

ECONOMY

**Natalia Bobro, Candidate of Economic Sciences,
Doctor of Philosophy,
Director of the Digital Department;
Director of the “NooLab & AI” Scientific Laboratory
European University
Kyiv, Ukraine**

DOI: <https://doi.org/10.30525/978-9934-26-603-4-1>

INVESTMENTS IN FACULTY DIGITAL COMPETENCIES AS A STRATEGIC RESOURCE OF UNIVERSITY COMPETITIVENESS

The global challenges of the digital economy highlight the need to rethink higher education development strategies. Higher education institutions need to ensure the high quality and relevance of educational programs by modernizing them and introducing flexible teaching models. Teachers are a key factor in this process, as their digital competence and professional motivation are crucial to ensuring the effectiveness of the digital transformation of universities. In this context, investments in the development of digital competencies are seen as an economically viable direction for developing competitive advantages and enhancing the university's position within the educational and scientific environment.

Research conducted by the OECD has demonstrated a growing demand for digital competencies, which a significant proportion of higher education teachers do not yet possess to a sufficient extent [1]. The traditional education system has reached a “point of no return”: digital technologies have been rapidly integrated into education, but not all universities have been prepared for such challenges. Here, the expectations of applicants regarding new forms of education converge with the desire of modern teachers to acquire the competencies of a digital age professional, as well as the need of universities to define strategic guidelines on which skills should be developed within the academic environment. In such conditions, the concept of lifelong learning becomes particularly important.

Thus, teachers working in the age of digital transformation must be able to create, process, and disseminate complex information, think critically, make decisions in multifaceted situations, respond flexibly to constant change, be open to new knowledge, demonstrate creativity, and solve problems of digital reality [2;3]. Back in 2012, the US National Research Council identified three broad areas of essential digital competencies that determine the ability of professionals to function effectively in a digital environment (Figure 1).

| | |
|----------------------|--|
| Cognitive domain | <ul style="list-style-type: none"> • cognitive processes • knowledge • creative potential |
| Intrapersonal domain | <ul style="list-style-type: none"> • intellectual openness • work ethic • self-confidence |
| Interpersonal domain | <ul style="list-style-type: none"> • teamwork |

Figure 1. Areas of modern competencies

Source: [4]

The further institutional logic of investing in faculty digital competencies is based on a combination of human capital and university intangible asset management approaches. First, enhancing digital competencies increases the productivity of academic work: the cycle of developing educational products is shortened, the ability to use data analytics in teaching is increased, and the quality of feedback to applicants is strengthened. Second, investments in digital competencies indirectly increase demand for educational services by improving the student experience, personalizing educational trajectories, and making hybrid formats more attractive. Third, they form a portfolio of digital intellectual assets of a university (digital courses, content databases, learning analytics data, blended learning methodologies, and scenarios) that have long-term value and a multiplier effect on research and innovation activities [5, p. 46].

We suggest considering investments in faculty digital competencies as part of an integrated model of university competitiveness, where the input is the cost of professional development (microcredentials, mentoring, pedagogical design, release time), mediators – growth in digital literacy, readiness for innovation, qualitative rethinking of courses, output – improvement in learning outcomes and student satisfaction, reduction in transaction costs of the educational process, growth of revenue from the student body and grant income. The economic effect of such a model should be measured by combining indicators of ROI of staff training, cost-effectiveness (the cost of achieving 1 additional ECTS credit with a given quality), value-added training (increase in results compared to the baseline), and TCO of digitalization (total cost of ownership of digital solutions, including staff training).

It should be emphasized that, from a risk management perspective, it is crucial to consider potential barriers, including uneven starting competencies among teachers, limited time for development, “overloading with tools,” and the risk that investments may not align with the university’s strategic goals. Institutional mechanisms for minimizing these risks include: personalized professional development trajectories; the introduction of a system of micro-qualifications and recognition of informal learning outcomes; performance-

based remuneration models for teaching; regular assessment of the impact of training on educational outcomes and the university's financial performance.

Based on the analysis, it is worth noting that investments in faculty digital competencies are not “personnel” expenses, but rather strategic investments in the long-term competitiveness of the university. It transforms human capital into a catalyst for innovation and a portfolio of digital educational solutions into a reproducible intangible asset that ensures sustainable growth and expands the opportunities for integrating higher education institutions into the global educational and economic environment.

References:

1. OECD. Preparing Teachers for Digital Education. Paris: OECD Publishing, 2025. 72 p. URL: https://www.oecd.org/content/dam/oecd/en/publications/reports/2025/05/preparing-teachers-for-digital-education_13a76e57/af442d7a-en.pdf (дата звернення: 08.09.2025).
2. Bobro N. Strategic management models for digital universities in the new economy. *International Journal of Economics and Business Administration*. 2024. Vol. 12. No. 3. P. 3–11. DOI: <https://doi.org/10.35808/ijeba/850>
3. Kozhyna A. Reducing poverty, inequality and social exclusion in European countries: Based on inclusive approaches to economic development. *Economics and Management of the National Economy. The Crisis of National Models of Economic System*. 2022. P. 29–32. DOI: <https://doi.org/10.30525/978-9934-26-269-2-7>
4. National Research Council. Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century. Washington, DC: The National Academies Press, 2012. 242 p. DOI: <https://doi.org/10.17226/13398>. URL: <https://nap.nationalacademies.org/catalog/13398/education-for-life-and-work-developing-transferable-knowledge-and-skills-in-the-21st-century> (дата звернення: 08.09.2025).
5. Bobro N., Hyshchuk R., Strunhar A., Bukovskiy O., Alekseiko V. Exploring the role of AI in shaping future marketing strategies: Evaluations and outlooks. *Amazonia Investiga*. 2024. Vol. 13. No. 80. P. 43–53. DOI: <https://doi.org/10.34069/AI/2024.80.08.4>