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THE IMPACT OF ARTIFICIAL INTELLIGENCE AND AUTOMATION ON UNEMPLOYMENT: OPPORTUNITIES AND RISKS

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Abstract: With the rapid advancement of global technology, significant transformations are becoming evident across all sectors. These technological developments have also profoundly influenced economic and financial systems. The digitalization of the economy has contributed to increased efficiency in both production and service industries. Moreover, the integration of digital systems into economic structures has generated both positive and negative implications for the labor market.

Keywords: digital economy, artificial intelligence, ERP, MES, SCADA, Internet of Things, unemployment, labor market, structural unemployment, technological unemployment, modern jobs.

Introduction. Even before the term 'digital economy' entered our system elements of digitalization and its positive and negative outcomes had already begun influencing our economy. Today, however, the powerful socio-economic effects of artificial intelligence (AI) and automation are visible across nearly all sectors. In our country, particular attention has been devoted to the digitalization of every field. For instance, the 'Digital Uzbekistan – 2030' strategy emphasizes automating production and management processes (ERP, MES, SCADA, etc.), robotization, the Internet of Things, and artificial intelligence technologies. The strategy aims to localize their software components by 2027 and hardware components by 2030 through public-private partnerships[2]. Examples such as online banking, automated government service portals, and big data platforms are just a little fraction of this progress. In Albania, an AI model named 'Diella' has even been appointed as a minister, responsible for managing public procurement processes with the assurance of eliminating corruption. Similarly, in Japan, an AI system became the leader of the 'Path to Renaissance' political party, tasked with managing financial and other resource allocations among party members[3].

Among the active workforce, there are growing concerns that digitalization may negatively affect employment and lead to job losses in the future. But what do the numbers actually show?

Year[4]	Unemployment Rate (%)	Number of Unemployed (mln)	Employment Rate (%)
2021 (Jan–Sept)	9.4[5]	1441.8	67.0
2022 (Final)	8.9	1332.7	67.2
2023 (Beginning)	6.8	1024.1	67.9
2024 (Mid-year)	5.8	836.0	68.3
2025 (First Half)[6]	5.1	781.6	87.3

Based on the table, it can be concluded that the unemployment rate has gradually declined while

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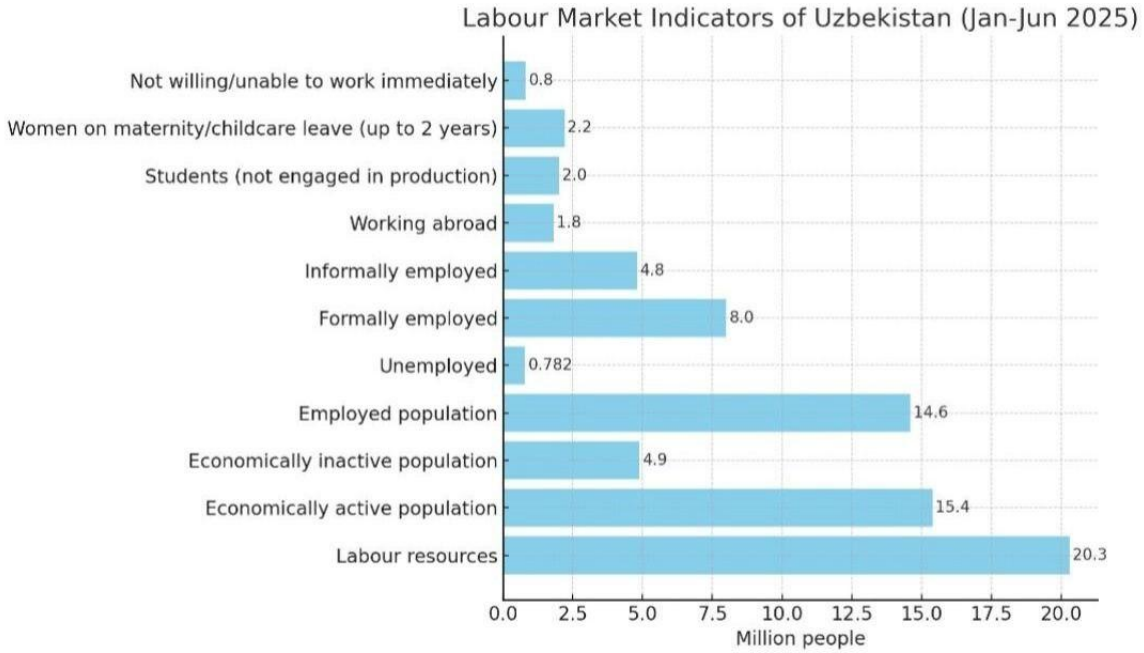
employment levels have increased. In particular, the employment rate in 2024 and 2025 differs by about 19%, indicating significant improvement in all areas of the labor market.



In 2025, the labor force reached approximately 20 million people, compared to 10.7 million in 2024[4]. The digitalization of the economy has created new employment opportunities. In the first half of 2024, 1.6 million unemployed individuals found jobs, while in just the first four months of 2025, this number was 1.1 million. This growth was fueled by the establishment and expansion of economic entities and their management using digital technologies. In recent years, over a hundred new modern professions have emerged, including AI specialists, data analysts, cyber engineers, information security experts, digital marketers, SMM managers, online delivery workers, freelance designers, and software developers. The efficiency achieved through digitalization and automation is reflected in GDP growth, which increased by 6.5% in 2024, reaching $115 billion[4].

However, some risks associated with digital transformation cannot be ignored. The first of these is unemployment. In the digital economy, two main types of unemployment emerge: technological and structural. Technological unemployment occurs when automation, robots, and AI replace traditional jobs. For example, automated payment terminals, now common across the country, have reduced the need for cashiers.

Structural unemployment arises when labor market demands shift traditional professions lose relevance, and new ones appear. However, the workforce may struggle to acquire new skills quickly enough, leading to temporary unemployment. Additionally, middle-aged workers often lack the technological skills required for modern jobs, making it difficult to compete in the labor market. This, too, contributes to rising unemployment.

SWOT Analysis:The impact of Digitalization on Unemployment

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Strengths	**Weaknesses**
Increased efficiency in production and services; new market opportunities Emergence of new professions and industries Expansion of remote work opportunities Higher wages and demand for skilled workers	Reduction of jobs for low-skilled workers Skills gap between professions Unequal distribution of digital infrastructure across regions Possible rise in unemployment in smaller regions
Opportunities	**Threats**
Raising digital literacy to prepare new workforce Encouraging innovation and start-ups Supporting SMEs to enter online markets Access to the global labor market	Intensification of technological unemployment Increased inequality between high- and low-skilled workers AI and robots gradually replacing human labor Displacement of human roles in essential sectors

Advanced technologies might initially resemble what the famous 20th-century economist Joseph Schumpeter called 'creative destruction,' as they can temporarily increase unemployment[1]. However, with the right policies and modern education systems, these same technologies can ultimately create new opportunities and jobs in the long term.

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