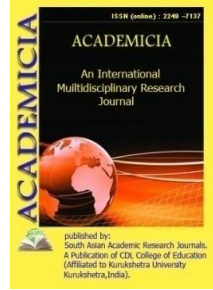




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TRENDS IN THE DEVELOPMENT AND FORMATION OF ARTIFICIAL INTELLIGENCE IN THE ECONOMY

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ABSTRACT

Any achievement of science and technology must serve the progress of mankind. At the heart of the state programs aimed at the development of artificial intelligence in our country is the noble goal of improving the quality of services provided to the population, saving time and money of citizens, as well as the developing of the industry at world standards. Economic growth in most countries of the world has slowed in the last decade, caused by structural changes and imbalances in the global economy as a whole. At the present stage, the problems of finding fundamentally new sources of economic development and growth have become actualized, which in the future would determine the success of individual countries and companies in the competition in the world market. The article discusses the main aspects of the use of artificial intelligence technologies in conjunction with the need to ensure sustainable development of the modern world economy.

KEYWORDS: *Economic Development And Growth, Artificial Intelligence, Digital Technologies, Structural Imbalances.*

INTRODUCTION

In accordance with the Strategy "Digital Uzbekistan - 2030" and in order to accelerate the introduction and widespread use of artificial intelligence technologies in our country, to provide access to digital data and their high quality, to create favourable conditions for training in this field, "Accelerated introduction of artificial intelligence technologies Resolution of the President of the Republic of Uzbekistan No. PP-4996 of February 17, 2021 "On measures to create conditions for the introduction of artificial intelligence technologies in our country, their widespread use, expanding the use of digital data, training of qualified personnel in this field" in other words, many tasks aimed at developing the industry at the level of world requirements have been identified.

Today, "Smart Clocks", which measure our blood pressure, calculate our steps and energy expenditure, "Smart Maps", which guide us by GPS, and various data processing programs are becoming our companions every day. It is noteworthy that the efforts to develop these areas are intensifying in our country. The expanding IT parks, Million Programmers, and Youth Technoparks give hope for the future of the industry. Strategies for the development of artificial intelligence have been adopted in more than 30 countries, including the United States, Germany, Japan, France, Korea, and Canada. The resolution of the President "On measures to create conditions for the accelerated introduction of artificial intelligence technologies" is also in line with the strategy "Digital Uzbekistan - 2030" and the rapid introduction of artificial intelligence technologies and their widespread use in the country, expanding the use of digital data. was accepted for training [1-3].

MATERIALS AND METHODS

In accordance with the above decision, first of all, financial mechanisms will be developed for the development of the field of artificial intelligence. For this purpose, a special account will be opened in the Fund for Support of Innovative Development and Innovative Ideas under the Ministry of Innovative Development, which will be used to finance artificial intelligence projects. Measures will also be taken to develop mechanisms for financing startup projects.

Artificial intelligence is a technology that focuses on thinking and acting like humans on computers. Artificial intelligence requires high-powered computers, data, artificial intelligence algorithms to work [4-6]. It helps to automate an arbitrary field, analyze big data, and achieve great things. This decision approved a program of measures for the study and introduction of artificial intelligence technologies in 2021-2022. The program identifies several tasks related to the development of artificial intelligence development strategy and regulatory framework, its widespread use in improving the quality of public services, the creation of a local ecosystem of innovative developments in the field and the development of international cooperation.

The resolution also approved a list of pilot projects for the introduction of artificial intelligence technologies in 2021-2022. These projects cover 9 economic and social projects such as agriculture, finance, banking, taxation, energy, healthcare. According to the resolution, the Ministry of Information Technologies and Communications will create technological conditions for the development and implementation of software products. The Ministry of Innovative Development is responsible for supporting scientific and technical research and innovation in the field of artificial intelligence.

According to the resolution, a research institute for the development of digital technologies and artificial intelligence will be established. Also, the organization of research aimed at implementing the strategy "Digital Uzbekistan - 2030" and the development of models, algorithms and software for the introduction of artificial intelligence technologies in the economy, social sphere and public administration, based on which to automate management and production processes. is responsible for functions such as output. According to the decision, a "Joint Union" for the development of artificial intelligence in government agencies, commercial banks and large industrial enterprises is being established. This union will serve for the rapid and joint implementation of priority projects for the introduction of artificial intelligence technologies in the economy and the social sphere, public administration, optimization of costs for their development, dissemination of best practices in this area among government agencies and bodies. By September 1, 2021, a digital data platform will be created for the population and the necessary users to use artificial intelligence-based software and other data.

At the present stage of development of the economies of foreign countries, especially developed ones, ensuring sustainable economic growth remains an urgent problem, since its traditional sources have already been exhausted. The growth of the world economy is mainly due to the high rates of development of developing countries, primarily China. At the same time, even medium-term forecasts show that the world economy will face another imbalance in the coming years, which is generally due to the continuation of the relative strengthening of the competitive positions of some subjects of the world economy. A cursory analysis of these forecasts shows that, for example, by 2022, a decrease in the intensity of economic growth is expected not only in the United States and Japan but also in some developing countries [12].

RESULTS AND DISCUSSION

The growing risk of the global economy falling into the "slow growth trap" once again testifies to a large volume of problems and imbalances that have accumulated in it. Many national economies remain stable, but at the same time they become ineffective systems, and in this case, this is already a consequence of global institutional traps. Meanwhile, the slowdown in economic growth is largely due to a decrease in labour productivity in individual national economies (although it is obvious that since the 1970s, under the influence of scientific and technological progress, this indicator has been steadily increasing). Thus, recent studies show that over the past two decades in 30 out of 31 developed countries there has been a decrease in labour productivity (for example, if in the United States the average annual value of this indicator was 2.5% in 1995-2005, then in 2005-2015 it was 2.5%). - already less than 1%) [3].

Recently, imbalances in the world economy have been commonly associated with structural imbalances in the financial sector (which is reflected in the growth in the volume of derivative financial instruments, the separation of the financial sector from the real, etc.).

Obviously, this factor has a significant impact, but we tend to associate the imbalances of the modern world economy, first of all, with the different possibilities of the real sectors of national economies for self-growth. The latter, in particular, is associated with such factors as technological readiness, the maturity of the country's innovation system, leadership in the latest technologies and knowledge. Artificial intelligence (AI), analysed in the framework of this article, is considered by us as a fundamental attribute of the development of the world economy,

which, even if it does not contribute to the elimination of these imbalances, will definitely contribute to its self-growth as a whole.

The expansion and deepening of AI technologies can have an even greater positive impact on economic growth. Foreign experts predict that based on the introduction of artificial intelligence (AI) technologies by 2035, it is possible to double the rate of economic growth and increase labour productivity by 40% in developed countries [5].

At the same time, the positive impact of AI on the world economy for the next decade is estimated in the range of 1.49-2.95 trillion, dollars, while in the group of high-income countries GDP due to the use of AI will increase by \$ 296.5-657.7 billion [4].

At the same time, one should take into account the direct impact of AI on GDP, when GDP growth is achieved due to the growth of sectors producing AI technologies, and indirect (when labour productivity increases in traditional industries using AI). According to PwC forecasts, by 2030, as a result of the use of AI, global GDP growth will be 14% higher, which will add an additional \$ 15.7 billion to the world economy in added value. At the same time, the benefits from the use of AI will be distributed unevenly: for example, the corresponding GDP growth in China will be 26%, in Europe - 9%, developed countries in Asia - 12%, and in general for the group of developing countries - less than 6% [2].

Thus, the use of AI will further enhance the uneven development of individual countries, which, paradoxically, will in the long term be the main factor in the growth of the world economy as a whole. What are the effects of AI on global economic growth? It is possible that the ongoing automation and intellectualization of production will offset the contribution of population growth to the exponential growth of the world economy, as AI contributes to an ever greater replacement of human labour. Theoretically, according to the researchers, AI can contribute to "... the creation of infinite income in a finite period of time" [1].

For the economies of countries such as China, the problem of leadership in the global AI market is most acute. In 2017, the growth rate of the Chinese economy is expected to slow down to 6.7% (by 2022 - to 5.8%) [8]. China is gradually losing its traditional drivers of economic growth: only two of them survived - the country's active foreign investment in infrastructure projects and the creation of fundamentally new technologies based on AI. That is why the country's leadership is pursuing a policy of achieving leadership in the field of intellectual development, gradually catching up with the United States in many ways. Analysts at the Boston Consulting Group (BCG) expect that 415 million new jobs will be created in the digital sectors of the Chinese economy by 2035, and the share of the digital economy in GDP will reach 48% [9].

The last aspect is fundamentally important: the economy of any country, introducing AI technologies, refuses a certain number of jobs, gradually replacing human labour.

However, in the economies of developing countries, where the branches of the digital economy have not yet been essentially created, the use of AI, on the contrary, leads to their creation, thereby contributing to increased employment.

Therefore, the idea that the development of AI systems and technologies negatively affects labour markets is not well-founded, especially when it comes to emerging markets.

What is the key implication of human labour replacement for economic growth?

The fact is that the massive replacement of labour as a factor of production will inevitably lead to a decrease in income in the respective national economies (if only because all employed people receive a certain income), and this already leads to a decrease in demand. Restrictions on demand in the context of a large aggregate supply of goods and services in the world economy will lead to even greater overproduction.

Despite the fact that earlier we indicated a slowdown in the growth of the world economy, nevertheless, in accordance with the available forecasts, in the long term, it is a group of key developing countries in terms of the volume of GDP created that will lead in comparison with developed countries [11, p. nine].

We considered two groups of countries - E7 (Emerging 7 - a group of leading developing countries: China, India, Brazil, Mexico, Russia, Indonesia, Turkey) and G7 (G7 countries: USA, Japan, Germany, France, Great Britain, Italy, Canada).

This leadership will strengthen in favour of the former (from the standpoint of our analysis, this is the same gap, but in favour of another group of countries, leading to another imbalance in the world economy).

In this regard, we believe that in the group of developed countries the use of AI technologies will be increasingly socially oriented, while in developing countries, on the contrary, it will be determined by the requirements of the development of industrial sectors.

It should be added that active participation in international trade for any country is also a significant factor in economic growth. Modern international trade is increasingly "digitalized": the export of information and communication services for the period 2010-2015 increased by 40%. The volume of e-commerce trade reached \$ 25.3 trillion, while the United Nations Conference on Trade and Development (UNCTAD) estimates cross-border deliveries using the "business-to-consumer" system (English - B2C - bussines4o-cusloter) at 189 bills. Dollars (7% of all e-commerce), while almost 42% of these supplies fall on only two countries - the United States and China [7]. The positive impact of AI on international trade lies primarily in increasing its mobility through ensuring more flexible operation of global supply chains, saving time for logistics and sales, introducing smart contracts into business practices, and increasing the availability of loans for trade finance.

The world is gradually witnessing a transition from traditional trade (starting in the 1920s) to e-commerce and further to trading using AI technologies [10].

At the same time, the growth of international trade mobility will inevitably lead to increased international competition, which, in turn, will increase the technological superiority of some countries and lag behind others. On the other hand, due to the limited use of AI in certain industries (for example, in the extractive industries, the requirements for technologies are not as great as in the manufacturing industries), international competition will reach the greatest extent in the service and high-tech industries. At the same time, the assessment of the involvement of different groups of countries in the world market of AI systems will remain an interesting object of special scientific research. We are talking about different countries not in terms of the level of their socio-economic development, but in terms of, for example, the capacity of markets (small

and large in terms of the territory and population of the country), the presence of “niche” industries in the national economy (for example, in the countries of Northern Europe).

CONCLUSION

Analysing the role of AI as a new factor of production, one should identify the degree of its impact on national economies, assess its effects on internal economic growth. Equally important is the assessment of the implications of AI for assessing (and re-evaluating) the gains of countries from participation in international trade and its distribution among countries.

Another important aspect from the standpoint of economic growth: since AI is objectively a new category, this means that new goods and services can be created on its basis. This, in turn, shows that the volume of markets and the world economy as a whole can be expanded (although in the course of their evolution, markets have been constantly expanding, which was due to the influence of scientific and technological progress). If we compare the growth rates of the world market of AI systems and technologies and the growth of effective demand in the world economy, then the former is significantly superior to the latter. Considering that in the structure of world consumer demand there is an increasing substitution of traditional goods created based on AI, it should be understood that, in principle, the conditions for such substitution are still extremely limited. This alignment shows that the supply of goods and services based on AI will inevitably grow faster than demand.

And this is another limiting factor in the context of considering the role of AI in economic the growth of the world economy (i.e. in the long term, despite the rapid development of the global AI market, restrictions on this growth will remain).

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