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ARTIFICIAL INTELLIGENCE AS AN INCENTIVE FOR ECONOMIC DEVELOPMENT

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Introduction. The advancement of science and technology stands as a fundamental catalyst for driving economic growth within organizations, sectors, and entire economies. In the contemporary context of a globalized world economy, individual countries are compelled to align themselves with the trajectory of global development. Science and technology exhibit an intrinsic interdependence with various facets of the economy, whereby their progress not only propels the growth of individual sectors but also enhances the overall economic landscape.

In today's fast-paced global economy, the nexus of science, technology, artificial intelligence (AI), and economic growth is more pronounced than ever before. These four pillars are inextricably intertwined, propelling nations, industries, and organizations toward prosperity and innovation. It is a well-known fact that economic growth has an important role in the formation of a nation's prosperous life and the improvement of living standards. There are 2 vital economic terms that we always mix; it is economic growth and development. Economic growth represents an increase in real incomes, while economic development is a structural, and often a radical change in the national economy of a country. Economic growth is a way to measure the level of economic development of a country, to determine how competitive it is on the world market, and technological innovation is one of the determining factors contributing to economic growth. This is one of the main driving forces of human development. Spending and investing in innovation, research, and development contribute to progress and competitiveness.[1]

The development of production, creation of new jobs, and welfare were the core of countries' traditional model of economic development. On the other hand, science has always been the bedrock upon which technological innovation and changes are built. Fundamental research and breakthrough discoveries pave the way for new technologies that revolutionize industries and fuel economic growth. The link between scientific research and technological advancement is well-documented. Research and innovation-driven economies tend to generate high-skilled job opportunities and foster entrepreneurship. For instance, Silicon Valley in the United States has been at the

[1] Maha Mohamed Alsebai Mohamed et al, Causality between Technological Innovation and Economic Growth: Evidence from the Economies of Developing Countries, https://www.mdpi.com/2071-1050/14/6/3586

forefront of technological innovation, creating a hub that attracts talent, investments, and entrepreneurial endeavors.[1]

Technological innovation is the engine that propels economic growth and fosters higher living standards.[2] And every year new trends are seen in technological innovation, such as the use of Artificial Intelligence (AI). And we can insist that technology, particularly AI, is becoming a driving force behind economic growth. AI's ability to process vast amounts of data, make predictions, and automate complex tasks is revolutionizing various sectors, from healthcare and finance to manufacturing and transportation. The incorporation of AI in businesses not only enhances efficiency but also opens new avenues for innovation and competitiveness.[3]

The relevance of the article. We live in a world where science, technological innovations, and AI have become the driving force of development. And the world is changing in that direction even faster than expected. The synergy between science, technology, artificial intelligence, and economic growth creates a beneficial cycle. Scientific research leads to technological progress, which, in turn, contributes to economic development. This growth generates resources that can be reinvested in further research and innovation, perpetuating the cycle. Thus the study **aims to** describe the relationship between technological progress, science, and AI in explaining the development of the economy.

The following *objectives are set in the scope of the study:*

- *To study the nature of technological progress, taking into account the use of science as a factor.*
- *To identify the role of AI in technological progress and economic development.*

The topic has been studied by foreign researchers, international organizations, and Armenian researchers.

Literature review. Scientific and technological progress is rightfully considered the engine of the entire economy of the country, that is, it is through it that economic growth can be stabilized. It directly affects the production sector by:

- improving production capacity,
- increasing the production mass,
- increasing labor productivity, etc.[4]

Scientific and technological progress is evident in various fields like management - within the framework of building the capacity of highly qualified specialists, production contributes to the improvement of the well-being of the whole society by providing it

[1] www.siliconvalley.com
[2] https://www.wipo.int/edocs/pubdocs/en/wipo_pub_944_2019-chapter1.pdf
[3] https://royalsociety.org/topics-policy/projects/ai-and-work/
[4] https://spravochnick.ru/ekonomika/struktura_ekonomicheskogo_rosta/ntp_i_ekonomicheskiy_rost/

with modern technical innovations, tools, and novelties in the provision of services, etc.[1] However, the mechanisms by which the technology is developed, implemented, and used in production are complex. Their more detailed analysis may lead to new conclusions that may have an important impact on many policy areas, including scientific policy, research and development, industrial policy, and both national and regional development policy. In fact, the very concept of technology, as well as the individual and social opportunities necessary for its development, can now be studied at a much more detailed level, which will lead to potential investments that can affect higher education, job creation, and economic growth. Obviously, there are links between education, research and development, innovation, and economic activity that are part of this process. The process is presented in the following form: knowledge leads to the development of technologies, and the introduction and application of technologies lead to economic growth (Figure 1).

Figure 1. **The relationship between scientific and technological progress and economic growth**[2]**.**

We can obviously state that this process is a continuous cycle, in which human capital and science have a major role. The main thing that changes over time is technology.

According to Stefan Calimanu- recent advancements in technology have shaped transformative changes across all sectors, whether through direct or indirect means. To remain competitive and prosper within this ever-evolving economic landscape, industries have been compelled to adjust to these technological innovations, resulting in fundamental shifts in their operational paradigms. Technological-driven effects, such as automation and digitalization, have sparked revolutionary alterations in procedures, upended traditional sectors, and led to substantial job reconfigurations. Concurrently,

[1] https://spravochnick.ru/ekonomika/struktura_ekonomicheskogo_rosta/ntp_i_ekonomicheskiy_rost/

[2] https://rcc.harvard.edu/knowledge-technology-and-complexity-economic-growth#:~:text=In%20economics%2C%20it%20is%20widely,is%20what%20prosperity%20depends%20on.

the escalating significance of data and analytics has underscored the pivotal role that technology now occupies in shaping decision-making processes and restructuring the corporate environment[1].

According to Joel Mokyr, "Technological progress does not only directly affect productivity; it also pushes science towards more powerful tools to work with". Artificial intelligence, lasers, and genetic engineering seem to belong to general purpose technologies (GPT) that have many applications in a wide range of manufacturing and research applications. It seems that GPT, such as machine learning, takes time to fully impact the economy because by definition it requires more innovation and investment. He is convinced that just as the new tools and gadgets of the 17th century contributed to the scientific revolution and the advent of the era of steam and electricity, powerful computers, lasers and many other tools of our century will lead to technological progress that unimaginable today, just as Galileo could not foresee the creation of the engine.[2]

Despite the fact that the mechanisms for achieving scientific and technological progress are different in different countries, nevertheless, there are certain similarities that touched L. Azatyan and Sh. Kostanyan in their work. There are the following common features:

- encouragement, financing by governments of scientific research in the most priority and important area,
- development of measures aimed at conducting large-scale scientific research,
- encouraging individuals to carry out their own research work,
- and ensuring the efficient operation of scientific infrastructures. [3]

One of the important creations of using science and technology is the introduction of Artificial Intelligence. Currently, in parallel with the development of science and technology, the role of Artificial Intelligence has become vital. In the current technological era, artificial intelligence has a significant impact on a number of sectors of the economy around the world. And globalization plays a vital role in introducing artificial intelligence all over the world.

Even though Artificial intelligence was first defined by John McCarthy in 1959[4] "as the science of creating and designing rational machines", it is obvious that it is being used to almost full potential in recent years. Indeed, AI technology is appearing in

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[1] Stefan Calimanu, How Technology Is Changing The Landscape Of Economic Development, https://researchfdi.com/resources/articles/how-technology-is-changing-the-landscape-of-economic-development/

[2] Joel Mokyr, Building Taller Ladders, 2018 https://www.imf.org/en/Publications/fandd/issues/2018/06/impact-of-science-and-technology-on-global-economic-growth-mokyr

[3] https://arar.sci.am/dlibra/publication/279921/edition/256975/content

[4] GEVORG GHALACHYAN – Application of Artificial Intelligence Models in Finance (on the example of the UCO in RA)

various forms at all levels of our contact with society, from small daily chatting intelligent robots to large industry and government-level assisted offices, and is quietly changing the way of life around the world.[1]

According to the European Parliamentary Research Service, the rapidly increasing computing power and connectedness have made it possible to compile and share large volumes of valuable data, which is now more accessible than ever before. This has created momentum for AI technologies. Importantly, AI patents have been on the rise worldwide[2].

During their study, Anton Korinek et al came to the conclusion that new technology advancements, the use of AI are labor-saving and can increase inequality and poverty around the world. They also create circumstances where highly skilled individuals and countries leading in technological advancements benefit from winner-takes-all dynamics[3].

Acemoglu and Restrepo have devised a "task-based" framework that regards automation and the emergence of new tasks as forms of technological advancement. Both of these technological aspects are crucial for boosting productivity. Initially, Acemoglu and Restrepo suggested that all tasks could be performed by human labor, while "lower-ranked" tasks could and would be automated. However, automation necessitates some capital investment, leading to an increase in the capital share and a decrease in the labor share in production. Nevertheless, this is balanced out by the creation of new, more intricate tasks where labor possesses a "comparative advantage". In the long term, there is a "stable, balanced growth path" where both types of innovations coexist and expand at the same rate[4].

These aforementioned theoretical concepts help clarify the link between modern science, ICT advancements, and economic growth. However, when it comes to more recent forms of technological innovation like AI and machine learning, there remains limited empirical evidence. This limitation can be ascribed to a lack of sufficient data, both at the firm and macroeconomic levels, particularly when analyzing long-term growth trends.

There is also some evidence indicating that the creation of patents has a positive impact on economic growth. This favorable effect of patenting aligns with the conclusions of various researchers. However, it's worth noting that this effect is noticeably smaller and less pronounced when compared to the influence of AI patents

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[1] https://link.springer.com/article/10.1007/s13132-023-01183-2

[2] https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/637967/EPRS_BRI(2019)637967_EN.pdf

[3] Mr. Anton Korinek, Mr. Martin Schindler, and Joseph Stiglitz, Technological Progress, Artificial Intelligence, and Inclusive Growth, International Monetary Fund, 2021, https://www.elibrary.imf.org/view/journals/001/2021/166/article-A001-en.xml

[4] Daron Acemoglu, Pascual Restrepo, "Automation and New Tasks: The Implications of the Task Content of Technology for Labor Demand" Boston University, August 31, 2018

on growth. In the earlier periods of the dataset, total patents did show significantly positive effects.

Moreover, the impact of AI on growth is more robust in advanced economies, which is consistent with Zeira's theory of machine automation. Due to variations in their capital resources, not all countries can keep up with the constantly evolving technological frontier. AI demands physical and often ICT-related capital as well as technical expertise, making it challenging for all countries to effectively implement and utilize AI technologies. Meanwhile, more developed economies can harness AI in their production and business operations thanks to their access to knowledge and infrastructure that complement AI, leading to a substantial positive contribution of AI to economic growth[1].

According to another study, Artificial Intelligence possesses the capability to enhance manufacturing output, boost efficiency, and elevate safety within production processes. Robots fueled by AI can operate ceaselessly, ensuring a consistent flow of production. As per findings from Saxon, the integration of AI-powered robots may lead to a potential 33% reduction in labor costs, a 50% decrease in unplanned downtime, a 50% drop in product defects, and a 20% improvement in manufacturing efficiency.[2]

The positive impact of AI has been discussed by various authors. For some, it will positively impact economic development, whilst there are many people and scientists who are skeptical about this. There is no doubt that AI integration into operating systems aims to create systems capable of aiding humans or potentially functioning entirely through AI-driven decision-making. Gradually, AI is evolving into an essential technological support for daily social and economic activities. Its significant role in promoting sustainable economic development across various industries is becoming increasingly evident, capturing attention at industry, academic, and governmental levels[3]. Vyshnevskyi and others think that AI-related endeavors will serve as a driving force for further economic development, leading to substantial shifts in production structures, approaches, and the quantity and quality of consumption[4].

Methodology. The works of various authors have been examined in the scope of the study; the database of IamIP has been used to visualize the role of science and

[1] Julius Tan Gonzales, Implications of AI innovation on economic growth: a panel data study, Journal of Economic Structures volume 12, 2023

[2] https://eprcug.org/blog/artificial-intelligence-and-its-role-in-economic-development/

[3] Artificial Intelligence and Economic Development: An Evolutionary Investigation and Systematic Review, Journal of the Knowledge Economy, 2023, https://link.springer.com/article/10.1007/s13132-023-01183-2#:~:text=AI%20Enhances%20Labor%20and%20Capital,development%20dynamics%20of%20the%20economy.

[4] Vyshnevskyi, O., Liashenko, V., & Amosha, O. (2019). The impact of Industry 4.0 and AI on economic growth. Scientific Papers of Silesian University of Technology Organization and Management Series, 9, 391–400.

technology in Armenia. Methods of historical analysis, systematic, and descriptive analysis are applied.

Discussion. When summarizing different authors' thoughts, we can conclude that AI may not be beneficial for all countries in the short-run, how its use will affect developing countries like Armenia, and what will be the future the time will show. The use of AI can increase productivity but on the other hand, it creates a fear of losing jobs. This fear is spread in both developed and developing countries, and it is not unreasonable. As every technological advancement has a lifecycle, every boom is being followed by a fall.

Despite the uncertainties surrounding AI, it is crucial to carefully consider potential disruptive events that could profoundly impact our society.

To better understand the historical context of this situation, we can examine the broader history of technological advancement. Throughout much of history, humanity existed in a Malthusian state, with the majority of the population living at subsistence levels. The Industrial Revolution, which improved living standards, began just over two centuries ago, making it a relatively brief episode in the grand sweep of human civilization. In the case of developing countries, the era of export-led growth based on manufacturing, which facilitated the East Asian Miracle, has spanned only the last fifty years—a mere quarter of the Industrial Revolution's history. It is conceivable that we are entering another era, and there is even a risk that the losses in terms of trade resulting from AI progress could potentially undermine much of the developmental gains achieved by developing countries in recent decades.[1]

Despite the fear of uncertainties, the number of AI patents is growing every year. It is promoted on both company and state levels to put efforts into R&D, use technologies, and introduce AI-based computing.

IamIP presents the top 5 countries that have the most patents filed around AI technology. According to statistics for almost 10 years, the US is the leader, followed by China, South Korea, Japan, and Germany. Global companies like IBM, Microsoft, and Google are at the forefront of AI innovation, developing AI-powered solutions. [2]

All the countries try to benefit from the use of AI, form strategies, and contribute financially. The European Union (EU) has acknowledged the significance of artificial intelligence (AI) and has put in place a framework to guide the advancement and application of AI technologies. The EU's AI strategy is centered on stimulating innovation, upholding ethical and dependable AI practices, and ensuring that the advantages of AI benefit all segments of society.

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[1] https://www.elibrary.imf.org/view/journals/001/2021/166/article-A001-en.xml

[2] https://iamip.com/the-rise-of-artificial-intelligence-patent-activity-in-europe-around-the-world/#:~:text=Here%20are%20the%20top%205,patents%20filled%20around%20AI%20technology.&text=The%20United%20States%20and%20China,Germany%2C%20Japan%20and%20South%20Korea.

Numerous European countries have likewise formulated their own AI strategies. For instance, in 2017, France initiated a national AI strategy with the goal of positioning France as a global leader in the field of AI. This strategy involves investments in research and development, the establishment of an AI ecosystem, and the cultivation of ethical and trustworthy AI practices.

Germany has also committed substantial resources to AI, with the government pledging € 3 billion in funding for AI research over the next decade. This funding will support research initiatives, establish centers of excellence for AI, and facilitate the growth of AI technologies.[1]

To understand the situation in Armenia we should move the path of our study from Europe to Armenia. The tech sector in Armenia is one of the fastest growing sectors, this sector creates the base for the normal operation of other sectors even during the COVID-19, and Artsakh wars. The state continues to promote tech sector development. Right after the beginning of the Russian-Ukrainian war Armenian Government created a beneficial environment for Russian, and Ukrainian IT companies' relocation to Armenia.

Top IT companies in Armenia use Machine Learning, NLP, and Chatbots. The Armenian tech sector has all the potential to create AI-driven technologies and promote country's development. Even considering the fact that many jobs will be closed when AI is used in all potential, companies are thrilled to introduce AI-driven programs.

In 2021[2] Armenian Government highlighted the importance of AI. They stated that, given the numerous applications of AI, it can become for Armenia both an instrument of economic development and technological progress, and an opportunity to gain a decisive advantage in the military sphere.

In fact, fundamental AI research does not require large investments. Basically, a stable internet connection is required, and in some cases, supercomputers (for example. In addition, we have a significant heritage, well-established traditions, and a comparative advantage over the countries of Eastern Europe in the field of mathematics and natural sciences. Despite the fact that a number of universities have opened bachelor's and/or master's degree programs in artificial intelligence training in recent years, as well as informal educational programs have been created, AI training is still in its infancy. In addition, there are no doctoral and postdoctoral programs in Armenia, which leads to a "brain drain" of young people who want to develop their professional knowledge, or to scientific backwardness, which is why the field is slowly developing.

In 2020, a group of experts from the European Commission, with the support of the Directorate General for Research and Innovation, developed a document, the implementation of which should put education, science, and research work on a different level, that is, those main areas that contribute to the development,

[1] IBID 18

[2] https://www.gov.am/am/news/item/15072/

implementation of new technologies, ensuring scientific and technological progress and, consequently, contribute to economic growth. They identified the following challenges: these are the four main aspects of the scientific system: 1. management of the scientific system (strategic and operational powers), 2. vision and role of the scientific system in the perspective of the country's development, 3. science funding system, 4. R&D institutions and structure.[1]

What is the most important to be competitive in this fast-growing world of technological advancements Armenian Government should focus on forming and implementing a strategy for AI development. By the decision of the Armenian government, funding for science has been increased since 2021, which contributes to attracting more young scientists, and implementing various research programs that are carried out in order to identify priority areas and ensure their progress.

By summarizing we can say that the science sector is undervalued in Armenia, there are weak points here, and effective operation of this sector can bust R&D works directed to AI and technological advancement.

The scientific novelty of this article is rooted in the analysis of the intricate interconnections among science, technology, artificial intelligence (AI), and economic growth, contextualized within the framework of the contemporary global landscape. While extant studies have predominantly scrutinized discrete facets of this intricate relationship, we made an attempt to amalgamate information to elucidate the nuanced dynamics through which these elements intricately interact and contribute to progress, with a particular emphasis on the case of Armenia. Notably, the article underscores the transformative role of AI as a pivotal driver of economic growth and heightened living standards, elucidating the profound implications arising from AI's adeptness in data processing, outcome prediction, and the automation of intricate tasks.

Conclusion. In conclusion, the interplay between science, technology, artificial intelligence (AI), and economic growth is a dynamic and critical driver of progress in our contemporary world. These elements are intrinsically linked, shaping the destinies of nations, industries, and organizations. As we navigate the complexities of this rapidly evolving global economy, it is vital to recognize the pivotal role played by scientific research and technological innovation.

In this era, technological innovation, with AI at the forefront, has emerged as the engine propelling economic growth and enhancing living standards. AI's capacity to process vast amounts of data, predict outcomes, and automate complex tasks has revolutionized various sectors. It not only boosts efficiency but also opens new avenues for innovation and competitiveness.

[1] https://ec.europa.eu/research-and-innovation/sites/default/files/rio/report/SS%2520Armenia_Final%2520Report%2520in%2520Armenian.pdf

Despite the uncertainties surrounding AI, its continuing growth is evident, as reflected in the increasing number of AI patents worldwide. This surge in innovation is being championed both by companies and governments, with significant investments in R&D. Countries around the world are embracing AI as a tool for economic development and technological progress. While AI holds great promise, it also raises concerns about job displacement and potential inequalities.

In Armenia, the development of AI and technological progress can be further accelerated by investing in science, research, and education. Strengthening the scientific sector, attracting young talents, and implementing research programs will be key to fostering AI-driven innovations and ensuring the country's competitiveness in the global technological landscape.

In this rapidly changing world of technological advancements, Armenia has the potential to become a significant player by formulating and implementing a robust AI development strategy. Increased funding for science and a focus on research and development will be essential components of this strategy. By addressing these challenges, Armenia can harness the power of AI and contribute to its own economic growth and technological advancement.

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ԱՐՀԵՍՏԱԿԱՆ ԲԱՆԱԿԱՆՈՒԹՅՈՒՆԸ ՈՐՊԵՍ ՏՆՏԵՍԱԿԱՆ ԶԱՐԳԱՑՄԱՆ ԽԹԱՆ

Մարիամ Վարդանի Պողոսյան

Համառոտագիր: Հետազոտության շրջանակներում ուսումնասիրվել է գիտության, տեխնոլոգիայի, արհեստական բանականության (AI) և տնտեսական աճի բարդ փոխհարաբերությունները ներկայիս գլոբալ համատեքստում: Արհեստական բանականությունը փոխակերպող դեր ունի տվյալները մշակելու, արդյունքները կանխատեսելու և բարդ առաջադրանքները ավտոմատացնելու ուղղությամբ՝ տնտեսական աճը խթանելու և կենսամակարդակը բարելավելու գործում:

Հոդվածի արդիականությունը: Գիտության, տեխնոլոգիայի, արհեստական բանականության և տնտեսական աճի միջև սիներգիան բարենպաստ ցիկլ է ստեղծում: Գիտական հետազոտությունները հանգեցնում են տեխնոլոգիական առաջընթացի, որն իր հերթին նպաստում է տնտեսական զարգացմանը: Այս աճը առաջացնում է ռեսուրսներ, որոնք կարող են վերաներդրվել հետագա հետազոտությունների և նորարարությունների մեջ՝ հավերժացնելով ցիկլը: Այսպիսով, ուսումնասիրության **նպատակն է** նկարագրել տեխնոլոգիական առաջընթացի, գիտության և արհեստական բանականության միջև փոխհարաբերությունները՝ բացատրելով տնտեսության զարգացումը:

Հետազոտության շրջանակներում սահմանվել են հետևյալ խնդիրները՝

- Ուսումնասիրել տեխնոլոգիական առաջընթացի բնույթը՝ հաշվի առնելով գիտության օգտագործումը որպես գործոն:
- Որոշել արհեստական բանականության դերը տեխնոլոգիական առաջընթացի և տնտեսական զարգացման մեջ:

Թեման ուսումնասիրվել է օտարերկրյա հետազոտողների, միջազգային կազմակերպությունների և հայ հեղինակների կողմից:

Գիտական նորույթը կայանում է գլոբալ զարգացման համատեքստում գիտության, տեխնոլոգիայի, արհեստական բանականության(AI) և տնտեսական աճի բարդ հարաբերությունների վերլուծության մեջ: Թեև գոյություն ունեցող ուսումնասիրությունները հիմնականում մանրակրկիտ ուսումնասիրել են այս հարաբերությունների առանձին ասպեկտները, մեր կողմից փորձ է արվել միավորելու տեղեկատվությունը՝ պարզաբանելու այն նուրբ դինամիկան, որի միջոցով այդ տարրերը փոխազդում և նպաստում են առաջընթացին՝ ուսումնասիրելով նաև Հայաստանի օրինակը: Հատկանշական է, որ հոդվածում ընդգծվում է արհեստական բանականության փոխակերպող դերը՝ որպես տնտեսական աճի և կենսամակարդակի բարձրացման հիմնական գործոն, պարզաբանվում են հետևանքները, որոնք բխում են դրա՝ տվյալների մշակման, արդյունքների կանխատեսման և բարդ առաջադրանքների ավտոմատացման ունակությունից:

Եզրակացություն: Հայաստանում արհեստական բանականության զարգացումը և տեխնոլոգիական առաջընթացը կարող են էլ ավելի արագանալ գիտության, հետազոտությունների և կրթության ոլորտում ներդրումների հաշվին: Գիտական ոլորտի ամրապնդումը, երիտասարդ տաղանդների ներգրավումը և հետազոտական ծրագրերի իրականացումը կդառնան արհեստական բանականության վրա հիմնված նորարարությունների խթանման և համաշխարհային տեխնոլոգիական միջավայրում երկրի մրցունակության ապահովման բանալին:

Բանալի բառեր. տնտեսական աճ, հետազոտություններ և մշակումներ, զարգացում, արհեստական բանականություն, տեխնոլոգիա, գիտություն, գլոբալիզացիա

ИСКУССТВЕННЫЙ ИНТЕЛЛЕКТ КАК СТИМУЛ ЭКОНОМИЧЕСКОГО РАЗВИТИЯ

Мариам Варданович Погосян

Аннотация. Рассматриваемая работа изучает сложную взаимосвязь между наукой, технологиями, искусственным интеллектом (ИИ) и экономическим ростом в нашем современном глобальном контексте. В нем подчеркивается преобразующая роль искусственного интеллекта с его способностью обрабатывать данные, прогнозировать результаты и автоматизировать сложные задачи в стимулировании экономического роста и повышении уровня жизни.

Актуальность статьи. Синергия между наукой, технологиями, искусственным интеллектом и экономическим ростом создает благоприятный цикл. Научные исследования ведут к технологическому прогрессу, который, в свою очередь, способствует экономическому развитию. Этот рост генерирует ресурсы, которые могут быть реинвестированы в дальнейшие исследования и инновации, делая цикл непрекращающимся. Таким образом, **цель исследования** - описать взаимосвязь между технологическим прогрессом, наукой и искусственным интеллектом, объясняя развитие экономики.

В рамках исследования были определены следующие задачи`

- Изучить характер технического прогресса с учетом использования науки как фактора.
- Определить роль искусственного интеллекта в технологическом прогрессе и экономическом развитии.

Эта тема была изучена зарубежными исследователями, международными организациями и армянскими авторами.

Научная новизна этой статьи заключается в анализе сложных взаимосвязей между наукой, технологиями, искусственным интеллектом (ИИ) и экономическим

ростом, контекстуализированных в рамках современного глобального ландшафта. В то время как существующие исследования в основном тщательно изучали отдельные аспекты этих сложных взаимоотношений, наш текст объединяет информацию, чтобы прояснить тонкую динамику, посредством которой эти элементы взаимодействуют и способствуют прогрессу в нашем динамично развивающемся мире, с особым акцентом на примере Армении. Примечательно, что в статье подчеркивается преобразующая роль ИИ как ключевого фактора экономического роста и повышения уровня жизни, разъясняются глубокие последствия, вытекающие из способности ИИ обрабатывать данные, прогнозировать результаты и автоматизировать сложные задачи.

Выводы. В Армении развитие искусственного интеллекта и технологический прогресс могут быть еще более ускорены за счет инвестиций в науку, исследования и образование. Укрепление научного сектора, привлечение молодых талантов и реализация исследовательских программ станут ключом к стимулированию инноваций, основанных на искусственном интеллекте, и обеспечению конкурентоспособности страны в глобальной технологической среде.

Ключевые слова: экономический рост, НИОКР, развитие, искусственный интеллект, технология, наука, глобализация

ARTIFICIAL INTELLIGENCE AS AN INCENTIVE FOR ECONOMIC DEVELOPMENT

Mariam Vardan Poghosyan

Abstract. This study explores the intricate nexus between science, technology, artificial intelligence (AI), and economic growth in our contemporary global context. It highlights the transformative role of AI, with its capacity to process data, predict outcomes, and automate complex tasks, in driving economic growth and enhancing living standards.

The synergy between science, technology, AI, and economic growth creates a beneficial cycle. Scientific research leads to technological progress, which, in turn, contributes to economic development. This growth generates resources that can be reinvested in further research and innovation, perpetuating the cycle. Thus the study **aims to** describe the relationship between technological progress, science, and AI in explaining the development of the economy.

The following **objectives** are set in the scope of the study:

- To study the nature of technological progress, taking into account the use of science as a factor.
- To identify the role of AI in technological progress and economic development.

The topic has been studied by foreign researchers, international organizations, and Armenian researchers.

The scientific novelty of this article is rooted in the analysis of the intricate interconnections among science, technology, artificial intelligence (AI), and economic growth, contextualized within the framework of the contemporary global landscape. While extant studies have predominantly scrutinized discrete facets of this intricate relationship, we made an attempt to amalgamate information to elucidate the nuanced dynamics through which these elements intricately interact and contribute to progress, with a particular emphasis on the case of Armenia. Notably, the article underscores the transformative role of AI as a pivotal driver of economic growth and heightened living standards, elucidating the profound implications arising from AI's adeptness in data processing, outcome prediction, and the automation of intricate tasks.

Conclusion. In Armenia, the development of AI and technological progress can be further accelerated by investing in science, research, and education. Strengthening the scientific sector, attracting young talents, and implementing research programs will be key to fostering AI-driven innovations and ensuring the country's competitiveness in the global technological landscape.

Keywords: economic growth, R&D, development, AI, technology, science, globalization