UDC (004.8+004.92)::81`32

Intelligent information technologies for innovative management of advanced philology projects

Svitlana Goncharenko

Kyiv National University of Technologies and Design, Kyiv

http://orcid.org/0000-0002-7740-4658

Abstract. Intelligent information technologies are a key tool for innovative management, ensuring risk forecasting, opportunity assessment and the formation of strategic decisions. Modern project activities take place in conditions of uncertainty and crisis phenomena, where traditional methods are insufficiently flexible. Philological initiatives cover tasks from compiling corpora and dictionaries to automated translation and digital educational services, which require new approaches. Intelligent information technologies combine big data analysis, machine learning, NLP and semantic modeling, allowing to create electronic corpora, ontologies, semantic networks, perform comparative analysis and integrate results into open platforms. They contribute to the coordination of research groups, interdisciplinary interaction, resource rationalization and transparency of tasks, becoming both a technical tool and a catalyst for innovative culture in the humanities.
Keywords: innovative IT, intelligent IT, computational linguistics.

Introduction.

Innovation management involves the systematic application of new technologies, methods and strategies, which allows organizations to quickly adapt to changes and increase their own competitiveness [1, 2]. Intelligent information technologies are a key tool for innovation management [3]. They focus on the search [4], processing, analysis and analytics [5] and effective use of knowledge [6], analytical tools and relevant information systems [7]. This ensures effective risk forecasting, assessment of opportunities and formation of strategic decisions. It should also be emphasized that the modern world is characterized by high dynamics of technological development, globalization and constant change in market conditions [8, 9], which places new requirements on the effectiveness of project implementation for institutions and organizations. In addition, it is worth emphasizing that modern project activities take place in conditions of high uncertainty and constant crisis phenomena, including economic fluctuations, political risks, technological changes and social challenges [10, 11]. Traditional project management methods often prove to be insufficiently flexible and fast to respond to unstable conditions [12], which necessitates the introduction of innovative approaches and modern information technologies [13]. In addition, the introduction of intelligent information technologies in project management also stimulates the development of an innovative organizational culture, contributes to the formation of strategic thinking of managers and teams, and allows to increase the competitiveness of organizations through optimal use of resources and improving the quality of management decisions.

The Main Part.

Philological initiatives in the modern scientific and educational space cover a wide range of tasks: from compiling text corpora and dictionaries to studying language changes, automated translation, analyzing literary sources, and implementing digital educational services. The increase in the volume of text and multimedia data complicates the administration of such projects, makes classical approaches less effective, and actualizes the use of new methods.

Intelligent information technologies in this context act as the main tool for organizing and implementing philological research, as they combine big data analysis, machine learning algorithms, natural language processing (NLP) technologies, semantic modeling, and innovative approaches to administration. The use of such tools allows:

- to create electronic language corpora with search and statistical analysis functions;
- to build ontologies and semantic networks for studying meanings and contexts;
- to carry out automated translation and comparative analysis of texts;
- identify stylistic, genre and cultural features of language objects;
- integrate the results into open digital knowledge bases and platforms.

From a managerial perspective, intelligent information technologies contribute to the coordination of research groups, the organization of interdisciplinary interaction, the rationalization of resources and the increase in the transparency of task performance. They make it possible to apply a comprehensive approach to planning and monitoring, ensuring not only the quality of scientific developments, but also their effective integration into the educational space.

Thus, intelligent information technologies become not only a technical tool, but also a catalyst for the development of innovative culture in the humanities, promoting the synergy of digital and philological research.

Conclusions.

1). Intelligent information technologies are a crucial tool for innovative management. They provide a synergistic effect that increases the efficiency, accuracy and effectiveness of management decisions. Due to this, they allow educational organizations to quickly respond to changes, minimize risks and maintain high quality of education even in difficult and unstable conditions.

2). Intelligent information technologies are a crucial tool for innovative management of philological projects. They provide a synergistic effect that increases the efficiency, accuracy and effectiveness of management decisions. Thus, they allow for the successful implementation of complex projects, minimize risks and maintain high quality of research even in conditions of high uncertainty. Let us detail these scientific and practical conclusions:

2.1. Systemic modernization of research methods. The use of IIT transforms approaches to the management of philological projects, taking them to a qualitatively new level thanks to automation, accuracy and analytical depth.

2.2. Integration of the humanitarian and digital dimensions. Intellectual tools allow philologists to work effectively with large volumes of texts, identify hidden patterns and form new scientific assumptions.

2.3. Optimization of project administration. IITs provide transparency of processes, control of task performance, risk forecasting and rational allocation of resources in scientific and educational initiatives.

2.4. Expansion of innovative cooperation. Thanks to digital platforms and analytical tools, the possibilities of interdisciplinary research, international interaction and dissemination of developments in open access are increasing.

2.5. Increased effectiveness and significance. Management of philological projects with support for IITs guarantees not only the scientific novelty of conclusions, but also their applied value in the field of education, culture, translation and communication.

Discussion.

The use of hybrid AI technologies in philological projects opens up new opportunities for automation and efficiency.

Hybrid intelligent technologies are systems that combine different artificial intelligence (AI) methods to solve complex tasks. They are based on synergy: components working together achieve much better results than if they were used separately.

The use of hybrid intelligent technologies makes the management of philological projects more flexible, efficient and predictable. In general, AI (and hybrid AI in particular) does not replace a human expert (for example, a philologist), but acts as a powerful tool that frees up time for creative and analytical tasks [15].

References

1. Maksym Naumenko (2024). Modern concepts of innovation management at enterprises. *Scientific innovations and advanced technologies* No. 6(34) (2024). DOI: https://doi.org/10.52058/2786-5274-2024-6(34)-435-449

2. Mykytenko V.V., Hryshchenko I.S. (2008). Adaptive management system of innovative processes at enterprises. *Problems of science*, (4), pp. 32-37.

3. Hrashchenko I.S., Khmurova V. V. (2016). Innovative policy as a tool for organizational change. Economic development: theory, methodology, management. *Materials of the 4th International Scientific and Practical Conference].* Budapest-Prague-Kyiv, 28-30 November 2016. 386, p. 361-369. [In Ukrainian].

4. Лявинець Г. М., Губеня В. О., Люлька О. М., Ткачук Ю. М. (2024). Data Mining у адаптивному менеджменті готельно-ресторанного бізнесу. *Міжнародний науковий журнал "Інтернаука". Серія: "Економічні науки".* – 2024. – № 11. https://doi.org/10.25313/2520-2294-2024-11-10404.

5. Naumenko, M. (2024). Optimal use of deep machine learning algorithms in efficient enterprise management. Successes and achievements in science, No. 4(4) (2024). https://doi.org/10.52058/3041-1254-2024-4(4)-776-794.

6. Tuhaienko V., Krasniuk S. Effective application of knowledge management in current crisis conditions. *International scientific journal "Grail of Science"*. 2022. № 16. pp. 348-358.

7. Krasnyuk, M., Kulynych, Y., Krasniuk, S., & Goncharenko, S. (2024). Design of innovative management information system. *Grail of Science*, 36, pp. 237-245.

8. Nevmerzhytska S. M. (2018). Formation of a strategy for the innovative development of enterprises in conditions of uncertainty. *Scientific Bulletin of the Kherson State University. Series: Economic Sciences*. 2018. Vol. 32. pp. 99-103. URL: https://ej.journal.kspu.edu/index.php/ej/article/view/422/418.

9. Karpenko, Oksana & Kravchenko, Olha & Palyvoda, Olena & Semenova, Svitlana. (2025). Evaluating the effectiveness of innovation implementation at transport enterprises under conditions of uncertainty. *Academy Review, #2.* 75-88. 10.32342/3041-2137-2025-2-63-5.

10. Palyvoda, Olena & Semenchuk, Tetiana & Rachkovskyy, Eduard. (2024). Modelling growth strategies of transport enterprises in the conditions of context uncertainty. *Baltic Journal of Economic Studies*. 10. 255-267. 10.30525/2256-0742/2024-10-3-255-267.

11. Naumenko, M. (2024). Methodology of determining factors of activity efficiency and competitive position of the enterprise on the market in crisis conditions. *Scientific innovations and advanced technologies*, № 7(35) (2024). DOI: https://doi.org/ 10.52058/2786-5274-2024-7(35)-648-665 [in Ukrainian].

12. Tsalko T. R., Nevmerzhytska S.M. (2023) Risk assessment in innovative activity. *Actual problems in economics, finance and management: materials of the International Scientific and Practical Conference*. East European Center for Scientific Research (Odesa, 25 october 2023). Research Europe, 2023. pp. 92-94 https://research europe.org/product/book-31 [in Ukrainian].

13. Krasnyuk M., Kulynych Yu., Hrashchenko I., Krasniuk S., Goncharenko S., Chernysh T. (2023). Innovative management information system in post-crisis economic conditions on emerging markets. *Moderní aspekty vědy – Modern aspects of science*: *svazek XXXVII mezinárodní kolektivní monografie*. Česká republika: Mezinárodní Ekonomický Institut s.r.o. pp. 185–203.

14. Krasnyuk, M. (2014). Hybridization of intelligent methods of business data analysis (anomaly detection mode) as a standard tool of corporate audit. *The state and prospects of the development Education and science of today:* materials of the III International science and practice conf. [m. Ternopil, October 10-11. 2014]. TNEU, 2014. pp. 211-212 [in Ukrainian].

15. Матвійчук А. Можливості та перспективи створення штучного інтелекту. *Вісник НАН України*. 2011. № 10(12). С. 40–41.