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THE MAIN FEATURES OF THE IMPACT OF DIGITALIZATION PROCESSES ON THE LABOR MARKET IN THE MODERN ECONOMIC CONDITION

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ОСНОВНІ ОСОБЛИВОСТІ ВПЛИВУ ПРОЦЕСІВ ЦИФРОВІЗАЦІЇ НА РИНОК ПРАЦІ
В СУЧАСНИХ ЕКОНОМІЧНИХ УМОВАХ

This article examines the key features of digitalization's impact on the labor market in the current economic condition. Digitalization's positive impact on the development of national economic sectors is discussed in this context. The article demonstrates that the dynamic development of the labor market in the context of globalization largely depends on the expansion of digitalization. The analysis conducted in the article shows that digitalization is developing at an accelerated pace in post-soviet countries. In developed countries, serious research has been carried out in recent years on the impact of digitalization processes on the labor market. A detailed study of the impact of the digitalization process on the development of the labor market in regions is one of the main priorities. In this regard, it is necessary to investigate and study the current situation in the labor market of developed countries.

The analysis demonstrates the need for greater attention to the potential of digitalization to influence the labor market in the country. The article demonstrates that the effective implementation of digital development depends on the level of adoption of modern innovative technologies in the country. Furthermore, the increasing level of digitalization of the national economy once again confirms the need for government regulation.

The analysis conducted in this article concludes that ensuring the continuous development of the digital economy directly impacts the competitiveness of the labor market. It should be noted that the digitalization of the national economy is closely linked to the activities of the manufacturing and service sectors in the regions. Drawing on the experience of developed European countries, it can be concluded that ensuring the digital development of the labor market is essential.

It should be noted that, to achieve sustainable economic development, the development of a modern strategic concept for the digitalization of the labor market can yield positive results in this area. Furthermore, it is important to ensure an increase in the level of digitalization of the labor market in national economic sectors. The development of a modern digital economy leads to increased export opportunities for the service sector.

The article identifies the existing problems of the impact of modern digitalization policy on the labor market, provides suggestions and recommendations for overcoming them.

У цій статті розглядаються ключові особливості впливу цифровізації на ринок праці в сучасних економічних умовах. У цьому контексті обговорюється позитивний вплив цифровізації на розвиток національних секторів економіки. У статті показано, що динамічний розвиток ринку праці в умовах глобалізації значною мірою залежить від розширення цифровізації. Проведений у статті аналіз показує, що цифровізація розвивається прискореними темпами в пострадянських країнах. У розвинених країнах останніми роками проводяться серйозні дослідження впливу процесів цифровізації на ринок праці. Детальне вивчення впливу процесу цифровізації на розвиток ринку праці в регіонах є одним з головних пріоритетів. У зв'язку з цим необхідно дослідити та вивчити поточну ситуацію на ринку праці розвинених країн.

Аналіз демонструє необхідність посилення уваги до потенціалу цифровізації для впливу на ринок праці в країні. У статті показано, що ефективно впровадження цифрового розвитку залежить від рівня впровадження сучасних інноваційних технологій у країні. Крім того, зростаючий рівень цифровізації національної економіки ще раз підтверджує необхідність державного регулювання.

Проведений у статті аналіз робить висновок, що забезпечення постійного розвитку цифрової економіки безпосередньо впливає на конкурентоспроможність ринку праці. Слід зазначити, що цифровізація національної економіки тісно пов'язана з діяльністю виробничого та сервісного секторів у регіонах. Спираючись на досвід розвинених європейських країн, можна зробити висновок, що забезпечення цифрового розвитку ринку праці є надзвичайно важливим.

Слід зазначити, що для досягнення сталого економічного розвитку розробка сучасної стратегічної концепції цифровізації ринку праці може дати позитивні результати в цій сфері. Крім того, важливо забезпечити підвищення рівня цифровізації ринку праці в національних секторах економіки. Розвиток сучасної цифрової економіки призводить до збільшення експортних можливостей для сфери послуг.

У статті визначено існуючі проблеми впливу сучасної політики цифровізації на ринок праці, надано пропозиції та рекомендації щодо їх подолання.

Key words: digital economy, labor market, integration, economic development, investment, regulation, transformation.

Ключові слова: цифрова економіка, ринок праці, інтеграція, економічний розвиток, інвестиції, регулювання, трансформація.

INTRODUCTION

In modern globalized countries of the world, the process of digitization of national economy sectors plays an important role in the economic development of the country. The digitalization process can also have a direct and significant impact on the functioning of the labor market. Ensuring employment in the context of the developing digital economy and artificial intelligence is considered a key priority. Therefore, studying the factors influencing the functioning of the labor market and addressing existing problems in this area is considered an important task. The process of digitization is understood as the sustainable economic development of societies and countries using primarily digital technologies. Digital technologies are used in all sectors of the national economy. The process of digitalization can directly affect the level of economic growth of countries and increase their competitiveness.

In every country that has transitioned to digital technologies, the importance of digitalization is evident in many different areas of the economy. Digitalization allows citizens to more effectively use the data in their databases. As a result, citizens can perform their jobs more efficiently. Thanks to digitalization, countries gain easier access to global markets. For example, online commerce is rapidly growing in countries such as China, Turkey, and the United States.

To implement digitalization, it is necessary to develop digital infrastructure. It is important to recognize that digital infrastructure enables more effective use of digital technologies and ensures international integration. To digitalize sectors of the national economy, educational institutions must implement digital education and employment programs that meet labor market requirements. It is also necessary to support the development of digital sectors. This can lead to an increase in the volume of goods

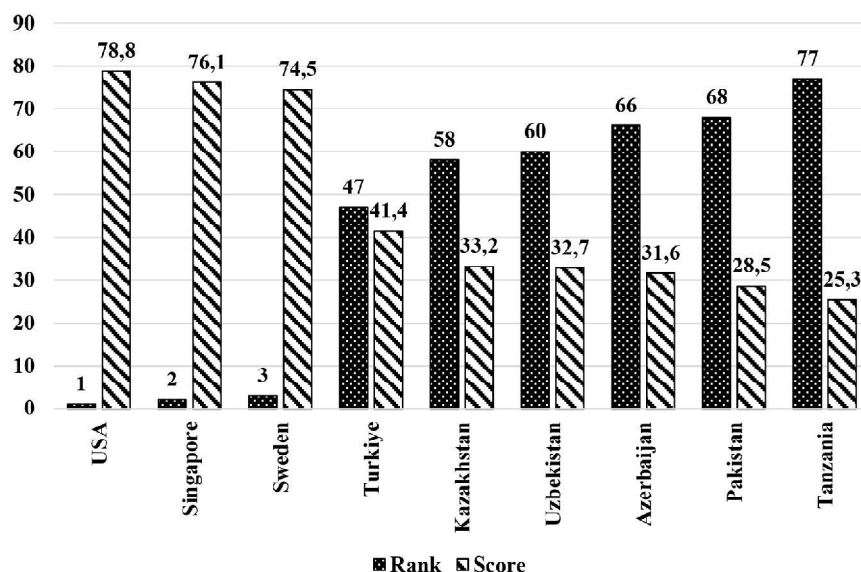


Figure 1. Comparison of Global Digitalization Index scores in selected countries (2024)

Source: Global Digitalization Index(GDI) 2024 — Huawei — <https://www.huawei.com/en/gdi>

and services produced in economic sectors using digital technologies.

ANALYSIS OF RECENT PUBLICATIONS ON THIS TOPIC

In his research, Abdullaev K.N. notes that digitalization can impact the labor market across the country in various ways. By applying digitalization to economic sectors, citizens can complete their work faster [2]. At the same time, worker productivity can increase. As a result, higher-quality services and products are produced and supplied to domestic and foreign markets. Bukht R. shows in his research that digitalization can be applied across various manufacturing and service sectors. These sectors also include transportation, communications, tourism, trade, education, and healthcare. In the modern world, digitalization allows people to establish relationships with citizens worldwide through online resources [4]. D.K. Chung's research demonstrates that digitalization has allowed individuals to access education, healthcare, tourism, and transportation services online [5]. Digital transformation can also be implemented in many manufacturing and service sectors considered essential in the country.

Korsunka M. in his research demonstrates that digitalization refers to the widespread adoption and application of digital technologies in the economy. Digital technologies such as broadband internet, cloud computing, and mobile communications can be used to create, process, transmit, and analyze digital data [6]. Technological advances can alter both supply and demand in the labor market. A new model of work and employment, dubbed "Industry 4.0," is already rapidly spreading. This model is being implemented in a digitally enriched environment. This model also includes risks associated with structural changes in national economies and changing requirements for human capital [1]. In recent years, work has become increasingly transparent, and the opportunities for using digital technologies in work tasks are expanding. This has created an environment of continuous learning. This leads

to an improvement in the quality of labor resources and an increase in demand for them.

The impact of digital technologies on the labor market is already being felt globally. These changes have led to significant changes in the structure of the labor market. Innovations such as cloud computing, robotics, and automation have transformed the forms of work.

STATEMENT OF THE MAIN MATERIAL

In this context, digitalization is having a significant impact on the labor markets of countries around the world. This process increases economic efficiency and creates new technological professions. On the other hand, this process is leading to the loss of relevance of some traditional professions and structural unemployment. Digital transformation has become the primary driver of structural change in the global labor market. These changes are directly related to the rapid spread of artificial intelligence, robotics, automation systems, and digital platforms. Traditional labor markets are now directly influenced by technology and modern innovation. This process is expanding, especially in developed countries [3].

This impact of digitalization on the labor market not only creates new opportunities but also has significant socio-economic consequences. A key challenge is the lag between technological advancement and human capital development. A shortage of digital skills and outdated educational and training systems make it difficult to respond to this transformation.

Changes in the labor market resulting from digitalization raise issues not only of technological transformation but also of social justice, educational reform, and legal regulation. Unless these processes are controlled by the state, digitalization will exacerbate inequality in the labor market and lead to an increase in informal employment. Therefore, states and international organizations should develop national strategies and new labor rights systems to prevent these changes. It should

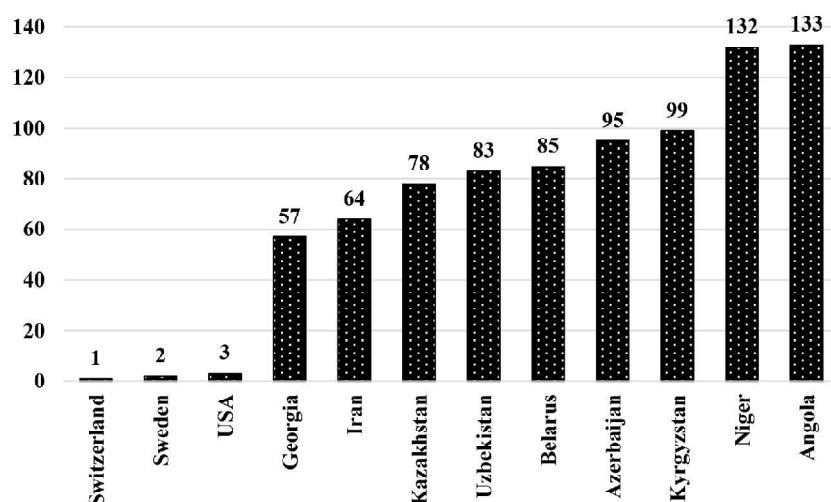


Figure 2. Comparison of the positions of selected countries in the Global Innovation Index (2024)

Source: Global Innovation Index — https://www.wipo.int/web-publications/global-innovation-index-2024/assets/67729/2000%20Global%20Innovation%20Index%202024_WEB3lite.pdf

also be noted that the new demands arising in labor markets as a result of accelerating digitalization do not correspond to the structure and content of existing education systems.

The inability of the education system to adapt to these challenges creates not only technical but also social problems. Low levels of digital literacy further exacerbate gender and regional inequalities in the labor market. In particular, residents of rural areas have fewer resources in terms of access to and use of technology. This limits their opportunities to participate in the digital economy and increases the risk of exclusion from the labor market [7].

In some countries in Africa and Asia, only a small proportion of young people living in rural areas have consistent access to the internet. This reduces their chances of integrating into technology-based professions. This situation leads to an imbalance between the development of the digital economy and social inclusion in the labor market.

Therefore, to address the digital skills gap, countries should ensure that educational institutions provide new skills in digital literacy, programming, cybersecurity, and artificial intelligence. At the same time, teacher training programs and government programs that facilitate access to technology in remote areas should be implemented. These measures can ensure a more equitable and inclusive implementation of the digital transformation.

One of the key trends driven by the digital transformation of the labor market is the rapid development of the platform economy. This economic model is primarily built on online platforms using digital technologies. Platforms like Uber, Bolt, and others have become an alternative source of employment for millions of people worldwide.

While this model promotes flexible labor relations, it also raises a number of new social and legal challenges. Most importantly, most workers on these platforms work outside the framework of traditional employment relationships. Working without an employment contract, they are

deprived of rights and social protection mechanisms such as labor laws, minimum wages, working hours, social security, and pensions.

Comparing the Global Digitalization Index scores in selected countries, the United States ranked first with 78.8 points, Singapore ranked second with 76.1 points, and Sweden ranked third with 74.5 points. Among the post-soviet countries, Kazakhstan ranked 58th and Uzbekistan 60th. The Republic of Azerbaijan ranked 66th with 31.6 points, and Tanzania ranked 77th. The analysis shows that the Republic of Azerbaijan needs to take significant steps to implement modern digitalization technologies across its economic sectors (Figure 1).

Comparing the positions of selected 133 countries in the Global Innovation Index, we see that Switzerland ranked first, Sweden second, and the United States third. Among the post-soviet countries, Georgia ranked 57th, Kazakhstan 78th, Uzbekistan 83rd, and Belarus 85th. The Republic of Azerbaijan ranked 95th. This analysis demonstrates the need to expand the implementation of modern innovative technologies in Azerbaijan's national economic sectors. Only Kyrgyzstan ranked last in the post-soviet space, at 99th. Niger and Angola ranked 132nd and 133rd (Figure 2).

In most countries, the vast majority of those working on digital platforms do not have formal employment contracts. This creates legal challenges for them. Moreover, the vast majority of workers lack insurance coverage for illness, unemployment, or old age.

In the digital economy, uncertain working conditions, income volatility, and intense competition undermine labor market stability. Most workers are employed on short-term, project-based, or online payment systems that depend on the number of clients.

Workers' incomes are currently becoming unstable, making it difficult for them to make socio-economic decisions such as family planning, renting housing, and obtaining credit. Furthermore, many online platforms operate unregulated and unregulated, exploiting gaps in global legislation. At the same time, workers also face difficulties in protecting their labor rights.

Institutions such as the European Union and the United Nations have launched significant initiatives on this issue. The European Commission's draft "Platform Labor Directive" was prepared to clarify the legal status of digital platform workers and ensure their labor rights. This document outlines key requirements for online platform workers: formal employment status, participation in the social security system, and transparent working conditions. It should be noted that the digital platform economy faces challenges not only related to labor rights but also to the tax system, labor statistics, and other issues. Since most workers in the digital sector are not registered as taxpayers, this creates both a social and financial burden for states. Moreover, the growth of platform employment also intensifies competition in traditional workplaces. Importantly, the digital platform economy brings innovative dynamics to the modern labor market. Along with its development, new legal mechanisms are emerging to protect workers' rights, implement social protection mechanisms, and ensure tax transparency. Otherwise, there is a risk of increasing informal employment and deepening social inequality [7].

In the era of digital transformation, the sustainable and equitable development of societies is at the core. Digital technologies create new economic opportunities. Therefore, digitalization should not be limited to access to technology alone. The digitalization process must also include factors such as the ability to use technology, the availability of infrastructure, access to economic resources, educational opportunities, and social conditions.

Most of the global value created by the digital economy is generated by developed countries. Developing countries benefit minimally from this value chain. This inequality is reflected in specific statistical differences in areas such as access to technology, data flows, cloud services, and digital commerce. For example, most cloud computing centers worldwide are located in North America, Europe, and East Asia. Regions such as Africa, Latin America, and South Asia remain outside this infrastructure. These countries can only consume digital technologies at the user level.

This inequality has the most significant impact on labor market inclusivity. Access to new jobs created by digitalization requires technical skills, internet infrastructure, quality education, and financial resources. These factors are lacking in developing countries. Consequently, digital opportunities are unevenly distributed among the world's population, leading to a concentration of information, knowledge, and economic resources in developed countries [8].

Across the world, youth are the social group most affected by this inequality. In regions such as Africa and South Asia, the majority of the population is unemployed. However, only a small portion of this group has access to digital technologies, vocational training, and online distance learning opportunities. This, on the one hand, leads to increased unemployment and, on the other, to increased social unrest and migration trends. In developing countries, there is a significant gap between digital literacy and access to technology among youth. Digital literacy levels are higher among urban youth than among rural ones [1].

On the other hand, the gender dimension of digital inequality is also a serious concern. In regions such as Africa and South Asia, women face significant limitations in accessing digital technologies and taking advantage of the opportunities offered by the digital economy.

As in other post-soviet countries, these processes are becoming increasingly relevant in Azerbaijan. The teaching of computer science and information technology programs within the Digital Skills program is already expanding in secondary and higher education institutions. At the same time, the process of creating modular professional qualifications that meet changing labor market requirements is successfully underway. Azerbaijan needs more extensive and sustainable measures for the systematic training and assessment of soft skills.

Thus, the digitalization process requires a transformation in thinking not only about technical knowledge but also about human potential in general. Countries must adapt education, labor, and social policies to these changes, addressing issues such as structural unemployment and skills mismatch with labor market demands. On the contrary, through flexible adaptation and a people-centered approach, this transition period can be turned into an opportunity for development.

CONCLUSION

All these factors indicate that the spread of technology alone is not sufficient for the equitable and inclusive development of the digital economy. States and international organizations should thoroughly analyze the causes of digital inequality and implement large-scale reform programs.

To ensure digitalization in the regions of the Republic of Azerbaijan, the following measures must be implemented: ensuring access to broadband internet in rural and remote areas; promoting digital education and skills programs for socially vulnerable groups, especially women and youth; protecting digital rights, etc.

To develop digital skills, Azerbaijan is already expanding the teaching of programming, computer science, and information technology in secondary and higher education institutions. At the same time, Azerbaijan is developing modular professional specialties that meet changing labor market requirements. However, it is advisable to implement broader and more sustainable measures for the systematic training and assessment of digital skills.

Thus, digitalization in the Republic of Azerbaijan requires a transformation in thinking not only about technical knowledge but also about human potential in general. If education, employment, and social protection policies are not implemented in line with these changes, problems such as structural unemployment and skills mismatch with labor market requirements will further increase. Therefore, it is necessary to implement appropriate measures at the state level in this direction.

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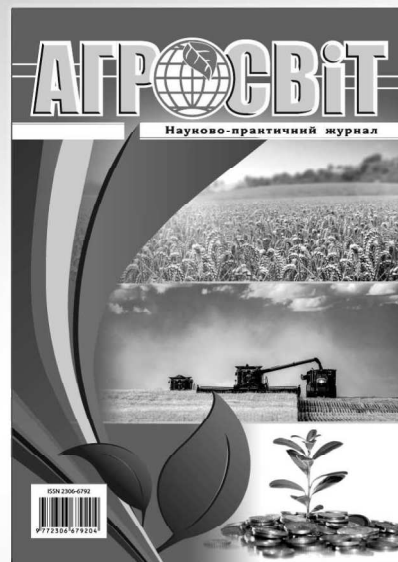
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