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Ansh Kanchav, student of the International Medical Institute, Kursk State Medical University, Kursk, Russia.

e-mail: anshkanchav21@gmail.com

Science tutor: Vlasova Olga Vladimirovna, head of Economics and Management department of Kursk State Medical University

THE EFFECT OF AUTOMATION AND ARTIFICIAL INTELLIGENCE ON THE LABOR MARKET

Abstract: automation and AI are reshaping the labor market by displacing routine jobs while creating new opportunities in advanced fields. This shift highlights the need for reskilling to address skill gaps and reduce inequality. Collaborative efforts from policymakers, businesses, and educators are essential to ensure a fair and inclusive transition, harnessing AI's potential for a sustainable future.

Keywords: automation, artificial intelligence, labor market

Анш Канчав, студент Международного медицинского института, Курский государственный медицинский университет, Курск, Россия.

e-mail: anshkanchav21@gmail.com

Научный руководитель: Власова Ольга Владимировна, и.о.заведующего кафедрой экономики и менеджмента ФГБОУ ВО «Курский государственный медицинский университет»

ВЛИЯНИЕ АВТОМАТИЗАЦИИ И ИСКУССТВЕННОГО ИНТЕЛЛЕКТА НА РЫНОК ТРУДА

Аннотация: автоматизация и ИИ меняют рынок труда, вытесняя рутинные рабочие места и создавая новые возможности в передовых областях. Этот сдвиг подчеркивает необходимость переподготовки кадров для устранения пробелов в навыках и сокращения неравенства. Совместные усилия политиков, предприятий и педагогов имеют важное значение для обеспечения справедливого и инклюзивного перехода, использования потенциала ИИ для устойчивого будущего.

Ключевые слова: автоматизация, искусственный интеллект, рынок труда,

The rapid development and deployment of automation and artificial intelligence (AI) technologies are reshaping the global labor market. From manufacturing to healthcare, finance to logistics, these technologies are transforming how tasks are performed, creating both opportunities and challenges for workers, businesses, and policymakers. As AI continues to advance, understanding its impact on employment and preparing for its consequences is more important than ever [2,3].

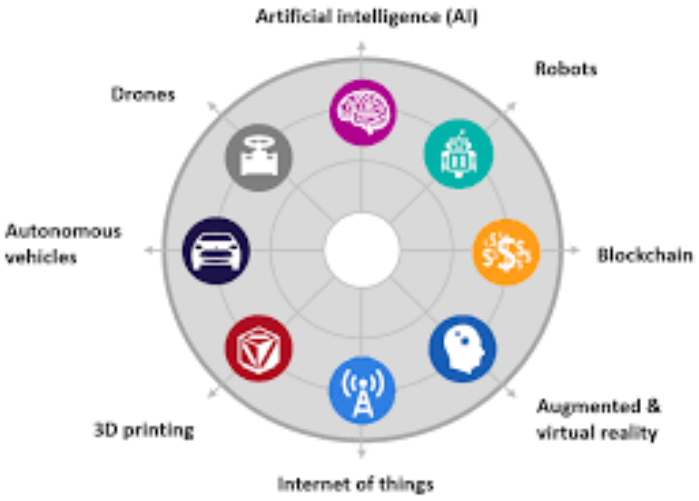

Figure 1- Components of Artificial Intelligence

One of the most discussed effects of automation and AI is job displacement. Machines and algorithms are increasingly capable of performing tasks that were traditionally carried out by humans, particularly repetitive and routine work. Industries

such as manufacturing, retail, and transportation are experiencing significant disruptions. For instance, autonomous vehicles could reduce the demand for drivers, while AI-powered chat bots and customer service systems may diminish the need for human support agents.

A study by the World Economic Forum estimated that 85 million jobs could be displaced by automation by 2025. However, this disruption is not uniform; jobs requiring low skill levels and routine tasks are more vulnerable than those requiring critical thinking, creativity, or human interaction [1].

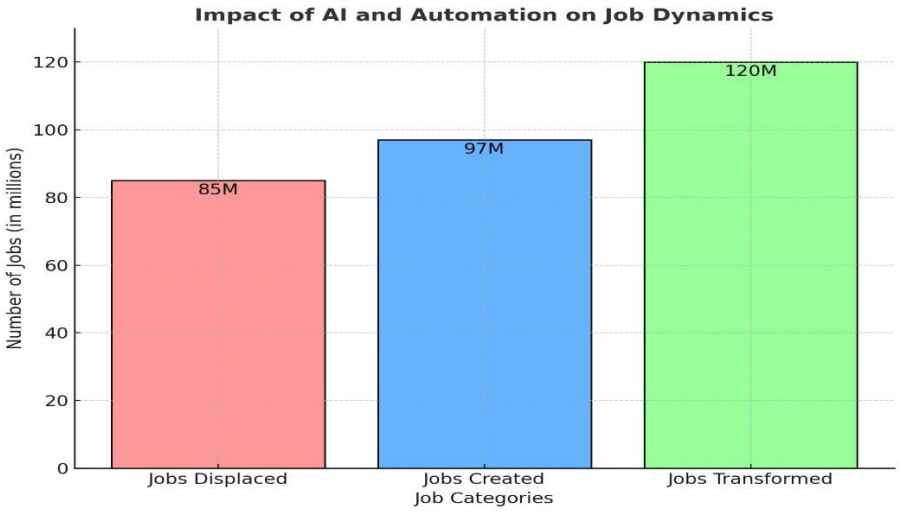

Figure 2 – Impact of AI on Job Dynamics

While automation and AI eliminate certain jobs, they also create new ones. As companies adopt these technologies, they generate demand for roles in AI development, machine learning, data analysis, and system maintenance. Additionally, entirely new industries may emerge, similar to how the rise of the internet led to the development of digital marketing, e-commerce, and app development.

Moreover, AI often transforms existing jobs rather than replacing them outright. For instance, in healthcare, AI tools assist doctors in diagnosing diseases more accurately and efficiently, enabling them to focus more on patient care [2].

The transformative impact of AI highlights the urgent need for reskilling and upskilling the workforce. Workers in at-risk sectors must acquire new skills to transition into roles that are less likely to be automated. Governments, educational institutions, and private companies play a vital role in facilitating this shift by offering accessible training programs and promoting lifelong learning.

For example, partnerships between tech companies and universities have led to the creation of specialized courses in AI, coding, and data science. Similarly, governments are implementing policies to incentivize businesses to invest in employee training.

The widespread adoption of AI and automation has broader implications for income inequality and economic mobility. High-skilled workers with expertise in AI-related fields are likely to see increased job opportunities and wages, while low-skilled workers may face unemployment or stagnant wages. This growing skills gap risks exacerbating economic inequality, especially in regions where access to quality education and training is limited.

Additionally, automation raises questions about the future of work-life balance, job satisfaction, and workplace dynamics. Workers may need to adapt to new ways of collaborating with AI systems, potentially leading to shifts in organizational culture and productivity expectations.

Governments have a critical role in managing the transition to an AI-driven labor market. Policies aimed at ensuring a fair distribution of the benefits of automation, such as tax reforms, social safety nets, and universal basic income experiments, are being explored in various countries. Policymakers must also address ethical concerns related to AI, such as bias, privacy, and accountability, to build public trust in these technologies.

Automation and AI are reshaping the labor market in profound ways. While they present opportunities for innovation, efficiency, and economic growth, they also pose significant challenges related to job displacement, inequality, and skill mismatches. Preparing for this transformation requires a collective effort from governments, businesses, educational institutions, and workers. By embracing change and investing in

human capital, societies can harness the potential of AI while minimizing its adverse effects, paving the way for a more inclusive and equitable future [3].

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