

REALIZING THE POTENTIAL OF ARTIFICIAL INTELLIGENCE

The development of next-generation technologies based on artificial intelligence (AI) has become a revolutionary phenomenon that has contributed to the emergence of new sources of value creation, reduction of transaction costs, and transformation of approaches to the regulation, management, and use of information and communication technologies. Investments in AI-related developments are expected to increase to USD 630 billion by 2028, demonstrating a compound annual growth rate (CAGR) of 29% [1, p. 56]. In 2024, nearly 58 thousand companies worldwide were engaged in the development and design of artificial intelligence technologies.

The main guideline for the implementation and use of artificial intelligence technologies is the OECD AI Principles developed in 2019, which represent the first international standard in the field of artificial intelligence [2]. This document formulates five principles (1.1-1.5) aimed at ensuring the ethical and responsible governance of the design, implementation, and use of AI systems, as well as five additional principles (2.1–2.5) related to the development and implementation of government policies supporting and stimulating AI development through the creation of a favorable policy environment, development of digital ecosystems, increased financing, labor market transformation, and international cooperation [3, pp. 575–583].

The emergence of generative artificial intelligence (GenAI) is considered the next stage in AI development. Unlike traditional AI systems focused on performing specific tasks, GenAI can create new content, generate innovative solutions, and flexibly adapt to various needs.

AI technologies serve as a key driver of business process transformation, and an increasing number of organizations are integrating AI-based solutions to gain significant competitive advantages and access new sources of value creation in the context of the development of financial metaverse platforms [4, p. 115]. Corporate spending on GenAI technologies increased more than sixfold during 2023–2024, from

USD 2.3 billion to USD 13.8 billion, driven by the transition from experimental AI products to their active integration into corporate strategies [1, p. 58]. The profitability of leading companies actively implementing AI is currently 15% higher compared to competitors.

The analytical capabilities of AI, its ability to process large volumes of information, and generate innovative solutions can significantly affect the labor market. The average annual growth of global GDP slowed from 2.5% in 1972–1982 to 0.8% in 2012–2022, mainly due to population aging, which led to a reduction in the labor force in many countries (Table 1).

Table 1

**Global GDP growth driven by employment growth
and labor productivity growth, CAGR, %**

Indicators	CAGR, %				
	1972– 1982	1982– 1992	1992– 2002	2002– 2012	2012– 2022
Total global GDP growth	3.1	2.8	3.1	3.8	2.9
Due to the impact of the following factors:					
– employment growth	2.5	2.0	1.4	1.3	0.8
– labor productivity growth	0.7	0.8	1.7	2.5	2.1

Source: based on data [5]

At the same time, the active implementation of GenAI technologies positively affects labor productivity growth rates, which may increase global economic value by up to USD 4.4 trillion, strengthening the impact of artificial intelligence by 15–40% [6].

As a result of the transformation of production processes through the implementation of GenAI, additional labor productivity growth in different countries ranges from 0.1% to 0.7% (Table 2).

To fully realize the potential of AI, it is necessary to build trust in these technologies, which also serves as a foundation for strengthening digital financial inclusion [7]. According to surveys, 40% of respondents identified explainability as a key risk in GenAI implementation. Therefore, the development of Explainable AI (XAI) is becoming an important direction for ensuring trust and transparency in AI technologies in finance.

The combination of blockchain technologies and artificial intelligence has significant development potential both for creating new business models and reducing risks related to the security, transparency, and reliability of modern intelligent systems [1, pp. 60–61]. Particular attention should be paid to protection against new types of risks and threats arising

from the rapid transformation of business models and regulatory and payment landscapes [8, p. 359; 9, p. 149].

Table 2

Average annual labor productivity growth rates resulting from the transformation of production activities in selected countries during 2023–2040, CAGR, %

Countries	Early transformation scenario, CAGR, %			Late transformation scenario, CAGR, %		
	Without GenAI	Additional impact of GenAI	Total	Without GenAI	Additional impact of GenAI	Total
Global economy	2.6	0.6	3.2	0.1	0.1	0.2
United States	2.9	0.7	3.6	0.4	0.3	0.7
Germany	3.3	0.6	3.9	1.1	0.2	1.3
France	3.0	0.7	3.7	0.6	0.2	0.8
Japan	3.7	0.6	4.2	1.4	0.1	1.5
China	3.2	0.6	3.8	0.7	0.1	0.8
Mexico	2.3	0.6	2.9	–	–	–
India	1.8	0.5	2.3	–	–	–

Source: based on data [5]

Considering the experience of the EU and other countries worldwide, the issue of developing the Law of Ukraine “On Artificial Intelligence” and related regulatory acts for the comprehensive regulation of AI-related relations appears highly relevant. To perform the functions of the main regulator in the field of artificial intelligence, it is proposed to establish the National Commission on Artificial Intelligence and Data. In addition, an Artificial Intelligence Observatory could be created as an analogue of the OECD AI Policy Observatory to monitor and assess the use of AI technologies in Ukraine [10, p. 49]. Furthermore, the issue of creating a network of data centers complying with international security standards remains particularly important [11, p. 32].

For the effective realization of AI potential in Ukraine, it is advisable to establish an institutional network integrating supervisory, certification, and licensing authorities, as well as educational institutions for workforce training in order to ensure effective labor market transformation and the implementation of regulatory rules and procedures in the field of artificial intelligence.

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