

**IMPACT OF ARTIFICIAL INTELLIGENCE (AI) ON ECONOMICS AND
MANAGEMENT**<https://doi.org/10.59982/18294359-24.15-is-09>***Satenik Ghazaryan****Company "Kazaryan Marketing"**satikazarian@gmail.com****Luiza Iiupova****USA, California, Company "EasySound"**luiza.iiupova@gmail.com****Abstract***

The scientific article presents the results of the research on the peculiarities of artificial intelligence technology's impact on the transformation of business process management systems, management decision-making, and organizations' management improvement in all sectors of the economy. The relevance of the work on the selected issue is determined by the formation of a digital economy model in which technology, including artificial intelligence, contributes to improving the efficiency of management and the economic activities of business entities. The object of the study is artificial intelligence (AI) technologies. The subject of the study is the impact of artificial intelligence technologies on management practices and economic activities of commercial organizations. Within the framework of the scientific article, the theoretical and practical aspects of the concept of "artificial intelligence" are considered. The factors that caused the development of artificial intelligence technologies in modern economics and management are identified. The main directions of influence of artificial intelligence technology in the management activities of organizations are analyzed. The prospects and possibilities of AI technology in economics and management are addressed. The actual problems that create threats and barriers to the introduction and effective use of artificial intelligence technology with the improvement of the management system at the enterprise are identified. The conclusions of the article establish that the impact of artificial intelligence on the economy and management forms a sustainable foundation for successful digital transformation by increasing the economic efficiency of economic activity and management.

Keywords: Artificial intelligence; digitalization; management system; digital economy; management; digital transformation.

The current practice of strategic management of the real economy sector organizations in order to select and implement the development strategy faced the need to find managerial solutions to get out of the resulting crisis situations provoked by the factors of the external business environment and socio-economic turbulence. As trends in innovation and highly intelligent technologies come to the fore in the 2020s, it is logical to assume that methods of digitalizing entrepreneurial activities are becoming more relevant and practically oriented. This includes the digital transformation of the economy and management system, a feature of which is the introduction and use of digital information and communication and intellectual technologies in improving the management processes of economic systems, which include organizations.

The main trend in the transformation of enterprises is the introduction and use of innovations in the form of information and digital technologies. Their practical significance is due to the fact that through the use of various technologies, software and innovations, management processes are improved. Many routine tasks of managers are automated, which facilitates managerial activities [Ivanova, Myasoedov].

Digital transformations in modern business rely on modern technological solutions, which are based on those IT development trends that are characteristic of the entire global community [Filippova].

The innovative form of enterprise management in the modern economy brings the existing ones to practical application and requires the formation of new methods of increasing the innovative potential of business entities. This is due to the fact that in the current period of development, aspects of sanctions pressure are formed and intensified, which leads to the emergence of problems of sustainable business development.

In the modern practice of economic activity of enterprises, the most important aspect is competitiveness management. The formation of new competitive advantages and elimination of threats is possible through the implementation of innovation policy, where the development, implementation and use of innovations are important. Thus, for enterprises it is a priority business strategy of development, which helps to bring the efficiency of economic activity to a new level.

To confirm the formation relevance of commercial organizations' innovation policy of today, it is worth noting the increase in the dynamics of change in the costs of organizations for innovative development and use of innovative products.

The internal costs of commercial organizations are aimed at financing R&D. This includes both innovation-oriented investment projects and R&D with design ideas. Internal innovation costs have a long-run impact effect because initially commercial organizations make substantial expenditures on innovation activities that have no profit. Only after thorough implementation of innovations and their exploitation does the economic effect of these investments begin, forming new competitive advantages of companies.

The internal costs of commercial organizations' innovation activities and costs of people consuming innovative goods and services are increasing every year.

The main factors stimulating innovation activity and digital transformation of commercial organizations of our time are:

- economic crisis caused by a decline in revenues, earnings and financial results of business structures, which makes traditional management technologies and tools ineffective;
- international trend of digitalization, which covers all spheres of economic activity;
- positive examples of how digital technology is helping foreign corporations meet the challenges of driving revenue, reducing business costs and speeding up financial and settlement operations;
- the problem of territorial access of companies to financial resources, banking products and investment capital is leveled out;
- transparency of financial relations and reliability of financial and settlement operations is increased, and the probability of financial fraud on the part of agents and stakeholders of the corporation is reduced.

One of the most popular innovations in today's economy is artificial intelligence technology. These are innovative next-generation technologies that replace human cognitive functions. AI technologies have a self-learning function, the process of which is related to the solution of tasks.

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Information-analytical support of management is taking place, as AI technologies make it possible to identify "pain points" in the finances, resources and business processes of enterprises in different spheres of economic activity.

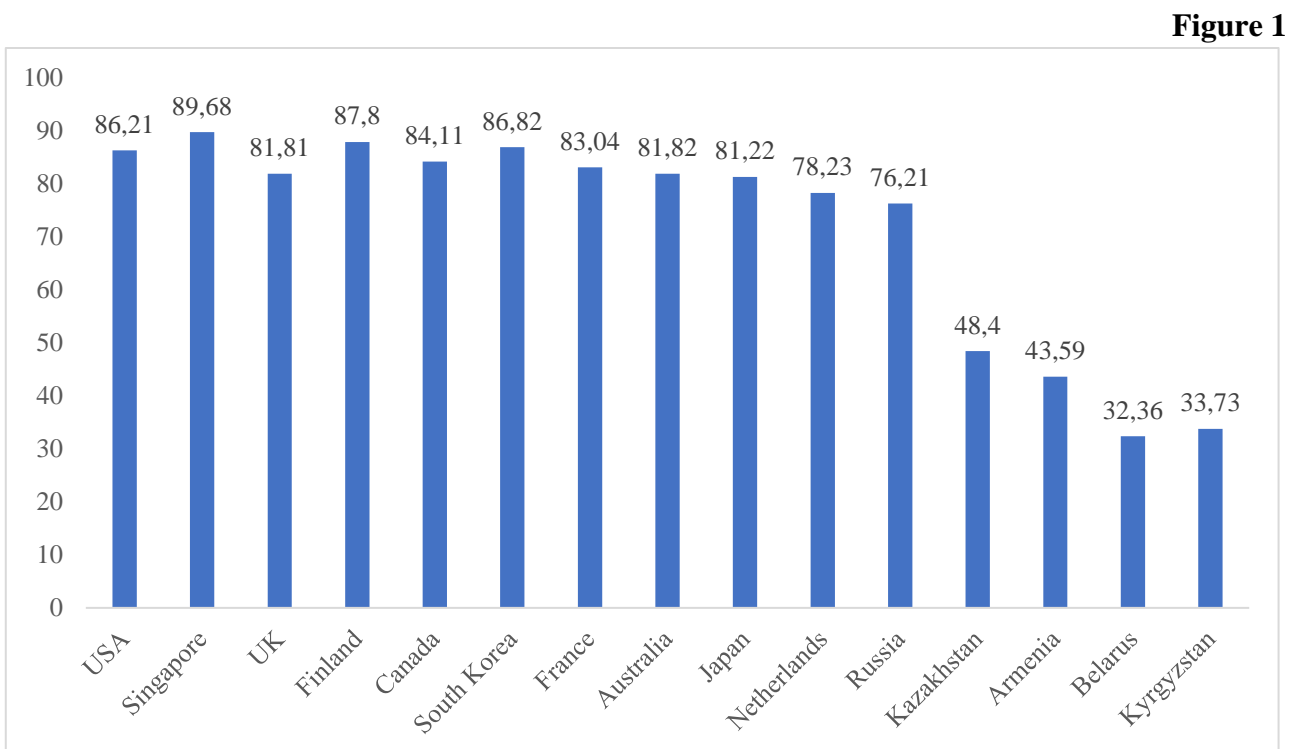
The study relevance of the artificial intelligence impact on the modern sphere of entrepreneurial and managerial activity is due to the development of the market of this technology. For example, the Government of Armenia attaches great importance to the development of the sphere of information technologies and artificial intelligence. This was stated by Armenian Prime Minister Nikol Pashinyan at a meeting with Embodied founder Paolo Pirjanian.

The social capital of the Armenian Diaspora is essential for the development of the high-tech sector. Thus, several venture capital funds specialize in attracting investments in Armenian high-tech startups, for example:

- 1) SmartGate VC helps companies from Armenia to enter the American market;
- 2) Hive Ventures invests in startups led by Armenian entrepreneurs around the world;
- 3) Granatus provides resources to startups capitalizing on Armenia's high-tech potential.

Despite the lack of a unified state policy in the field of AI, some international experts note Armenia's success in AI development. Thus, in the international rating of Government AI Readiness Index, which includes political, infrastructural and technological components, the country ranks 76th in the world and 5th among the states of South and Central Asia [Vyhodets].

An important indicator of the development of artificial intelligence technologies in Armenia is the index of the country's readiness for these innovations. Armenia's ranking in comparison with other countries is shown in Fig. 1.



Index of countries' readiness to implement artificial intelligence technologies [Akhmatova]

According to this index, Armenia is in 84th place, while Russia is in 40th place, Belarus is in 91st place, and Kazakhstan is in 72nd place.

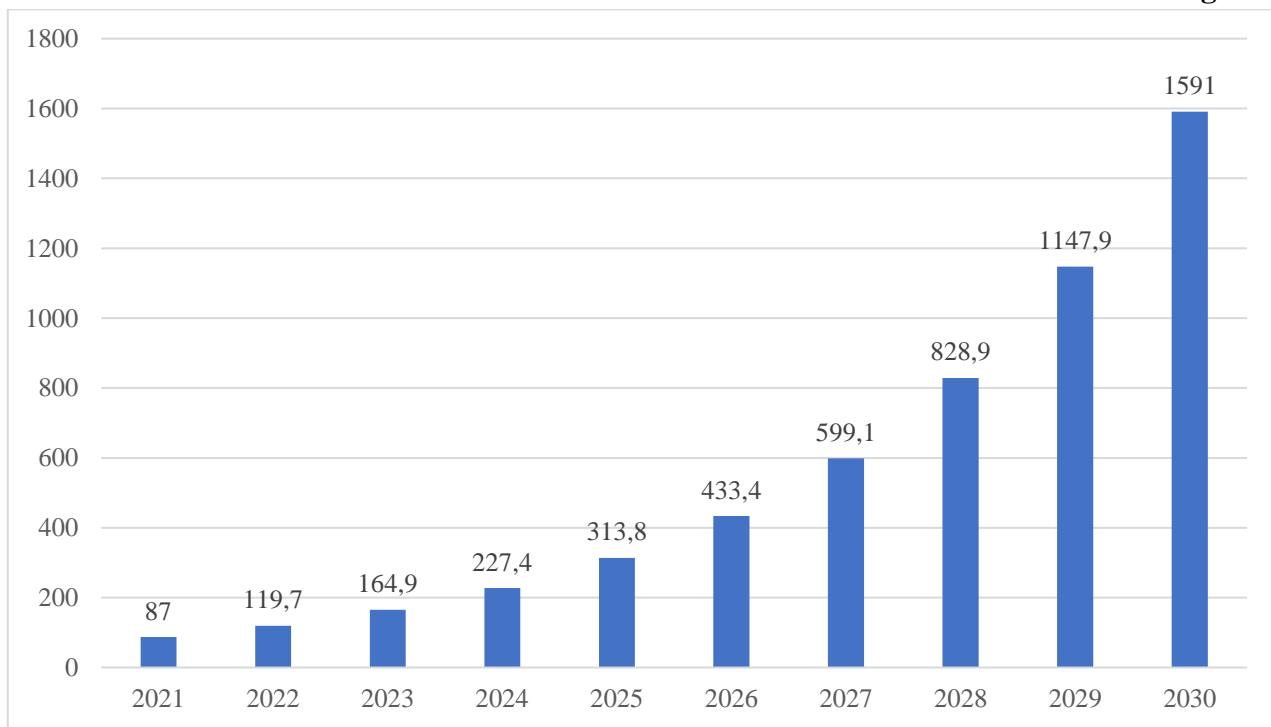
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In order to further develop artificial intelligence technology in Armenia, members of the science and technology ecosystem proposed to establish an artificial intelligence supercomputer center in 2023. This center will house a cluster of graphics processors that are needed to develop artificial intelligence models. In November 2023 Hakob Arshakyan, former Minister of High Technology Industry and current Deputy Speaker of the National Assembly, announced that \$8.5 million will be provided from Armenia's 2024 budget to purchase the supercomputer. [Yu. Vekilyan].

If we analyze the global market size of artificial intelligence technology products, according to IDC estimates, it was assumed that in 2023 its capitalization would be a record \$97.9 billion. For example, in 2015, the AI technology market was only \$5 billion. This progress and growth are due to the proof that these technologies have high practical effectiveness in improving business processes, management processes and economic systems [Kochkin].

The World Bank Group provides other data. They predict that by 2030, the total market for artificial intelligence technologies worldwide will exceed a record \$1.5 trillion (Fig. 2).

Figure 2



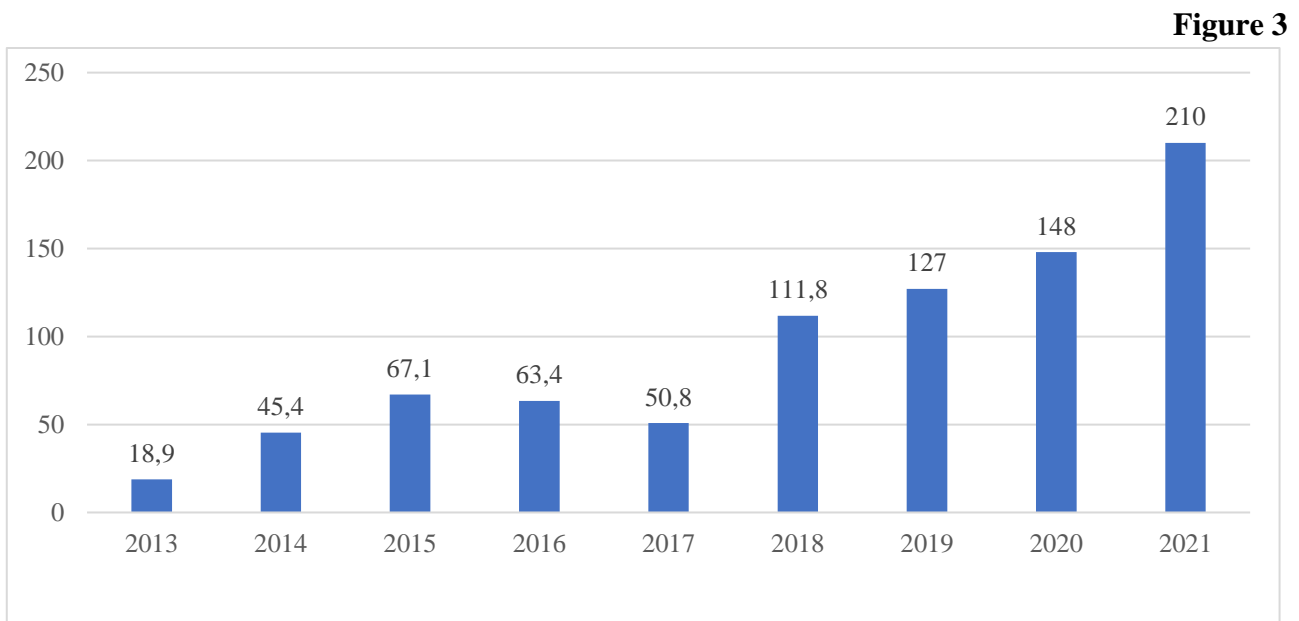
Dynamics of the global market of artificial intelligence technologies with a forecast to 2030, in USD. [Vorobiev, Ziborova].

According to the forecasts of the World Bank Group such strong growth can be explained by the fact that the introduction of artificial intelligence technologies has a high practical significance and necessity in many spheres of economic activity. Artificial intelligence brings a significant socially significant effect, so it can be effectively used in business, public authorities, finance and banking in the monetary market. A key aspect of the development of artificial intelligence technologies in international practice is the economic interests associated with this innovation. Companies that provide IT services in the form of AI products have positive growth in their stock market shares. An increasing amount of venture capital funding is being channeled into the artificial intelligence segment.

For example, by 2022, more than 11% of the volume of all venture capital deals was related to the financing of projects and companies specialized in artificial intelligence products. In addition, an AI race is shaping up between countries. China, USA, Japan, South Korea are rightly considered leaders in the international market, having a significant advantage in the development, production, implementation and use of artificial intelligence products [Dementiev].

Analysis of national trends in the development of the artificial intelligence market, allows us to recognize, that the leader in the number of AI-related studies in 2022 was China, which had 4.5 times more than the United States. In 2022. China had the highest rate of artificial intelligence research and adoption in the world combined. China's artificial intelligence market is expected to reach RMB 529.8 billion by 2023, growing at a CAGR of 43%. However, we note that U.S. researchers are more focused than Chinese researchers on the application of AI technologies in the field of medicine. Following the PRC are India and Singapore. In both of these countries, the adoption rate of artificial intelligence was almost 60% [Raznova, Xinxi].

The key trigger for the development of artificial intelligence technologies is the functioning of companies in the fintech sector, as financial investments in their innovative projects, allows the development of new technological solutions for financial transactions, settlements, payments and banking services. The graph in Figure 3 shows the dynamics of changes in the global market for financing fintech companies.



Dynamics of fintech companies financing in the global practice, in billion dollars. [Eshtokin]

Modern artificial intelligence technologies have many directions of their application, but for the management practice of enterprises the following will be key [Gladilin]:

1. Machine learning - AI technologies have the property of learning from their past experience of processing queries, data and information, improving in their functionality without explicit intervention of programmers.

2. Deep Learning - AI technologies are advancing the machine learning model, where neural networks are used to mimic human cognitive thinking by creating their own analytical queries and tasks.

3. Natural Language Processing - AI technologies allow software to analyze human language.

4. Cognitive computing - AI technologies allow systems to conduct interaction with the environment, analyze, and learn, which increases their importance in management practices.

In our opinion, the highest potential for the application of artificial intelligence in the field of economics and management lies precisely in marketing management, where there is a need to improve the function of marketing market research. The practical role of marketing research is to provide information and analytical support for the enterprise management system, where measures are developed for the effective use and management of the advertising budget, optimization of the product portfolio and etc.

In addition, the application of artificial intelligence technology in market research will automatically improve the quality of communication links with consumers. It is also possible to identify formal leaders in each individual market segment in order to analyze these organizations in the role of a benchmark [Nikulin et al].

AI also improves the customer experience. It is used to personalize products and services, provide more accurate recommendations for improving customer service. Virtual assistants and chatbots are becoming more and more common tools for interacting with customers [Kurbanova, Bakhtiyarova].

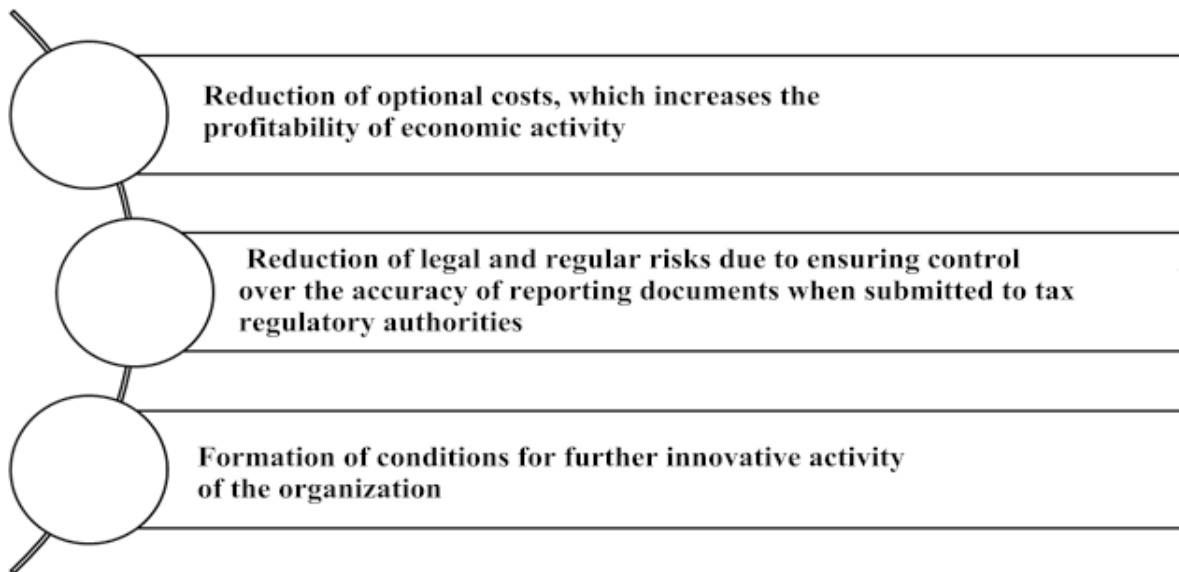
Another area of application for AI technology is human resource management. For example, it is relevant to use artificial intelligence technology in personnel assessment, the role of which is to provide information and analytical support for the system of personnel management of the enterprise, where measures aimed at the effective use and management of human resources are developed. And to make this task as efficient as possible, it is necessary to analyze the labor of employees by various metrics, the combination and sum of which complicates the procedure, making it more time-consuming and saturated [Teslenko].

The application of artificial intelligence in the KPI system in the evaluation of enterprise personnel would enable a successful digitalization procedure. This would achieve the following results as:

1. Simplification of the labor efficiency evaluation procedure, which allows results to be obtained much faster.
2. Automate the process of evaluating key metrics and performance indicators, which will allow to delegate the task to fewer specialists, and optimize financial costs.
3. Create a real-time KPI tracking function to track labor results, allowing for adjustments to work goals, objectives, and responsibilities.

The scheme of Figure 4 shows the main benefits of the practical use of artificial intelligence technology for commercial organizations.

Figure 4



Benefits of artificial intelligence technology for today's organizations

Conclusion

As a result of the study, we can conclude that artificial intelligence technologies are of particular importance in improving many business processes of enterprises to achieve the goal of improving their economic performance and management. However, successful AI integrations require solving some pressing problems that hinder not only innovative business development, but the successful use of the latest developments and technologies in business process management.

For example, the main barrier to the introduction of artificial intelligence is the shortage of relevant personnel. AI requires certain specialists who can configure and apply the technology to operate many business processes, production chains and digitalization of control systems. Personnel training can take place inside organizations when management and owners are interested in financing professional training, inviting appropriate specialists and providing time and funds for the right employees to be trained in a third-party educational organization [Eskerkhanova et al].

Another popular problem of artificial intelligence technology in the practice of managing economic activities of organizations is security. It is important to build a strong secure in-house system for data transfer and remote access to business processes, applications and data to prevent the theft of sensitive information or a hacker attack. The most frequent cybercrimes occur against private IT companies (27%), which is not surprising since these are the organizations that have a close connection to commercial activities related to digital technologies and information resources [Riedel et al]

Thus, in conclusion of the article, let us summarize that artificial intelligence technologies are rightly considered leaders in terms of impact on aspects of digital transformation of economic systems and commercial organizations. Due to AI business process management is improved, economic efficiency of operations is increased, and financial performance indicators are improved. Implementation of artificial intelligence technology is possible in different areas and spheres of economic activity. The only limitation is the risks and threats to the information security of economic

systems, which requires the development of personnel skills and improvement of the data protection system.

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