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Article

The Impact of Digitalization on the Labor Market

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Abstract: This article presents a comprehensive analysis of the transformation of the labor market and labor relations in the context of digital technological development. It examines the growing demand for new skills and competencies in the digital economy, with particular emphasis on the role and significance of basic, transversal, and digital technical skills. The study also analyzes the contribution of digital platforms and innovative technologies to increasing employment, enhancing labor productivity, and creating new jobs. In addition, it explores the negative effects of robotization and automation on the labor market, including the decline of certain professions and the increased risk of unemployment.

Keywords: Labor Market, Digitalization, Soft Skills, Staffing, Recruiting.

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1. Introduction

The development of the labor market based on digital technologies leads to the modernization of labor relations, characterized by the active use of information and communication technologies in interactions between employers and workers [1]. At the same time, employment issues in the context of the digital economy are acquiring new significance, and new behavioral norms are emerging. In this context, digital culture can be observed at both material and functional levels, as the transition to a digital economy within the labor market requires fundamentally new skills and competencies [2].

In recent years, the concept of "soft skills" has become increasingly important for employers. In other words, the soft skills of potential candidates refer to their personal qualities and social competencies. These include the ability to work in a team, curiosity, initiative, critical thinking, self-management, problem-solving abilities, effective interaction with diverse individuals, and the ability to set priorities appropriately [3].

The evolving conditions of labor require new skills, namely, digital skills. According to international classifications, digital skills encompass several categorie [4].

2. Materials and Methods

This study employs a comprehensive approach to examine the development of the labor market and digital skills in the context of digital technologies. The research methodology is based on analytical, comparative, and systemic approaches. First, the transfo rmation of labor relations in the digital economy, as well as the growing demand for new skills and competencies, was thoroughly analyzed based on scientific sources [5] In addition, the structure of basic, transversal, and digital technical skills was examined, and their relevance to the requirements of the modern labor market was assessed.

Furthermore, the impact of digital technologies on employment was analyzed using international experience and existing forecasts [6]. During the research process, methods of generalization, logical analysis, and systematization were applied to identify existing challenges and prospective directions for development. This methodological approach made it possible to interpret the research findings objectively and consistently on a scientific basis [7].

3. Results and Discussion

Basic skills include general literacy, writing, document handling, and numeracy; without these, only low-skilled tasks can be performed effectively. Possessing this set of skills is essential before engaging with digital technologies [8].

Transversal skills primarily encompass flexible competencies such as teamwork, lifelong learning, problem-solving, and the ability to build relationships. Without these "flexible" skills, an employee's technical potential cannot be fully realized [9].

Digital technical skills refer to the ability to use computers and software, apply network security measures, and independently utilize other information technologies. These skills are crucial for the effective functioning of modern workplaces that rely on digital technologies [10].

These developments indicate that the evolving conditions of competition are compelling companies to adopt new approaches to workforce management. Competition in the search for and recruitment of highly qualified and promising specialists has intensified significantly, while employers are increasingly focused on retaining top talent. Human capital, particularly specialists with digital skills, is becoming a key resource in organizations' competitive strategies [11].

The emergence of new specialties and professions in the future is driven not only by the Fourth Industrial Revolution but also by technological factors, including demographic challenges, geopolitical changes, and evolving sociocultural norms. These factors necessitate a reconsideration of the concept of "highly qualified workers" within the context of the Fourth Industrial Revolution. Given the rapid pace of technological development, the Fourth Industrial Revolution emphasizes the need for continuous adaptation of employees, as well as the acquisition of new skills and approaches from diverse perspectives [12].

According to forecasts, in the future, a specialist in personnel management will function as an analyst who manages the collection and processing of large datasets and makes key decisions. The process of gathering data from open sources on the Internet is increasingly being carried out by robots, and this is no longer a matter of science fiction but a reality. Today, "staffing" startups are capable of fully replacing recruiters: artificial intelligence can "scan" resumes on recruitment platforms, extract data from social networks, conduct initial calls with candidates, engage in conversations using a human-like voice, complete resumes, generate hiring recommendations, and submit them to companies' human resources departments [13].

In this context, two vectors of labor market development under the conditions of economic digitalization can be identified. The first, optimistic scenario is based on the idea that the labor market in the digital economy will require creative individuals capable of innovative thinking. Production processes will largely not require human labor; however, people will remain essential in "human-centered" service sectors. This is because, in the near future, robots will not be able to replace creativity, inventiveness, design, programming, or the organization, maintenance, and adjustment of production processes. Technologies for the remote control of robotic systems will continue to develop, creating demand for a large number of online operators. Thus, the introduction of artificial intelligence and robotics into the production sector should be viewed as an expansion of

technological capabilities. Moreover, digital technologies enable better integration of older workers and persons with disabilities into the labor market, while machines perform hazardous and routine tasks [14].

New digital technologies offer a number of advantages that positively affect the labor market:

- The use of modern digital job-search platforms enables candidates to improve their career opportunities by providing access to a wide range of current vacancies. The internet and specialized web services significantly enhance the transparency of information not only about hiring companies but also about potential job seekers. Social networks, in turn, play an important role by providing valuable information about both employers and employees;
- Digital platforms contribute to increased labor productivity by ensuring a better match between a candidate's profile and the requirements of a given vacancy. In addition, they help reduce unemployment and shorten job search time. Examples include platforms such as uber and youdo, whose business models are based on the efficient matching of labor supply and demand;
- The introduction of modern digital tools across all spheres of life leads to the emergence of new professions and employment opportunities;
- Modern technologies enable remote work, thereby improving employment opportunities for specialists from regions with low local demand [3].

The process of digitalization also gives rise to specific challenges. While data becomes increasingly interconnected, social alienation among individuals tends to intensify. As a result, digitalization may have negative effects on those employed in the production and service sectors. Consequently, production chains may be significantly reduced, with design, 3D printing, and delivery often being sufficient. According to some experts, by 2030 the size of the workforce may decrease, while the average age of employees is expected to increase. In addition, there is a tendency for up to 50% of existing professions to disappear.

Since 2016, economists and sociologists have increasingly focused on the risk of mass unemployment associated with the adoption of robotics. In that same year, the Chinese electronics manufacturer Foxconn deployed 40,000 robots and laid off 60,000 workers. At the same time, the company announced plans to increase the pace of automation by 20–30% annually and to replace all its workers (at least half a million) with robots in three stages [15].

4. Conclusion

In conclusion, the development of the labor market based on digital technologies is leading to a fundamental transformation of labor relations and a significant increase in the demand for new skills and competencies. The findings of the study indicate that, under modern conditions, not only digital technical skills but also transversal and "soft" skills are of particular importance. The process of digitalization, on the one hand, contributes to the creation of new professions and jobs, while on the other hand, it leads to the reduction of certain traditional occupations. At the same time, digital platforms help increase employment levels, improve labor productivity, and simplify the job search process. However, robotization and automation may increase the risk of unemployment. Therefore, the development of human capital, the enhancement of workforce adaptability, and the improvement of lifelong learning systems remain key priorities in the current context.

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