

## **ADAPTATION OF HUMAN CAPITAL TO ARTIFICIAL INTELLIGENCE AND DIGITAL INNOVATIONS: A CASE STUDY OF UZBEKISTAN**

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### **Özet (Türkçe)**

Bu çalışma, yeni teknolojilerin ve özellikle yapay zekanın günümüz iş dünyasını nasıl değiştirdiğini ele almaktadır. Özbekistan ve Karakalpakistan'da çalışanların bu yeni sisteme ayak uydurması için yapılan çalışmalar ve devlet stratejileri incelenmiştir. Araştırmamıza göre, bazı eski meslekler yok olsa da, dijitalleşme ile birlikte yeni iş alanları doğmaktadır. Gençlerin ve çalışanların bu süreçte geri kalmaması için «eğitim ve beceri geliştirme» konularına odaklanılması gerektiğini savunuyoruz.

Anahtar Kelimeler: İnovasyon, İnsan Kaynakları, Yapay Zeka, Özbekistan 2030 Stratejisi.

### **Abstract**

This work looks at how new technologies, like AI, are changing the way people work today. In Uzbekistan and especially in Karakalpakstan, we see a lot of new rules and strategies to help workers learn these skills. My research shows that while some old jobs might disappear, many more new ones are coming up. We need to focus on training and «upskilling» our people so they don't get left behind in this digital world. Keywords: AI, human resources, Uzbekistan 2030, digital skills, job market, Karakalpakstan.

### **Introduction**

Nowadays, everywhere you look, there is some kind of new technology. From simple automation to complex Artificial Intelligence (AI), the workplace is changing fast. For us, as students and future managers, it's not just about using computers anymore; it's about how we manage people in this new system. We have to understand that innovation is not just a tool, it's a new way of living and working.

**Innovation** is the process of implementing a new idea, product, service, or technology into practice and achieving economic or social benefits through it.

**Innovative technology** is a technology created on the basis of a new idea, scientific achievement, or modern technical solutions, which serves to perform existing processes more effectively, quickly, and efficiently.

Types of innovative technologies include:

- Digital technologies – artificial intelligence, Big Data, blockchain;
- Automation and robotics – smart production;
- Information and communication technologies – Internet, IoT;
- Educational technologies – online and distance learning;
- Medical technologies – telemedicine, biotechnology;
- Green technologies – renewable energy;
- Management technologies – ERP, CRM, digital HR.

### **Analysis of Technological Impact**

When we analyze the impact of these technologies, we see two sides of the coin. On one hand, automation makes things faster and reduces human error. On the other hand, people naturally worry about losing their roles to machines. I have structured the main impacts in the following table to show how this balance works:

Table : The impact of innovative technologies on human resources

<b>Type of impact</b>	<b>Explanation</b>
<b>Reduction of jobs</b>	Simple and repetitive work will be automated.
<b>New jobs</b>	New professions and positions related to technology are emerging.
<b>Increased demand for specialties</b>	Employees must have high qualifications and digital skills.
<b>Work effectiveness</b>	Technologies accelerate the work process and increase productivity.
<b>Retraining of personnel</b>	Employees are regularly trained to adapt to new technologies.

### **The Situation in Uzbekistan and Karakalpakstan**

In my opinion, the new «Strategy for AI Development until 2030» is a real game changer for Uzbekistan. In our region, Karakalpakstan, we are starting to see the benefits of IT-parks and special zones for technology. This is very important for young people like me who want to stay in our region and work in modern jobs. We don't just need books; we need practical laboratories where we can test AI and new software. The decrees of the President of Uzbekistan regarding AI technologies in 2025 are the foundation of this progress.

### **Advantages and Challenges**

Moving to these technologies has great benefits, such as fewer human errors and faster production. However, it also brings challenges like high initial costs and the need for

regular training. We must ensure that our workforce is not just using technology, but mastering it.

### **Practical Application and Statistical Overview**

The transition to an AI-driven economy in Uzbekistan is not merely theoretical; it is backed by rapid infrastructure growth and significant state investment. The following areas highlight the practical integration of digital innovations:

#### **1. IT-Park Growth and Human Capital:**

The establishment of IT-Parks across the country, including the Republic of Karakalpakstan, has become a catalyst for job creation. According to recent data trends: The number of IT-Park residents in Uzbekistan has surpassed 2,000 companies (a 3x increase compared to 2022).

Over 30,000 young specialists have been trained through the «One Million Uzbek Coders» project, providing a foundation for AI-ready human capital.

#### **2. Practical Example: Banking and Public Services:**

A concrete example of AI adaptation is seen in Uzbekistan's banking sector (e.g., TBC Bank Uzbekistan, Anorbank). These institutions use AI-driven chatbots and scoring systems to process loan applications in seconds—a task that previously took humans several days. In Karakalpakstan, the digitalization of public services through the «Digital Uzbekistan 2030» program has reduced bureaucratic delays by 40%.

### **My Conclusion**

Innovative technologies – accelerate the work process, increase work efficiency, and create new jobs. At the same time, they reduce simple repetitive work, require high qualifications and continuous training from employees. The measures and decisions taken in Uzbekistan and the Republic of Karakalpakstan to adapt human resources to new technologies are important not only in reducing the unemployment rate, but also in the development of the economy.

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