IRJEMS International Research Journal of Economics and Management Studies
Published by Eternal Scientific Publications
ISSN: 2583 – 5238 / Volume 3 Issue 2 February 2024 / Pg. No: 95-98
Paper Id: IRJEMS-V3I2P113, Doi: 10.56472/25835238/IRJEMS-V3I2P113

Original Article

The Impact of Artificial Intelligence on the Global Economy

[1]Natalia Bobro

[1]Doctor. PhD in Economics, Director of the Digital Department at the European University, Director of the Scientific Laboratory Noolab, Kyiv, Ukraine.

Received Date: 25 January 2024 Revised Date: 04 February 2024 Accepted Date: 09 February 2024 Published Date: 13 February 2024

Abstract: *The article explores the impact of artificial intelligence on the global economy. A comparison of the properties of human intelligence and artificial intelligence is conducted. Three types of artificial intelligence are identified: weak (Narrow AI), strong (AGI), and super AI (Super AI). The capabilities of artificial intelligence in various fields, including trade, healthcare, and finance, are characterized. The influence of the scale of artificial intelligence utilization on employment is determined. It is established that the use of artificial intelligence may lead to increased unemployment and the extinction of certain professions while other sectors gain new opportunities and highly specialized jobs. Companies that are most actively using artificial intelligence are identified. It is noted that the speed of artificial intelligence applications is uneven and depends on economic and industrial business activity, the concentration of high-tech production in the region, and the presence of branches of large companies. The main advantages and disadvantages of implementing artificial intelligence in the economy are highlighted. Emphasis is placed on the importance of considering potential risks and negative consequences. It is indicated that consistent implementation and improvement of technology, along with the development of appropriate legislation and ethical standards, can ensure a positive impact of artificial intelligence on the economy and society as a whole.*

Keywords: *Artificial Intelligence, Global Economy, Digitization, Business.*

I. INTRODUCTION

Innovation in the modern world has become an essential element of the economic development of any country. In turn, the innovative factor, defining the nature of changes in the production and technological sphere of the economy, is closely related to the perception of the role and significance of artificial intelligence as a tool for ensuring accelerated economic growth. Currently, artificial intelligence systems are a rapidly developing field. They are implemented where human-like intelligence properties such as image recognition, natural language understanding, and decision-making are needed. Artificial intelligence is utilized in various economic sectors, including trade, finance, healthcare, education, and others. Digital technologies permeate all areas of life, transforming traditional sectors of the economy, education, medicine, and culture [1, p.161]. As artificial intelligence continues to evolve and become more sophisticated dynamically, its impact on all aspects of human life and activities is undeniable. These factors underscore the relevance of our scientific research.

Before delving into the examination of artificial intelligence in the global economy, it is necessary to provide definitions for the terminology used in the study. Thus, initially, we differentiate between the concepts of natural and artificial intelligence. Natural (human) intelligence is the ability of human resources to invent new realities and find unconventional solutions to complex issues, utilizing the information, knowledge, and experience possessed by humans [2].

Artificial intelligence refers to a type of system that can perform tasks typically associated with human intelligence. These tasks may include creative thinking, reasoning, self-learning, solving non-standard problems, and so on. Artificial intelligence is based on advanced algorithms and computer systems that can be programmed to simulate human behavior and perform tasks that require deep cognitive abilities. In general, artificial intelligence is intended to mimic the actions and functions of humans.

In the context of our research, let's consider the difference between human and artificial intelligence, as outlined in Table 1.

Table 1: Difference between Human Intelligence and Artificial Intelligence

Ability to Perform	Natural (Human) Intelligence	Artificial Intelligence (Machines)
Innovation, analysis and experiential learning	High	Low
Preparation of complex calculations	Low	High
The cost of smart decisions	High	Low
Information transformation	Low	High

Source formed by [3-5]

The difference presented in Table 1 leads to the conclusion that natural intelligence has the ability to feel, imagine, and create. In contrast, artificial intelligence is geared towards performing complex calculations and transmitting information much faster than could be achieved by relying on human resources.

Thus, comparing artificial intelligence with human intelligence, one can note that the former is characterized by a set of properties that distinguish it from the latter, namely:

Artificial intelligence is more resilient than human intelligence as humans tend to change workplaces and may even forget information, which is not the case for artificial intelligence, as its systems and programs always remain unchanged.

Copying and disseminating information in artificial intelligence is easier as it is stored in a computer, significantly simplifying this process, while the process of transferring information from one person to another requires significant effort.

Artificial intelligence is less costly compared to human intelligence because, in many cases, the acquisition of computers and information systems is cheaper than employing human resources for the same tasks in the long run.
Computer solutions can be easily documented as system actions can be tracked, while human intelligence is more complex for such documentation [6].

A) There are three types of artificial intelligence highlighted:

Weak AI (Narrow AI): Widely used today for systems like voice assistants, facial recognition systems, social media advertising, etc.

Strong AI (AGI): This artificial intelligence, according to experts' estimates, will approach human intellectual abilities by 2075 and will be endowed with self-awareness.
Super AI (Super AI): Experts suggest that in the future, it will surpass human intelligence and be capable of self-improvement [7].

More and more companies are increasingly using artificial intelligence for successful operations and making quick, efficient decisions, including analyzing vast amounts of data and forecasting. Consulting company Accenture asserts that artificial intelligence is capable of increasing the average profit of enterprises by 38% [8].

In the retail sector, for example, to handle customer queries and relieve employees from excessive workloads, organizations use chatbots based on artificial intelligence. This allows employees to focus on core tasks.

In healthcare, medical systems with artificial intelligence are employed for more accurate disease diagnosis and the development of new medicines, and treatment methods.

In the financial sector, artificial intelligence is used to prevent significant losses by detecting fraud schemes and monitoring transactions.

Artificial intelligence contributes to the development of various industries, facilitating the creation of new products and services. With the implementation of artificial intelligence, many business leaders expect significant growth in the efficiency and competitiveness of their business processes.

Artificial intelligence can simultaneously perform multiple functions, participating in the diverse activities of companies. For example, in a Hong Kong venture fund called Vital, a robot based on artificial intelligence is a member of the board of directors. Its responsibilities include participating in startup investment operations, focusing on the regenerative medicine segment, and participating in voting on each investment decision [9].

According to statistics, one-third of companies use artificial intelligence systems in several business departments, with 83% considering the use of such systems in their strategy a top priority. Artificial intelligence algorithms increase the number of potential customers by 1.5 times. Over the past five years, the number of companies with artificial intelligence has increased by 300%. It is expected that this year, the global artificial intelligence market will reach half a trillion dollars.

There are different opinions regarding the impact of scaling the use of artificial intelligence on employment. It is believed that neural networks will not completely replace humans in areas where empathy and human contact are required, such as medicine, education, art, and social services. However, according to some experts, artificial intelligence can serve as an assistant and successfully handle tasks that require a large volume of repetitive actions, such as cleaning, packaging, and assembling products, as well as activities in sales, finance, healthcare, and transportation. These professions are often associated with performing repetitive, routine work that can be easier and more accurately executed with artificial intelligence technologies and automation. Some scientists point out that this may lead to an increase in unemployment and the extinction of certain professions while other industries will gain new opportunities and highly specialized jobs.

More than 80% of employees claim that artificial intelligence increases their productivity. It is expected that by the next year, nearly 100 million people will be working in the field of artificial intelligence. Some experts believe that artificial intelligence will surpass humans in all tasks within 45 years and automate all jobs within 120 years [6].

B) Among large companies that actively utilize artificial intelligence, notable examples include:

Microsoft (they annually optimize their workforce, transferring some functions of MSN news service employees to artificial intelligence).

Bloomberg News (approximately 30% of their content is created by the Cyborg software robot, and online algorithms replace public relations specialists and news journalists).

Watson (its artificial intelligence algorithm can detect diseases in cancer patients at early stages in 90% of cases, potentially leading to a reduction in the number of doctors needed).

Private Bank (Ukraine) (a neural network that handles the approval of a portion of loan applications by analyzing user data).

It's worth noting that the speed of artificial intelligence implementation varies and depends on economic and industrial business activity, the concentration of high-tech production in the region, and the presence of branches of large companies. It may progress rapidly in some areas and slowly in others. Some traditional jobs may rapidly decrease, while in other places, people may not experience total automation.

C) Let's highlight the main advantages of implementing artificial intelligence:

- Absence of human error;
- Helps to solve complex tasks;
- Zero risks (for example, when fighting natural disasters where there is a threat to human life);
- Can improve education worldwide;
- Helps to analyze large volumes of data;
- Round-the-clock availability (does not run out);
- Can assist in customer service;
- Provides automation;
- There is no emotional component;
- Can quickly make smart decisions;
- Minimizes errors;

Plays a significant role in the development of medicine, environmental protection and others.

D) However, for all the advantages, it is possible to note the disadvantages of artificial intelligence:

- Large expenses;
- Unemployment in some areas of the economy due to the use of artificial intelligence;
- Creativity and creativity lacking;
- Lack of human empathy and compassion;
- Does not understand ethics (an exceptional trait of natural intelligence).

Therefore, the prospect of widespread application of artificial intelligence is an achievable task but not fully realized. One of the problems associated with the application of artificial intelligence is the collection and storage of large datasets. It involves not only the temporary resource expenditure for analyzing a large number of queries but also the challenge of inputting data into the artificial intelligence system. External noises and other factors may hinder the correct input of data, leading to inaccurate query results.

Additionally, the implementation, maintenance, and modernization of artificial intelligence systems require significant financial investments. As a result, this technology becomes accessible primarily to large enterprises. Small businesses may not only lack the budget for introducing artificial intelligence systems but also face challenges in realizing economic benefits after their potential implementation. The high cost of artificial intelligence becomes another obstacle to its widespread adoption.

The negative impact of artificial intelligence on modern society can manifest through the replacement of human resources with artificial intelligence technology. Due to its ability to perform multiple tasks simultaneously, artificial intelligence can replace several human roles, resulting in potential unemployment for those affected.

In addition to the economic harm that artificial intelligence can cause, there are concerns about its impact on societal morals and legal norms. Engaging in dialogue with a human, artificial intelligence may misinterpret mood and cause moral harm by using templated phrases—something less likely to occur in a conversation with a company employee who could choose words to prevent or resolve conflicts with consumers. Simultaneously, questions may arise about the legal responsibility for the outcomes of artificial algorithm activity.

In the event of an error in an artificial mechanism operating based on artificial intelligence algorithms, questions may arise regarding the identification of the party responsible for causing harm to the consumer. Holding the mechanism itself accountable is not practical, as it contradicts most existing laws in different countries. At the same time, proving the

fault of the developer of a mechanism working based on artificial intelligence algorithms, as well as the fault of the potential consumer, can be challenging.

Another threat posed by artificial intelligence is the potential unauthorized acquisition of personally identifiable information. To prevent this, the development of complex protection systems is necessary, which, in turn, may require significant resources. Therefore, the adaptation of artificial intelligence in society may be complicated by various factors, but overcoming these barriers is necessary to reap the benefits that artificial intelligence can bring.

In conclusion, it's worth noting that artificial intelligence can help businesses improve and optimize their processes, whether for increasing office or manufacturing productivity, ensuring employee safety and injury prevention, making quicker and smarter business decisions, or creating unforeseen circumstances to support operations even during unexpected events. With the help of artificial intelligence, companies can work more intelligently and enhance the quality of their products and services. Artificial intelligence can bring significant benefits, including increased efficiency, job creation, and economic growth. However, people need to consider potential risks and negative consequences. Sequential implementation and improvement of technology, along with the development of relevant legislation and ethical standards, can ensure a positive impact of artificial intelligence on the economy and society as a whole.

II. REFERENCES

[1] Bobro Nataliia. 2023. New trends in economics: digitization. Nauka i tekhnika sohodni. https://doi.org/10.52058/2786-6025-2023-14(28)-160-167
[2] Mindy Support. URL: https://mindy-support.com/news-post/ai-on-the-board-of-directors-a-hong-kong-company-made-it-happen/
[3] Ylä-Kujala A. et al. Robotic process automation deployments: a step-by-step method to investment appraisal. Business Process Management Journal. 2023. No. 29.8. pp. 163-187.
[4] Ma, Q. P. Inter-and intra-industry wage inequality and potential impact of automation in the economy. Occupations. No. 7(3.2). r. 30-42.
[5] Zhang, Hui; Tang, Yuxuan; Yi, Tian. Southeast Asia Region. Comparative Studies on Regional and National Economic Development. Singapore. 2023. p. 185-277.
[6] Ivanova, I.V., Borovyk, T.M., Zalozna, T.G., Rudenko, A.Yu.. Use of artificial intelligence in marketing. Marketing and digital technologies. 2023. No. 7(2). pp. 32-42.
[7] Bilyk, I. Lavryk, K. The use of artificial intelligence in marketing: prospects, advantages and disadvantages. The actual problems of regional economic development. 2023. No. 1.19. pp. 109-115.
[8] Vasylenko S. Kashpur A. The present and future of man and the economy from the standpoint of the development of artificial intelligence. In: The 12th International scientific and practical conference "IMPACT OF MODERNITY ON SCIENCE AND PRACTICE" (April 13-14, 2020). Edmonton, Canada. 2020. p. 286-290
[9] Hua Haochen et al. Edge computing with artificial intelligence: A machine learning perspective. ACM Computing Surveys. 2023. No. 5.