

Volume 01, Issue 04, 2023 ISSN (E): 2994-952

Influence of Artificial Intelligence on Employment and Increased Well-Being of the Population

Abdurakhmanov Kalandar¹, Zokirova Nodira², Abdurakhmanova Gulnora³, Khaitov Sherbek⁴, Gafurzhanova Saidakhon⁵, Ishankhodzhaeva Dildora⁶, Rakhmonov Sherzod⁷

¹Academician of the Academy of Sciences of the Republic of Uzbekistan, Doctor of Economics, Prof., Republic of Uzbekistan, Tashkent

²Doctor of Economic Sciences, Professor, Head of the Department of Labor Economics and Management, Tashkent branch of RUE named after. G.V. Plekhanov, Republic of Uzbekistan, **Tashkent**

³Doctor of Economic Sciences, Professor, Vice-Rector for Research and Innovation, Tashkent State Economic University, Republic of Uzbekistan, 100066, Tashkent city

⁴Candidate of Economic Sciences, Associate Professor, Head of the Department of Management, Bukhara Engineering and Technology Institute, Republic of Uzbekistan, Bukhara region, Bukhara

⁵Scientific candidate of the Tashkent branch of RUE named after G.V. Plekhanova, Department of Labor Economics and Management, Republic of Uzbekistan, Tashkent city

⁶Scientific applicant of the Tashkent branch of the Russian University of Economics named after G.V. Plekhanov, Department of Labor Economics and Management, Republic of Uzbekistan, **Tashkent**

⁷Scientific candidate of the Tashkent branch of RUE named after G.V. Plekhanova, Department of Labor Economics and Management, Republic of Uzbekistan, Tashkent city

Abstract:

The article examines changes as a result of technological revolutions, entailing the introduction of new forms and models of labor, the obsolescence of any other forms and models, as well as broader

changes in society. Artificial intelligence (AI) is having a significant impact on the well-being of the population. This influence is examined in the article from various angles, both positive and negative. By steering the use of new technologies towards welfare-enhancing innovation, and by managing the impact of technology on labor markets, we can increase not only productivity and incomes, but also life expectancy, which in itself can lead to higher GDP.

Keywords: artificial intelligence, labor market, welfare of the population, employment, income

Introduction.

Over the past 200 years, a huge number of technical innovations have occurred that have had a powerful impact on all areas of human activity. One of the most relevant innovations in recent times is artificial intelligence (AI).

In 2022, the United States became the leader in terms of private investment in AI technologies with \$47.4 billion. China is in the second place with costs of \$13.4 billion, and Britain closes the top three with \$4.4 billion. In terms of the size of investments, the leading areas are medicine and healthcare (\$6.1 billion), data processing and cloud technologies (\$5.9 billion), and fintech (\$5.5 billion). [Artificial Intelligence Index Report 2023]

However, the extent of use varies across industries. Thus, a high degree of application of AI is observed in such areas as financial technology, the automotive industry and telecommunications. The average degree of AI adoption is observed in retail, media and FMCG, and low in healthcare, education and tourism.

In 2023, the volume of ICT services in Uzbekistan increased by 23.0% (up to 28.2 trillion soums), including computer programming up to 30% with a volume of 5.5 trillion soums. Among the priorities is to double the export of services from IT Park residents and increase the volume to \$300 million. [Why Uzbekistan is becoming a center for the development of the IT industry 2023]

Uzbekistan is introducing a special regime for the use of artificial intelligence (AI) technologies as part of experimental and innovative research. Thus, the Resolution of President Shavkat Mirziyoyev "On measures to create conditions for the accelerated implementation of artificial intelligence technologies" and "On measures to introduce a special regime for the use of artificial intelligence technologies" are aimed at "creating a favorable and optimal ecosystem for the development of innovative business models, products and methods of providing services based on AI technologies, their implementation and application in practice" [Resolutions of the President of the Republic of Uzbekistan, 2021; Resolutions of the President of the Republic of Uzbekistan, 2021]

The President of the Republic of Uzbekistan emphasized the importance of the widespread introduction of artificial intelligence technologies in the process of providing public services, analyzing socio-economic processes and developing solutions to improve the comfort of life, and it is also necessary to create interaction platforms and working mechanisms in the field of innovation, "artificial" intelligence, "green" economics, digitalization, smart agriculture, nano- and biotechnologies. [Mirziyoyev Sh.M., 2023]

The introduction of digital technologies is happening faster than the introduction of any other innovative developments in the history of mankind: in just two decades, digital technologies have managed to cover about 50.0% of the population of developing countries and transform societies with their help. Using technologies to improve connectivity and access to financial, business and government services can lead to significant reductions in population inequality.

Literature review.

A new wave of technological change, driven by artificial intelligence (AI) and machine learning, robotics, big data and networks, has led to renewed interest in the impact of widespread automation

on economic growth, wages and inequality. Although the economic landscape everywhere may change radically, the debate to date in the literature has focused almost exclusively on advanced economies. Research on the impact of automation on developing economies abounds, both optimistic and pessimistic, but very little systematic formal analysis has been conducted. This article fills this gap by using a simple but rich conceptual framework to explore the potential impact of the Artificial Intelligence Revolution in emerging economies.

Many scientists believe that advances in artificial intelligence and related technologies will allow machines to replace human labor in a much wider range of tasks than previous waves of automation. Ten or fifteen years ago, it was widely accepted that machines could only replace human labor in "routine" tasks, that is, those typically average-paying tasks that did not require creativity and analytical skills, nor manual dexterity and where the work can be explained step by step and therefore programmed into a computer. [Author, D. H., F. Levy, and R. J. Murnane (2003)] Since then, however, advances in machine learning have led to machines with at least human-level perception, as well as artificial intelligence programs with human-like capabilities or better human level to solve a wide range of problems that were previously considered unattainable.

Researchers have begun to analyze the consequences of economic growth, labor market and distribution for developed countries. From an economic perspective, a key feature of this new wave of technology is that it is likely to more closely replace labor, perhaps especially unskilled labor. [Sachs, J. D. (2018); Korinek, A. and J. E. Stiglitz (2019); Caselli, F. and A. Manning (2019, June); Berg, A., E. F. Buffie, and L.-F. Zanna (2018)] The overall lesson is that automation, which closely replaces workers, will tend to increase incomes but also increase income inequality, at least in the transition period and perhaps in the long term for some groups of workers. An approach taken by scholars who model the AI revolution as a decline in prices for "robot capital," which can directly replace labor and which complements traditional capital. [Berg, A., E. F. Buffie, and L.-F. Zanna (2018)] Focusing on advanced economies, they find that the more easily robots replace workers, the higher the growth in GDP per capita and the greater the decline in labor force participation, leading to richer economies but more inequality. During a long transition period, real wages may fall.

Scholars argue that the current wave of automation will have a significant impact on developing countries, with literature that is largely qualitative and descriptive in nature. The researchers suggest major implications for development paths and strategies, as well as a reduction in demand for unskilled labor. [Sachs, J. D. (2018); Yusuf, S. (2017, September)] Other scholars conclude that developing countries are more vulnerable to automation due to differences in industrial structure and, more importantly, in the way work is organized in these countries, in particular the greater reliance on unskilled labor. [Nedelkoska, L. and G. Quintini (2018)]

Scientists from the scientific school "Labor Economics and Human Capital" at the Tashkent State University of Economics have concluded that there are reasons for concern in the form of three different channels through which developing economies may deviate further from developed countries after the robot revolution: the shared production channel, the flow channel capital and terms of trade channel. First, we find that simply adding highly replaceable robotic capital to the model, coupled with high total factor productivity (TFP) in a developed country, implies that increasing the productivity (or decreasing cost) of robotic capital leads to a further divergence in GDP levels between developing and developed countries economies. [Abdurakhmanov K.Kh. (2023)] In advanced economies, wages are higher in the base model because total factor productivity is higher. These higher wages lead to increased use of robots in advanced economies, resulting in a higher share of robots in income. In addition, developing countries are also relatively rich in unskilled labor, which also contributes to the increased adoption of robots in developed countries. [Abdurakhmanov KH Zokirova NK, Islamov B., Hiwatari M. (2016)] The higher share of robots, in turn, leads to much higher GDP growth in advanced economies than in developing countries, where robot productivity is increasing.

The key assumption of this article is that the current technological revolution is bringing a type of capital that is more substitutable for labor than previous stages of technological development. One piece of evidence for this assumption can be found in various technology studies that find, or more often than not, predict that AI and related technologies will be superior to humans at many or most tasks for the foreseeable future. Scientists examine currently available technologies and conclude that about 47.0% percent of jobs can be replaced by AI. [Frey, C. B. and M. A. Osborne (2017)] Looking at the long-term evolution of these rapidly evolving technologies, AI researchers conducted a survey where the average expectation is that AI will surpass humans in translating languages by 2024, driving a truck by 2027, and working in retail by 2031, with significant deviations from these estimates. [Grace, K., J. Salvatier, A. Dafoe, B. Zhang, and O. Evans (2018)] Empirical data that directly speaks to the macro model we use for employment here is scant but promising. Scholars distinguish between traditional capital and the subset that embodies information and communication technologies (ICT). [Eden, M. and P. Gaggl (2019, 07)] Using data from 1950 to 2013 for the United States, they find that ICT capital is more substitutable for labor than traditional capital, with some evidence that it has become increasingly substitutable over time.

Discussion.

For example, in the healthcare sector, advanced technologies based on the use of artificial intelligence are helping to save lives, diagnose diseases and increase life expectancy. In the area of education, the provision of virtual learning environments and distance learning has enabled students who would not otherwise have the opportunity to participate in programs. In addition, through the use of blockchain-based systems, government services become more accessible, the institutions providing them become more accountable, and as a result of the use of artificial intelligence, processes become less bureaucratic. Big data can also support the development of more responsive and accurate policies and programs.

At the same time, those who are still untapped by such technologies continue to be excluded from the benefits of the digital age and fall behind others. Many of these "left behind" are women, older people, people with disabilities, members of ethnic or linguistic minorities and indigenous peoples, and residents of poor or remote areas. In some areas, progress in connecting to new technologies is slowing, and in some places there is even regression. For example, worldwide, the proportion of women who use the Internet is 12.0% lower than the corresponding proportion of men. While the gap narrowed in most regions between 2013 and 2017, the rate in least developed countries increased from 30.0% to 33.0%.

The use of algorithms can reproduce and even reinforce human and systemic bias when they are initially loaded with data that does not reflect the full diversity of realities. Thus, a lack of diversity in the technology sector may result in less effective solutions to the problem.

Throughout history, the workforce has undergone changes as a result of technological revolutions that entail the introduction of new forms and models of work, the obsolescence of some other forms and models, and broader changes in society. The current sweeping changes are likely to have serious consequences. [Abdurakhmanova G.K. (2023)] For example, the International Labor Organization estimates that the transition to a greener economy, which involves introducing sustainable practices in the energy sector, using electric vehicles and improving energy efficiency in existing and future buildings, could create 24 million new jobs by 2030 Worldwide.

Meanwhile, reports from companies like McKinsey estimate that 800 million people could be out of work by 2030 due to automation, and surveys suggest that most workers are concerned about not having the necessary training or skills to get a good paid job. [Edelman Trust Barometer. Global Report 2019]

It is widely believed that managing these trends will require changing our approach to education, for example by increasing emphasis on science, technology, engineering and mathematics; by

teaching communication skills and resilience, and providing people with opportunities to reskill and upskill throughout their lives. Unpaid work, such as home care for children and the elderly, needs to be better supported, especially as the demand for such tasks is likely to increase as the global age profile changes.

Today, digital technologies such as data fusion systems and artificial intelligence are used to track and diagnose problems in agriculture, healthcare and the environment, or to perform everyday tasks such as avoiding traffic jams or paying bills. Such technologies can be used both to protect and implement human rights, and to violate them, for example by tracking our movements, purchases, conversations and behavior. Governments and businesses have a growing number of tools to find, analyze and use data for financial and other purposes.

However, if there were a formula for more effectively regulating the ownership of personal data, such data would become a source of useful information for an individual. Technologies powered by data analytics can empower people, improve human well-being and promote universal rights, depending on the type of protection measures taken.

Result.

Artificial intelligence (AI) is having a significant impact on the well-being of the population. This influence can be viewed from various angles. Below are some areas where AI can have both positive and negative impacts on human well-being.

Positive influence:

1. Improving medical care:

- Automated diagnostic and treatment systems;
- Personalized recommendations for patients;
- AI as a physician assistant.

2. Education:

- Individualized educational programs;
- Automation of training and assessment.

3. Economic development:

- Automation and optimization of production;
- Creation of new jobs in the field of AI.

4. Improvement of services:

- Improving the quality of service;
- Automation of routine processes.

5. Security:

- Security and monitoring systems;
- Crime prevention using data analytics.

Negative influence:

1. Job losses:

- Automation may lead to job losses;
- The need to retrain and adapt the workforce.

2. Ethical and moral issues:

- Difficulties in developing ethical standards and rules for the use of AI;
- Possible misuse of technology.

3. Privacy and Confidentiality:

- Personal data protection issues;
- Potential violation of privacy.

4. Economic instability:

- Uneven distribution of wealth;
- Increasing social inequality.

Ways to minimize risks:

1. Regulation and control:

- Development of laws and regulations to regulate AI;
- International cooperation in the field of regulation.

2. Education and retraining:

- Programs for retraining and adaptation of the workforce;
- Invest in educational programs that focus on the skills of the future.

3. Society participation:

- Involving society in discussions about the development and use of AI;
- Development of open platforms for monitoring and controlling the impact of AI on society.

Artificial intelligence can significantly impact the well-being of the population, depending on how society and governments manage its development and implementation.

By steering the use of new technologies towards welfare-enhancing innovation, and by managing the impact of technology on labor markets, we can increase not only productivity and incomes, but also life expectancy, which in itself can lead to higher GDP.

Calculating the likely impact of welfare-enhancing innovations is a complex process. In our own assessments, we rely on methods for quantifying welfare developed by economists Charles Jones and Peter Klinow of Stanford University, as well as others working in the growing field of happiness research. Using a schematic model of persistent risk aversion as a guide, we find that the US and Europe could see wealth gains from artificial intelligence and other advanced technologies that would exceed those achieved by computers and earlier forms of automation in recent decades. But, on the other hand, if this technological transition is not managed properly, then the US and Europe could face slower income growth, increased inequality and unemployment, deterioration in areas such as leisure, health and life expectancy.

Research shows that new technologies risk widening the gap between rich and poor countries by shifting more investment to advanced economies that have already embraced automation. This could in turn negatively impact jobs in developing countries, threatening to replace rather than complement their growing labor force, which has traditionally provided an advantage to less developed countries. To address this growing discrepancy, policymakers in developing countries will need to take action to improve productivity and develop workers' skills.

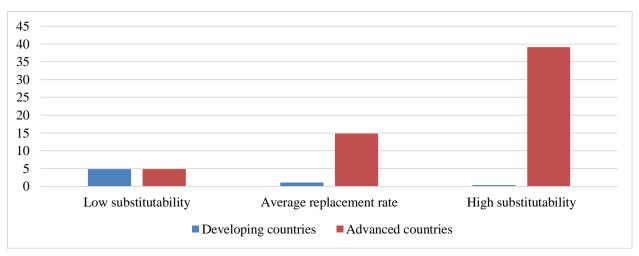
Our model considers two countries (one with a developed economy, the other a developing one), both of which produce goods using three factors of production: labor, capital and "robots". We interpret the concept of "robots" broadly to include the full range of new technologies mentioned above. Our basic assumption is that robots are replacing workers. In our system, the AI revolution involves increasing the productivity of robots.

We find that divergence between developing and advanced economies can arise through three different channels: production shares, investment flows, and terms of trade. (Fig. 5.1.)

Share in production. In advanced economies, wage levels are higher because total factor productivity is higher. Higher wages initially push companies in advanced economies to make greater use of robotics, especially if workers can be easily replaced by robots. Subsequently, as the productivity of robots improves, advanced economies will benefit more in the long run. The more robots replace workers, the greater this discrepancy becomes.

Investment flows. Increasing productivity of robots creates a strong demand for investment in robotics and traditional capital (which is assumed to complement robots and labor). In advanced economies, this demand is higher because they use robots more intensively (the aforementioned "share of production" channel). As a result, investment is withdrawn from developing countries to finance this accumulation of capital and robots in advanced economies, resulting in a temporary decline in GDP in the developing country.

Terms of trade. A developing country is likely to specialize in sectors that rely more on unskilled labor, which it has in greater abundance than an advanced economy. Assuming robots replace unskilled labor but complement skilled workers, the robotics revolution could see developing countries experience a permanent decline in their terms of trade. This is because robots will disproportionately displace unskilled workers, reducing their relative wages and lowering the price of goods that rely more heavily on unskilled labor to produce. In turn, a decrease in the relative price of the main product it produces will be an additional negative shock, which will reduce the incentive for investment and, possibly, lead to a fall in GDP not only in relative but also in absolute terms.



Pic. 1. Income divergence (percentage change in GDP per capita) [Artificial Intelligence Index Report 2023]

Note: The easier it is to replace workers with robots, the wider the gap between advanced and developing economies in terms of GDP per capita.

Our results fundamentally depend on whether robots actually replace workers. While it may be too early to predict the extent of this replacement in the future, we have found evidence that it will occur. In particular, we find that rising wages coincide with a significant increase in the use of

robots, which is consistent with the idea that companies are abandoning workers in favor of robots due to rising labor costs.

Improved productivity of robots is the reason for the divergence between advanced economies and developing countries if workers are easily replaced by robots. Moreover, this improvement will tend to increase incomes but also increase income inequality, at least in the transition and perhaps in the long term for some groups of workers in both advanced and developing economies.

AI in organizations processes huge amounts of data, studies statistical data and develops forecasts, on the basis of which the most optimal options for distributing prices for products are selected. This makes it possible to significantly increase the company's revenue and profit. By using neural networks, companies analyze consumer behavior and identify suspicious transactions. This makes it possible to reduce the negative consequences of the activities of Internet fraudsters several times, which leads to a reduction in financial losses, an increase in the degree of system security and an increase in the level of customer confidence.

However, despite all the positive aspects of artificial intelligence technology, it can cause many people to lose their jobs. The transformation will affect millions of jobs as people increasingly delegate their responsibilities to machines, causing many professions to cease to be in demand by employers. Thus, back in the first half of the twentieth century, economist Maynard Keynes suggested that due to the widespread use of AI technologies, by 2030 there would be a problem with limiting the number of jobs, which would lead to "technological unemployment." This forecast is confirmed by the report of the international consulting company McKinsey&Company, according to which by 2030, under various scenarios, from 75 to 375 million specialists will be forced to change their professional competencies due to the impact of automation processes. Less-skilled workers will be hit the hardest. For example, Goldman Sachs already in 2018 replaced a team of 600 traders with two employees and automated algorithmic trading programs, for which it hired 200 software developers.

There is another opinion regarding the impact of AI on people's employment and income. According to consulting group Capgemini, 83% of organizations using AI have identified a link between the use of AI technologies and the creation of new jobs. According to research from consultancy Deloitte, around 800 low-skilled jobs have been lost in the UK as a result of process automation. However, at the same time, 3.5 million new vacancies were created, the wages for which increased by 13 thousand dollars.

The widespread dissemination and use of artificial intelligence technologies, first of all, can negatively affect small settlements whose population carries out activities that make it easy to implement the idea of "technical substitution." Specialists who are engaged in intellectual activities will be at less risk, but even they have the threat of replacement, since in some situations artificial intelligence can already perform the functions of a manager, designer, programmer, lawyer, etc. [Mikhailov A.A., Goryunova L.A., Tsvetkova L.A. (2019)]

There is no perfect way to prevent discrepancy. Given the rapid pace of advances in robotics, developing countries need more urgently than ever to invest in increasing aggregate productivity and skill levels to ensure that robots complement rather than replace their workforce. Of course, this is easier said than done. [Bagov V.P. (2006)] In our model, increases in total factor productivity, which control many of the institutional and other fundamental differences between developing and advanced economies that are not reflected in labor and capital inputs, are particularly useful because they facilitate the accumulation of robotics and physical capital. Such improvements are always beneficial, but with the AI revolution, the results are more tangible.

Conclusion

Our findings also highlight the importance of human capital accumulation in preventing divergence and highlight the possibility of differences in the growth dynamics of developing countries with different labor force skill levels. The situation is likely to be much more difficult for developing countries that were counting on high dividends from widely expected demographic changes. Policymakers likely saw developing countries' growing youth population as a major opportunity to benefit from job shifts from China as a result of its rise to middle-income status. Our results show that these jobs could be filled by robots. Policymakers must take action to reduce these risks. Particularly in the face of these new technological challenges, the widely expected demographic changes will benefit a decisive shift to sharply higher productivity gains and investment in education and skills development.

To summarize, we note the following. At the moment, humanity and all spheres of its life are on the verge of fundamental transformations, which are associated with the development of artificial intelligence technologies that can increase the profitability of organizations and significantly improve the well-being of the population in different countries of the world. However, this kind of change may entail a global restructuring of the entire world economy, as well as widen the gap between developing and developed countries. The use of AI technologies in the modern economy has both positive and negative aspects. Therefore, to reduce the negative consequences of automation, it is necessary to develop a program for the smooth technical re-equipment of the modern economy, including programs to change the professional skills of specialists, more advanced retraining models, constant investment flows for carrying out automation processes and training new highly qualified workers, as well as cooperation between the private and public sectors.

Bibliography

- 1. Abdurakhmanov KH Zokirova NK, Islamov B., Hiwatari M. (2016) Systemic transformation and sustainable human development: the Case of Uzbekistan. Jakarta: Gunadarma Publisher, 2016, p. 230.
- 2. Abdurakhmanova G.K. Inson ressurslarini boshgarish. Darslik. Toshkent: O'zbekiston Respublikasi Fanlar akademiyasi "Fan" nashriyoti davlat korhonasi, 2023. – 396 bet
- 3. Artifcial Intelligence Index Report 2023. Stanford Institute for Human-Centered Artificial Intelligence (HAI). https://www.tadviser.ru/images/8/8b/HAI_AI-Index-Report_2023.pdf
- 4. Autor, D. H., F. Levy, and R. J. Murnane (2003). The skill content of recent technological change: An empirical exploration. The Quarterly Journal of Economics 118(4), 1279–1333.
- 5. Berg, A., E. F. Buffie, and L.-F. Zanna (2018). Should we fear the robot revolution? (the correct answer is yes). Journal of Monetary Economics 97, 117–148.
- 6. Caselli, F. and A. Manning (2019, June). Robot arithmetic: New technology and wages. American Economic Review: Insights 1(1), 1–12.
- 7. Edelman Trust Barometer. Global Report 2019. All fieldwork was conducted between October 19 and November 16, 2018 https://www.edelman.com/sites/g/files/aatuss191/files/2019-02/2019_Edelman_Trust_Barometer_Global_Report.pdf
- 8. Eden, M. and P. Gaggl (2019, 07). Do Poor Countries Really Need More IT? The World Bank Economic Review 34 (1), 48–62.
- 9. Frey, C. B. and M. A. Osborne (2017). The future of employment: How susceptible are jobs to computerization? Technological Forecasting and Social Change 114, 254–280.

- 10. Grace, K., J. Salvatier, A. Dafoe, B. Zhang, and O. Evans (2018). When will ai exceed human performance? evidence from ai experts. Journal of Artificial Intelligence Research 62, 729–754.
- 11. Korinek, A. and J. E. Stiglitz (2019). Artificial intelligence and its implications for income distribution and unemployment. See Agrawal et al. (2019), pp. 349–390.
- 12. Nedelkoska, L. and G. Quintini (2018). Automation, skills use and training. Technical Report 202, OECD Social, Employment and Migration Working Papers.
- 13. Sachs, J. D. (2018). R&d, structural transformation, and the distribution of income. In The Economics of Artificial Intelligence: An Agenda. University of Chicago Press.
- 14. Sachs, J. D. (2018). R&d, structural transformation, and the distribution of income. In The Economics of Artificial Intelligence: An Agenda. University of Chicago Press.
- 15. Yusuf, S. (2017, September). Automation, ai, and the emerging economies. Technical report, Center for Global Development.
- 16. Abdurakhmanov K.Kh. Artificial intelligence is the basis for sustainable economic development. – Moscow: Federal State Budgetary Educational Institution of Higher Education "REU im. G.V. Plekhanov", 2023. – 432 p.
- 17. Bagov V.P. Intellectual capital management: textbook. allowance. M.: Publishing House "Cameron", 2006. – 248 p.
- 18. Mirziyoyev Sh.M. Speech by the President of the Republic of Uzbekistan Shavkat Mirziyoyev at the first summit of the heads of state of Central Asia and the Cooperation Council for the Arab States of the Gulf. https://president.uz/ru/lists/view/6494
- 19. Mikhailov A. A., Goryunova L. A., Tsvetkova L. A. Artificial intelligence systems in the context of digitalization of the economy: Economics: yesterday, today, tomorrow, 2019. P. 448-457.
- 20. Resolution of the President of the Republic of Uzbekistan "On measures to introduce a special regime for the use of artificial intelligence technologies" dated August 26, 2021 No. PP-5234
- 21. Resolution of the President of the Republic of Uzbekistan "On measures to create conditions for the accelerated implementation of artificial intelligence technologies" dated February 17, 2021 No. PP-4996
- 22. Why Uzbekistan is becoming a center for the development of the IT industry. https://kz.kursiv.media/2023-03-31/ministr-czifrovyh-tehnologij-uzbekistana-sherzodshermatov-prakticheski-po-vsem-pokazatelyam-my-nablyudaem-rost-prevyshayushhijozhidaniya.