exception. However, the education system often remains excessively inert, which leads to its lagging behind in the context of adapting to new conditions. The direction of progress is such that more and more operations, actions and procedures are performed almost instantly. In a developed society, this is becoming an unspoken standard. In this light, the "classical" educational system turns out to be too slow. And if in the early 1950s, when the formation of the higher education system in its current form took place (in the USA and European countries), the duration of study periods was fully justified, now the period of four years (bachelor's degree) or six years (bachelor's + master's degree) is proving to be too long. For some sectors of the economy and fields of activity, six years means a complete change of technology. The education system is changing much more slowly than the external business environment, which eventually generates a global bias - an excess of unclaimed specialists in the labor market, while at the same time there is a shortage of qualified personnel in enterprises.

Summarizing the above processes that occur in the market structure, we can outline the following challenges for the education system (Table 1).

Table 1

Consequences of the digitalization of the economy and challenges for the education system

<i>The consequences of digitalization</i>	<i>Challenges for the education system</i>
<i>Overall acceleration of management and production processes, movement of goods and provision of services</i>	<i>The time cycles that the existing education system lives by are proving to be too long</i>
<i>Uncertainty of technology development: it is difficult to definitely predict what production technologies will be in ten years.</i>	<i>The difficulty in predicting technological development leads to the fact that it is difficult to make prospective requirements for learners</i>
<i>The widespread use of such a format as remote work destroys the usual ideas about the profession and workplace.</i>	<i>The modern education system (higher and secondary) is strictly tied to the "classical" concepts of work and profession</i>
<i>Changing the structure of the economy, a decrease in industry and an increase in the service sector</i>	<i>Reducing the need for vocational education in previously sought-after specialties</i>
<i>The emergence of new professions and the expansion of the list of skills of average workers</i>	<i>The need to organize advanced training and professional re-training</i>

The educational phenomenon generated by digitalization is as follows. On the one hand, over time, everyone will increasingly need constant professional development, obtaining a sought-after profession, and access to high-quality information. Almost any employee at the moment is faced with the need to constantly improve their qualifications, learn, and acquire new skills. On the other hand, "classical" educational formats will become less and less in demand. This contradiction can be compared to what every average person consumes (and produces) every year. There is an increasing amount of information, and at the same time, printed books and regular publications are becoming virtually unclaimed. Nowadays, every man in the street reads news portals, social media posts, and watches videos every day, but he has practically abandoned such classic genres as the novel, novella, and poem.

Such a discrepancy between the demands of society and the proposal that the education system can form is well understood in the scientific and professional environment. Already, many educational institutions both in the Republic of Kazakhstan and abroad are in a state of searching for the right solution, constantly experimenting with the form and content of education. There is no doubt that the existing education system in modern conditions needs to be radically reformed. The only question that causes discussion is how and in what direction these reforms should take place.

Conclusions

In general, it is safe to say that the need for each person to maintain their level of competitiveness creates a stable demand for high-quality educational services. Education must meet, first of all, the criterion of perspective. The content and format of training in a particular specialty should be such that, upon graduation, the acquired knowledge remains in demand for some time. It is necessary to be aware that there are entire areas of activity that, due to digitalization, basically have no prospects. At the moment, many educational institutions in the Republic of Kazakhstan are training students in professions that will soon be in little demand on the labor market.

The following areas can be identified in which education system reforms should be implemented in the context of the digitalization of the economy:

- updating the list of specialties and introducing a mechanism for quick editing of this list in the future;
- reduction of training time in specialties that have felt the strong impact of digitalization;
- mandatory teaching of key digital competencies;
- development of distance education;
- modularity of training.

The modern education system should be built as a multi-level structure aimed at training leaders in their competencies by providing students with an up-to-date set of theoretical and applied knowledge. It is extremely important that the education system is developed by educational organizations in cooperation with leading companies. In fact, basic education today should be developed on the basis of corporate programs and be focused on the practical application of acquired knowledge. However, the realities of today are such that no more than 6% of university graduates demonstrate good practical skills in their specialty [15]. This situation can be corrected by increasing the participation of business representatives in the educational process. For example, in some foreign universities, the proportion of teaching practitioners reaches 50%. However, this in turn raises the question of changing the remuneration system in educational institutions.

The development of distance education should be a priority. At the same time, at the initial stage, distance learning programs may not have the character of a full-fledged higher education, but rather be formed in the form of applied online learning courses that ensure that students receive the narrow-profile

knowledge and skills necessary for employers. A system of online courses and lectures from teachers of leading universities has already successfully proved itself abroad. At the same time, according to experts, the number of people using various online resources for education and professional development has doubled over the past year. In the Republic of Kazakhstan, a number of large universities also provide distance education services, but this format is not widespread. Although the Government is working purposefully to remove restrictions that hinder the development of distance education, this area needs additional legal regulation. It should be noted here that distance learning requires specific skills from the teacher: from knowledge of modern information technologies to the ability to "hold yourself in front of the camera".

The processes in society and the economy initiated by digitalization cannot be reduced only to negative or only to positive effects. The impact of digitalization is complex. It is obvious that the changes that are already taking place in the labor market may completely change its structure and appearance in the near future. There is no clear assessment of how quickly the transformation of the employment sector will take place and what its scale will be today. However, it is already necessary to be prepared for possible significant changes. In particular, this is already reflected in the world of work by reducing the number of jobs and increasing demands on employees. It is also extremely important to provide adaptation and social support programs for the staff being released.

In the education system, digitalization is expressed, on the one hand, in an increased need for high-quality educational services, and on the other, in a decline in the popularity of traditional education formats. The education system, instead of being a mechanism by which it will be possible to resolve the current situation, today itself has been heavily influenced by digitalization and needs to be reformed. The situation is significantly complicated by the fact that the speed of ongoing transformations and, consequently, the necessary speed of response to them is so great that a fundamental change can occur over a time period lasting one political cycle. It can be argued that there have been no precedents for such a challenge yet. The depth and scale of the changes are such that it is time to talk about a complete revision of the very model of the organization of the education system. Nevertheless, the future of our country depends on the quality of the response to the challenges of the digital age – the efficiency of its economy, the quality of life of the population, etc.

The modern education system is going to undergo such rapid and drastic changes that those people (institutions) who cannot (or do not want to) rebuild will simply have no place in the educational environment. The upcoming changes are a serious challenge for government agencies and education professionals. At the same time, it is also impossible to ignore existing challenges. Hypothetically, each country has the opportunity (depending on available reserves) to "preserve" the current state of affairs through direct and indirect government support for ineffective educational institutions, subsidizing training in specialties that will not be in demand on the market. This model of public policy in the educational sphere has a number of extremely negative consequences. Firstly, the later the education system is reformed, the more significant the consequences of such transformations will be. Secondly, such a "conservative" educational field will constantly train graduates who have no prospects in the labor market. Thus, the success of the "restructuring" of the education system in the era of digitalization largely depends on how quickly such a "restructuring" will occur.

One of the mandatory elements of the state social policy is the fight against unemployment. Until today, the main instrument of such a policy has been the constant desire to create additional jobs. In the current conditions, the main goal of public policy should be a new information policy in the field of employment and education – a full and comprehensive awareness of people about really sought-after professions and skills (in strict accordance with the volume of reasonable, proven demand for these professions in the future) will be the main mechanism that will bring the relations in the triangle into balance "education system – labor market – people".

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References

1. Hanna D. Higher education in an era of digital competition: Emerging organizational models // *Journal of Asynchronous Learning Networks*. – 2018. – №2(1). – P. 66–95.
2. Clarke T. The knowledge economy // *Education + Training*. – 2021. – №43. – P. 189–196.

3. Olssen M., Peters M. *Neoliberalism, higher education and the knowledge economy: From the free market to knowledge capitalism* // *Journal of education policy*. – 2024. – № 20(3). – P. 313–345.
4. Huws U. *Labor in the global digital economy: The cybertariat comes of age*. – NY: Press, 2024. – 216 p.
5. Tebaev Zh.Zh., Zagiparov N.G. *Modernization of the digital economy: business models and technologies* // *Proceedings of the International Scientific and Practical Conference "Digital economy: new business architectonics and transformation of competencies 2021"*, E.A. Buketov Karaganda University, December 14, 2021. – P. 401-404 [Electronic resource]. – Available at: <https://rep.ksu.kz/handle/data/14168>
6. Baganova A.A., Umirzakov S.Y., Nurpeisova A.A. *Digital economy and digital transformation in Kazakhstan* // *Central Asian Economic Review*. – 2022. – №(5). – P. 155-168. <https://doi.org/10.52821/2789-4401-2022-5-155-168>
7. Shatilo Yu.E., Kopkova E.S. *Employment and unemployment in the digital economy* // *Theory. Practice. Innovation*. – 2022. – № 10. – P. 66-77.
8. Bodrunov S.D., Demidenko D.S., Plotnikov V.A. *Reindustrialization and the formation of "digital economy": harmonization of trends through the process of innovative development* // *Management consulting*. – 2018. – № 2. – P. 110-122.
9. Belyaev G.Yu. *Potentially negative trends in the development of modern education and their impact on education as a social phenomenon* // *Science today: problems and prospects of development*. – 2017. – № 11. – P. 52-57.
10. Ivanov V.G., Kaibiyainen A.A., Miftakhutdinova L.T. *Engineering education in the digital world* // *Higher education in Russia*. – 2023. – № 11. – P. 21-29.
11. *The official website of the Committee for Quality Assurance in Education of the Ministry of Education of the Republic of Kazakhstan* [Electronic resource]. – Available at: <https://www.gov.kz/memleket/entities/control?lang=ru>
12. Manyika J., Lund S., Chui M. et al. *Jobs lost, jobs gained: What the future of work will mean for jobs, skills, and wages*. – McKinsey Global Institute, 2017 [Electronic resource]. – Available at: <https://www.mckinsey.com/featured-insights/future-of-organizations-and-work/Jobs-lost-jobs-gained-what-the-future-of-work-will-mean-for-jobs-skills-and-wages>
13. Yemelyanov S.V. *Strategy of development of science and technology in the USA in the 21st century* // *Problems of theory and practice of management*. – 2002. – №1. – P. 19–24.
14. *The State Program "Digital Kazakhstan"*. Approved by the Resolution of the Government of the Republic of Kazakhstan dated December 12, 2017 № 827 [Electronic resource]. – Available at: <https://adilet.zan.kz/rus/docs/P1700000827>
15. Sigida A. *94% of university graduates are good for nothing?* // *Newsland Information and Discussion portal* [Electronic resource]. – Available at: <https://newsland.com/community/4765/content/94-vypusnikov-vuzov-ni-na-chto-ne-godiatsia/6138263>



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