

Brief information about the project

Name of the project	IRN AP26102355 "Development of a model for an innovative educational ecosystem aimed at developing the competencies of future specialists and the intellectual and human resources potential of educational organizations"
Relevance	The relevance is driven by the need to adapt the education system to 21st-century challenges and technological transformation. Kazakhstan faces a gap between workforce training and real labor market demands, as well as insufficient funding and weak university infrastructure. Developing human capital through an ecosystem approach is becoming a key factor in the country's economic competitiveness within a digital society.
Purpose	Scientific and practical justification for creating a model of an innovative educational ecosystem aimed at developing the competencies of future specialists and the intellectual and human resources potential of educational organizations; systematization of factors influencing the formation and development of innovative educational ecosystems. The creation of the model will include ecosystem formation stages, consisting of analyzing the tolerance of limiting factors and selecting development strategies for stakeholder interaction and innovation activity. Digital technologies influencing the development of innovative educational ecosystems will be systematized, and the effects of their use will be determined.
Objectives	Stage 1 (2025): Theoretical and methodological analysis of modern trends in the education system to identify factors influencing the intellectual and human resources support of educational organizations. 1) Identify factors influencing the current state of the national education system and the development of intellectual and human resources potential based on retrospective analysis. 2) Determine successful educational system models contributing to the development of competencies and intellectual abilities of future specialists through an analysis of relevant international experience in national human capital development. 3) Identify current and future demands of key participants in the educational process and society through sociological research. Stage 2 (2026): Identification of key directions, factors, and potential opportunities for creating an innovative educational ecosystem: 1) Identify innovative directions for training future specialists based on a structural analysis of the education system's impact on socio-economic development rates. 2) Develop and propose a methodology for assessing the intellectual potential of a university based on Kazakhstani and international experience in training and retraining systems. 3) Develop a roadmap for creating an innovative educational ecosystem, taking into account demographic and migration factors, spatial development, and the implementation of digital technologies. 4) Justify the required funding level for the development of educational organizations through an analysis of financial and budgetary expenditures. Stage 3 (2027): Development of systemic measures to improve the quality of the education system: 1) Develop a methodology for developing student competencies in the context of forming the country's intellectual potential. 2) Propose a model of an innovative educational ecosystem using a pilot project as an example.

	3) Formulate a justified set of measures, tools, and mechanisms for developing the competencies of future specialists and forming national human capital.
Expected and achieved results	Expected Results: 1) Publications in peer-reviewed scientific journals: - At least 3 articles/reviews in journals indexed in SSCI, SCIE, AHCI (Web of Science) and/or with a CiteScore percentile in Scopus of at least 35; at least 5 articles/reviews in journals recommended by COKNSVO. - Alternatively: at least 2 articles/reviews in Q1 or Q2 (Web of Science) journals and/or with a CiteScore percentile in Scopus of at least 50; at least 4 articles/reviews in journals recommended by COKNSVO. 2) Publication of a monograph on the development of the intellectual and human resources potential of the education system in the Republic of Kazakhstan. Achieved Results: 1) Article "Innovative educational ecosystem: developing future competencies and the intellectual potential of universities" submitted to the <i>Journal of Technology and Science Education (JOTSE)</i>. 2) Article "Innovative educational ecosystem of the university as a factor in improving the quality of specialist training" submitted to <i>Al-Farabi Kazakh National University Bulletin</i>; publication planned for No. 1 or No. 2, 2026.
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Usage	Results can be used by: • Ministries (MSHE RK) for strategic documents; • Universities and TVET (Technical and Vocational Education and Training) organizations for doctoral, master's, and undergraduate programs; • For improving human capital quality and labor market adaptation.
Priority compared to real-world alternatives	Unlike existing studies, this project proposes a transition from hierarchical systems to network models (ecosystems) based on specific methodology and tools. The main focus is on creating a self-organizing environment for interaction between all parties (university, business, communities) through digital technologies.

List of publications with links to them	-
Patents	-