

Artificial Intelligence Systems Development Opportunities in Georgia

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Abstract:- Artificial intelligence is one of the important technologies of modern digital culture, that tries not only to understand the nature of the intellect, but also to create artificial systems having intelligent behavior. Introducing the technologies of the future gives opportunity to the developing countries and people living there to enjoy with the high standards of living, that developed countries of the world have. Artificial intelligence has a special role in maximizing sustainable economic development and economic prosperity.

Keywords:- Artificial Intelligence, Intellectual Systems, Macroeconomic Effects.

I. INTRODUCTION

Research of the technological changes and the rate of growth of their implementation, factors that caused technological changes are of particular interest for scientists of all time. In the 21st century, it is visible not only ultra-modern technological achievements, but the process of technological changes itself, which is of irreversible character. According to the numerous international studies, by 2030, artificial intelligence could provide from \$ 10 to \$ 15 trillion additional economic effect, that creates huge prospects for economic growth and high productivity. Developing technologies increase productivity, reduce costs, give us new knowledge, new opportunities.

“A study published by Analysis Group in 2016 (Chen, N. Christensen, L. Gallagher, K. Mate, R. & Rafert, G. (2016), “Global economic impacts associated with artificial intelligence”) and funded by Facebook, considers the effects on jobs and productivity as two separate streams of impact: direct effects on GDP growth and indirect effects. They consider that the direct impacts of AI on GDP come from increased revenues and employment in firms and sectors that develop or manufacture AI technologies. Secondary ‘indirect’ impacts will come from other sectors employing some AI technologies that could make their processes and decisions more efficient as well as increase access to information. They conclude that over the next 10 years, a reasonable range of economic impact would be \$1.49tn to \$2.95tn, an average of \$149bn to \$295bn a year.” [1]

II. LITERATURE REVIEW

It should be noted that artificial intelligence with its essence is not just a humanoid robot. Mobile applications and computer programs are the main areas of artificial intellect. According to the big part of scientists, artificial intelligence will fully exploit all the possibilities of human in a few decades. The potential of artificial intelligence is widely used in health, agriculture, finance, energy, communications, economic and cyber security and many other sectors. However, artificial intelligence is associated with many risks, such as its use with the criminal purpose, potential replacement or loss of jobs. By predictions of 2030, artificial intelligence will replace more than 800 million jobs of the world. [2]

Artificial intelligence has been spoken for a long time as a „danger of predominating”. According to American businessman, inventor and investor Elon Reeve Musk, artificial intelligence could become an „immortal dictator”. „Robots might start a war, publish fake news and fake emails”, - Elon Musk said. Earlier similar statement was made by British scientist Stephen Hawking. He said artificial intelligence could become one of the main causes of the demise of civilization. [3] But at the same time, AI will create new jobs in categories that we know of, and many more in categories that have yet to be created. These include Software analysts, Computer engineers, Research scientists, Engineering consultants, Mechanical and Electrical engineers and more. [4]

Founder of Microsoft Company - Billy Gates initiated the taxation of robots. In his view, funds received by taxation of robots should be distributed to the poor, unemployed and disabled children. [5] Imposing taxes on the digital economy is hotly debated both internationally and at EU level. In 2017, the European Parliament rejected the idea of imposing a robot tax on owners to fund support for retraining of workers put out of their jobs by robots. [6]

Georgia is developing, post-soviet country having small-economy, that is slowly but steadily moving forward, clear example of this are the processes, that will facilitate the introduction of technologies of artificial intelligence. Namely, in October 2019 establishing of the first business association of artificial intelligence AI Georgia, the aim of which is promoting and raising awareness of artificial intelligence as a separate field in the country, conducting studies in the mentioned field and introducing intellectual technologies in the country. “AI Georgia – the first AI

business association's mission is to promote and facilitate adoption of AI in the private sector, as well as to open and maintain the dialog between the businesses, executive and legislative branches of the state. The purpose of this association is to: Disseminate AI in the private sector; Conduct and support local or international research; Look for, recruit or up skill the talent; Provide assistance to the state to formulate the legislative framework; Generate and share use case of transforming business operations from traditional methods to advanced AI across different industries. Efforts by an alliance of private companies and academia under the umbrella of Ai Georgia and the State will directly impact increased interest and adoption of AI technologies throughout the industries. The involvement of informed, concerned constituents will influence policy makers and private sector to help to make needed advancement towards the economic prosperity through technology". [2]

Even though adoption of artificial intelligence and modern technologies at the state or corporate level is minimal currently in Georgia, compared to other developing countries, it has the competitive advantage of moving rapidly to the systems of artificial intelligence.

It is noteworthy, that a large-scale research has already begun to develop national strategy of artificial intelligence in the capital of Georgia, in the University of Business and Technology. „The national strategy of artificial intelligence implies formation of a research infrastructure, preparation of legislative base, deepening of international partnerships, adaptation of the educational system to new systems, supporting of sectors of strategic importance for the economy". The involvement of the educational system is important for starting this process, that took on itself University of Business and Technology in Georgia. [7] In particular, on the base of the Business and Technology University of (BTU) is planned the first in the region, large-scale project of artificial intelligence university, which will be implemented in partnership with international companies - HP and Microsoft - „this will be the first in the region educational space, which will integrate artificial intelligence indifferent sectors of education and business, generating, researching, training and development of innovations will take place. The project also includes the launch of HP powerful, high-performance technology lab, implementation of the training and research projects on the base of the university, by Microsoft. They include AI Business School, AI Academy and others.

III. DISCUSSION

According to BTU, initiative of MBZUAI- the first artificial intelligence university in the world, was announced in October 2019 in Abu Dhabi and will start operating in September 2020. BTU AI will be the first university in the region, which will work in the direction of promoting learning, research and startups for the development of artificial intelligence. International organizations predict, that the global market of artificial intelligence will reach \$ 4 trillion by 2022. Its capabilities

will be used by large industries to increase the efficiency of manufacture, healthcare, finance, agriculture, security and other sectors.

Special attention was paid to the introduction of artificial intelligence in Georgia on October 22-23, 2019 on the third Silk Road Forum in Tbilisi. The Forum was organized by the Government of Georgia with the aim of strengthening political, economic and cultural ties between Asia and Europe and creating a discussion platform, where Silk Road initiative countries, representatives of international organizations and the private sector discussed prospects for deepening cooperation with each other. Tbilisi Silk Road Forum hosted around 2000 participants from 60 different countries, who discussed issues such as the challenges of the global economy, growing role of artificial intelligence, transport, trade, energy, investment opportunities and others. The perspectives and challenges of developing artificial intelligence in the countries of Silk Road were discussed in a panel discussion: Innovation Driven Growth - Artificial Intelligence (AI) for Silk Road.

Nikoloz Alavidze, the Deputy Minister of Economy and Sustainable Development of Georgia, spoke about the importance of the introducing of new technologies including the artificial intelligence at the Tbilisi Silk Road Forum. "We are trying to keep up with this pace and get the best experience and practice from the big players. I am confident that the further development of artificial intelligence will help our region and countries to become more productive by the next year. We are a small country, but we are partners for the global world because we think locally but act globally. This is our chance and the Government of Georgia is trying to support this direction. We have a Georgian Innovation and Technology Agency, we also have some successful startups in this regard, we have relevant policies in place and we are trying to develop an appropriate action plan as well. Artificial intelligence will be the next step in our daily lives," – Nikoloz Alavidze said. [8]

According to Irakli Beridze - Head of the UN Center of artificial intelligence and robotechnics, the use of artificial intelligence in economy, public life and taking its good qualities and best results is extremely important for economic and social development of Georgia. Georgia is actively involved in these processes and it is planned creating of national strategy. It already exists „Georgian Artificial Intellect Business Association" also some very interesting startups and State-Government initiatives, that are showing good results for this country and generally in the world processes". [8]

In the Forum delegates participated in interactive polls - do we need harmonized world regulations / standards in the age of artificial intelligence (AI)? The organizers developed three answers for this question: 1. Existing international regulations and standards are sufficient; 2. Each country / region should have its own regulations and standards; 3. A completely new approach is needed. The first answer was supported by 81 percent of delegates, the

second by 11 percent and the third by 8 percent. [9] In our opinion, the results are logical, because most Silk Road countries, like Georgia, have little experience, so it is best to share existing regulations, that allow us to develop in line with international standards.

Thus, introduction and development of artificial intelligence technologies in Georgia is potential for new opportunities, its results are particularly important for the development of the economy. It should also be taken into account, that the development of artificial intelligence technologies reduces the use of human capital, which in its turn increases the risks of rising unemployment. The youth unemployment rate in the world reaches alarming parameters: Greece - 55%, Spain - 52%, other European countries - 20-22%, Georgia - 31%. Thus, evaluating the full potential of artificial intelligence technology, maximizing the benefits and minimizing the risks is very important.

IV. CONCLUSION

During the defining economic policy of country, it is important to remember that artificial intelligence does not just mean appearing of high-tech startups on the market. The main thing is implementation of artificial intelligence technologies in all possible sectors through the joint efforts of the state, business and education sectors. Economic growth would otherwise be impossible. Existing barriers include education reform, absence of a digital entrepreneurial culture and a number of regulations, that can be arranged through active involvement of the state.

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