

ARTIFICIAL INTELLIGENCE AS AN ADVANTAGE FOR ENTREPRENEURSHIP IN A CIRCULAR ECONOMY

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Introduction and Background

The current requirements for a competitive and sustainable economic activity require entrepreneurs to know not only the processes and technologies within the respective industry/branch, the methods of business planning and management, the laws and rules of the market (marketing), but also the applied information technologies, including the use of Artificial Intelligence (AI).

The use of Artificial Intelligence in a Circular Economy allows the aggregation of these skills in an interactive manner and helps to identify feasible entrepreneurial solutions. In this context, the **project "AI-Empowered Innovation in Natural Science and Engineering for Circular Economy" (AI-InnoScEnCe)**, funded by the European Union through the research and innovation program "**Horizon Europe**" [1], **ref. no. 101127683** (Image 1), which has as its main objective to increase the impact of academic research in engineering and economic sciences by promoting innovation and entrepreneurship oriented towards the circular economy.



Image 1. Logo of the "AI-InnoScEnCe" project [1]

Methodology

To achieve the research objectives, the following methods were used: synthesis of research on artificial intelligence and AI tools used in education and entrepreneurship education; empirical analysis; and formulation and justification of conclusions. The following sources of information were used: a number of scientific publications in the relevant field, materials obtained as part of the comparative study of the AI-InnoScEnCe project, and the database of the National Bureau of Statistics of the Republic of Moldova.

Results

"Artificial Intelligence", as a scientific term, was first described and used in academic language in 1956 by John McCarthy [2], who was based on the works of Alan Turing (e.g. [3, 4]), in which the existence of intelligent reasoning and thinking that could be implemented in intelligent machines was described. Artificial Intelligence (AI) has become an integral part of our lives and is seen as a tool that can be used to improve and develop all areas of human activity [5]. McKinsey Global Institute estimates that by 2030, at least 70% of companies will adopt some aspect of AI technology. Furthermore, within the next 10 years, approximately 60% of existing jobs have the potential to be automated [6]. Given this trend, companies will seek employees familiar with AI concepts and methods and able to apply this knowledge and skills to manage work in which AI plays a significant role [7].

The integration of AI into business is no longer a futuristic concept, but a reality that is gradually transforming the economy. Artificial Intelligence develops systems capable of imitating human thinking and intelligence to perform tasks, learn from data, reason (analyze), make decisions and continuously improve themselves. AI applications include:

- *Virtual assistance* - programming and assistance provided by virtual assistants.
- *Recommendation systems* - services that suggest content based on user preferences.
- *Artificial vision* - systems that allow machines to "see" and interpret visual information.
- *Industrial robots* - robots that can perform repetitive tasks and adapt to changes in production processes.

AI enables the creation of *personalized solutions*, and provides *instant feedback*. AI tools, such as *chatbots* and *generative models*, also help automate tasks such as *scenario creation* and provide entrepreneurs with both

real-time adaptive support and *qualified recommendations*. AI can also facilitate the *creation of multimedia content* and support entrepreneurs in *developing and presenting entrepreneurial and investment projects*.

AI tools used by entrepreneurs include:

- **Realistic simulations** - AI can power virtual reality and augmented reality scenarios, providing a safe practice environment.
- **Instant feedback and support** - AI-powered chatbots can answer customer questions at any time, allowing entrepreneurs to focus on increasing the quality and efficiency of the business. AI tools also provide continuous feedback on the implementation of projects started, helping entrepreneurs improve their work in real time.
- **Content creation support** - AI tools can help entrepreneurs create results of their entrepreneurial or investment projects, such as writing, editing, and design.
- **Scenario generation** - Artificial Intelligence can automate the creation of scenarios from large data sets to solve emerging problems.

Conclusions and Implications

The impact of AI will grow over the next decade as industry, agriculture, commerce, transportation, finance, and other sectors of the economy transform their core processes and business models to harness the benefits of *machine learning* [8].

Keywords: *Artificial Intelligence, Entrepreneurship*

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