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Implementing of Artificial Intelligence in a Higher Educational Ecosystem

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g (Pratama et al., 2023; Kolchenko, 2h, Melnyk and Pypenko (2023) (2023), for gaming and active learning acthod for indicating the involvement of chathots in a scientific publication. ida et al., 2023; Kanja & Paschal, enko (2023) have developed a basic

l educational needs (Hopean et al, to publications. The authors have 2023: Chalkiadakis et al. 2024). inducted to investigate the use of AI Chatbots, for practical applications. 1.26697/ai.chatbots). It provides e by students (Divekar et al., 2022:). This opens up the possibility of lutions related to using Al-based international students overcome age, and video) in scientific research itate their integration into different ural environments (Ma et al., 2024;

4; Wang, T., et al., 2023). rights of the individual who creates or learning analytics (Ouyang et al. . 2023; Salas-Pilco et al., 2022) and at (Ahmad et al., 2022; Dai et al.,

system is constantly enriched with echnologies and methodological ase the value of natural human labour. tation of AI in the higher education movative forms and methods of c most significant challenges slowing 1). wintroduced. This contributes both station of app developers (Luckin & it (professional development) of i). Developers rarely have the involvement of students in the kground and didactic knowledge ctivating their cognitive processes a quality educational product. eir development. In addition, it ove, there have been many studies in s with an influx of young, save examined the use of AI in higher

formation technologies, it is worth y of them, the authors pointed to both lems for stakeholders. The impact of hat open up fundamentally new and trends in using AI-based chathots on among stakeholders were explored 22; Al-Sharafi et al., 2023; Pypenko et

hed the benefits of implementing cording to the authors (Bhaskar et & Mclnyk, 2020; Raimundo et al., echnology can be implemented in atters during their studies. sey controls and technological is in line with today's requirements π , there are risks and limitations: ung professionals in universities

ung professionals in universities.
ing to Melnyk and Pypenko (2020),
thical implications.

as virtual reality and augmented tools: chathots) itimacy of using AI-based chathots in parning outcomes (e.g. use of testing,

ying the possibilities of AI

roblems of using AI in educational

ion of a product created by humans n level and in conjunction with others

Chen, Y., Zhu, H., Hendler, J. A., & Braasch, J.

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role of artificial intelligence in ation, 20(1), Article 57

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urnal of Cleaner Production, 437, 10 1016/i ielema 2023 140527 1. M., Rahmat, M. K., Mubarik, M. 3NL

plementation of the above-mentioned for AI, it is also useful to consider the higher education will be the most tainability, 14(3), Article 1101. 186/s41239-023-00425-2 ithout Al. A study by Pypenko (2023) component of the system to operate 10.3390/sn14031101

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SOCIAL AND BEHAVIORAL SCIENCES, Education

Implementing of Artificial Intelligence

Study design;

D - Data interpretation;

- Manuscript preparation

R _ Data collection

P_Literature search

in a Higher Educational Ecosystem

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The use of artificial intelligence (AI) by students and teachers in higher education i. becoming increasingly common. Al implementing in higher education started as a spontaneous process among all stabeholders. Strategies and models of

The aim of the study: to explore the benefits and challenges of using AI in academic aching, and to develop and justify a model for the optimal implementation of AI for the development of the higher education ecosystem.

The present study used several theoretical methods: analysis, synthesis, rallsation, systematisation, and classification to define the benefits and challenges of AI use by stakeholders; systems approach, modelling, and option methods to develop a model for the optimal implementation of AI in a higher

The prospects of Al implementation for developing the higher education ecosystem are considered. The advantages and problems of using AI in academic university teaching are characterised based on the classification of directions of using AI in higher education. The model of optimal implementation of AI in the educational extem of higher education, based on the systems approach, has been developed and substantiated. This model include structural (universities, faculties, departments, institutes, centres, doctoral schools, clinics, and labs) and functional (internal content of education, forms and methods of teaching, diagnosing of learning

achievement: levels of knowledge, skills, and competences) components. The study highlights the importance of implementing AI in higher education, as welas the need for collaboration between all university stakeholders in the digitication of as me need to enduous also review in interests y stackondars in the agreement of education. The results are essential for developing university strategies for developing educational ecosystem The curriculum should be relevant, meeting the interests of students and the current needs of employers. Education stakeholders are a to use the available benefits of Al responsibly to address the challenges of student

artificial intelligence, higher education, Human-Al System, educational ecosystem nefits and challenges of artificial inselligence, stakeholders in higher education © 2025 Mebryk Y. B., Pypenko I. S. Published by Archives of International Journal

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Associate Professor, Secretary of Board, Kharkiy Regional Public Organization

"Culture of Health"; Scientific Research Institute KRPOCH, Ukraine. ssing students", "providing feedback", "learning analytics", "special educational needs", "legitimacy of

of education, digital identifications are used. The whole

education chain of those who study is systematised (school university production). All acts are realised

oncome about academic integrity, reliability issues,

inshility to assess and reinforce graduate skills.

imitations in assessing learning outcomes, and potential

biases and distortions in information processing

gy will facilitate the transition of allenges to the use of AI in higher

lang S. et al (2023), argue that Al can and provide personalised educational

studies suggest that blended learning

chatbots in higher education can be

assist students with their academic

monitorine, academic advice and

technology, lack of human touch, risk

v and him (Al-Zahrani & Alasmari 2024); tack of technology skills among students and teachers, and lack of applicability in different contexts.



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Research Methods

The present study used several theoretical methods:

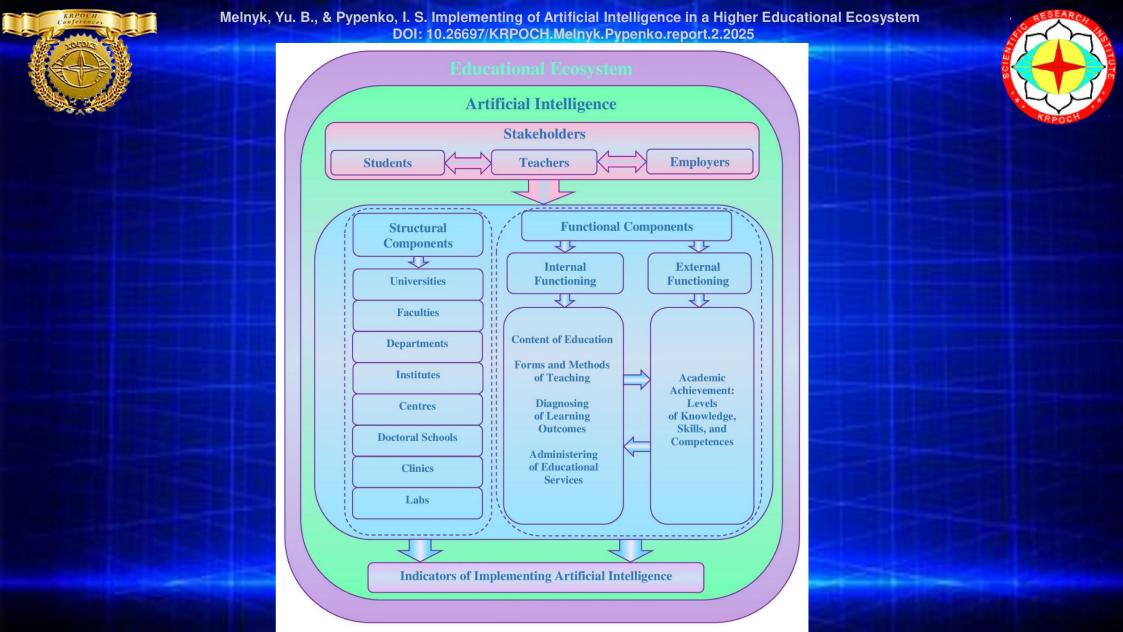
- 1. To define the benefits and challenges of AI use by stakeholders:
- analysis and synthesis,
- comparison,
- generalisation,
- systematisation,
- classification.
- 2. To develop a model for the optimal implementation of AI in a higher educational ecosystem:
- systems approach, modelling, and optimisation methods.





Directions of Implementing AI in Higher Education

- 1. Content of education (e.g. development of training programmes, courses, topics).
- 2. Forms and methods of teaching (e.g. personalisation of learning and tutoring; a wide range of verbal, visual, gaming and other learning methods; innovative technologies such as virtual reality and augmented reality; translation tools; chatbots).
- 3. Diagnosing of learning outcomes (e.g. use of testing, quizzes, ease of student assessment, provision of continuous feedback).
- 4. Administering of educational services (e.g. developing competitive education strategies, optimising learning planning, data analysis, planning, record keeping, course selection, credit counting, using chatbots for marketing).







Conclusions

Educational stakeholders are encouraged to use the available benefits of AI responsibly and effectively to meet the challenges of student learning in higher education, taking into account the ethical and legal implications of its use.

Addressing these challenges and regularly improving digital literacy in higher education will contribute to the development of advanced educational ecosystems.

University administrators should consider both the social demand from students and their own capacity to implement AI to deliver innovative study programmes. These programmes should be relevant and meet the current needs of employers. It is also important to pay attention to building the capacity of higher education stakeholders for the intensive AI development process in the near future.

