

THE NEED FOR DIGITAL TRANSFORMATION TO INCREASE THE EFFICIENCY OF LEARNING PROCESSES IN HIGHER EDUCATIONAL INSTITUTIONS*Usmanov Sarvar Nigmatovich**Researcher, Republican Scientific and Methodological**Center for the Development of Education**e-mail: ussarvar@gmail.com*

The rapid development of digital technologies has initiated a period of transformation in all areas, including higher education institutions (HEIs). Digital transformation in higher education means the integration of digital technologies in teaching, learning, administrative management and scientific research, which serves to increase efficiency, convenience and innovation. However, effective management of this process poses serious problems for HEI leaders.

One of the main problems in managing digital transformation is resistance to change. Professors, staff and even students are accustomed to traditional teaching methods and perceive digital tools as an “additional burden”. Clayton M. Christensen argues in his book that this resistance often stems from an institutional culture that favors stability over change [Clayton M. Christensen., Henry J. Eyring. (2011). *The Innovative University: Changing the DNA of Higher Education from the Inside Out*. Jossey-Bass; 1st edition, p:512.]. According to his theory of “disruptive innovation,” universities must overcome internal resistance to adopt technologies that may initially seem ineffective but will yield long-term benefits (such as online learning platforms or artificial intelligence-based analytics). Another major challenge is the lack of adequate technological infrastructure. Universities in developing regions, in particular, suffer from outdated systems, limited internet connectivity, and insufficient funds to purchase modern tools. Michael Fullan, in his book *Leading in a Culture of Change*, argues that digital transformation without a solid infrastructure will fail because deploying technology requires not only the tools but also the ability to maintain them [Michael Fullan. (2020). *Leading in a Culture of Change*. Jossey-Bass; 2nd edition, p:192.]. This infrastructure gap exacerbates inequalities, leaving some institutions unable to compete in the global digital academic arena.

The lack of digital skills among faculty and staff remains a persistent problem. The shift to digital teaching methods such as virtual classrooms or blended learning requires skills in using tools such as Zoom, Moodle, or data analytics software. As a result, the quality of education without skills can decline. Lindsay Ryan, in her book, notes that the success of digital initiatives depends on developing human capital, because technology cannot drive transformation without skilled users [Lindsay Ryan. (2010). *Corporate Education – A Practical Guide to Effective Corporate Learning*. Griffin Press, p:268].

To overcome these challenges, effective management of digital transformation in higher education institutions must be based on several key principles. The first is flexibility. Higher education leaders need to create a culture that embraces change and sees digital tools as an opportunity, not a threat. Fullan recognizes that flexibility is the foundation of leadership in a dynamic environment, which

requires anticipating change, trying new approaches, and learning from mistakes. For example, adapting to post-pandemic blended learning models has shown that flexibility increases resilience.

The second principle is stakeholder engagement. Digital transformation affects students, faculty, administrators, and external partners, so inclusion in decision-making is essential. In their book *Governance of Higher Education*, Ian Austin and Glen A. Jones explain that successful governance requires involving all stakeholders and aligning their interests with the goals of the institution [Glen A. Jones., Ian Austin. (2015). *Governance of Higher Education: Global Perspectives, Theories, and Practices*. Routledge; 1st edition, p:204]. Collaborative governance reduces resistance by tailoring digital initiatives, such as the implementation of a new student information system, to the needs of different groups.

The third principle is strategic vision. Leaders should develop a clear roadmap for digital transformation that aligns with the institution's mission and long-term goals. Christensen advocates a vision that balances innovation with tradition, ensuring that digital tools enhance, without replacing, the core values of higher education, such as critical thinking and intellectual rigor [Clayton M. Christensen., Henry J. Eyring. (2011). *The Innovative University: Changing the DNA of Higher Education from the Inside Out*. Jossey-Bass; 1st edition, p:512.]. Strategic vision provides direction, helping institutions prioritize investments and avoid large technology adoptions. Based on these principles, several strategies can be used to improve the management of digital transformation in institutions. The first is professional development. Ryan argues that ongoing training programs for faculty and staff are essential to addressing the digital skills gap [Lindsay Ryan. (2010). *Corporate Education – A Practical Guide to Effective Corporate Learning*. Griffin Press, p:268]. For example, learning analytics workshops allow teachers to personalize students' learning experiences, while administrative training improves operational efficiency. Such programs have led to high adoption rates at the University of Edinburgh.

The second strategy is gradual technology integration. Rather than changing systems all at once, universities should adopt a gradual approach. Bowen suggests starting with a single online course as a pilot project and then expanding it [William G. Bowen. (2015). *Higher Education in the Digital Age*. Princeton University Press; Revised edition, p:215.]. This strategy allows for testing technologies, gathering feedback, and problem-solving without overwhelming resources. For example, MIT's OpenCourseWare initiative was piloted first and then expanded globally.

The third strategy is to foster a data-driven culture. Digital transformation generates vast amounts of data, from student performance to operational performance metrics. Austin and Jones argue that analyzing this data can improve decision-making [Glen A. Jones., Ian Austin. (2015). *Governance of Higher Education: Global Perspectives, Theories, and Practices*. Routledge; 1st edition, p:204]. For example, predictive analytics can help identify students at risk, while operational data can optimize resources. However, this requires investment in data infrastructure and ethical use policies.

A continuous cycle of evaluation and feedback is needed. Fullan explains that transformation is not a one-time event, but an iterative process. Institutions should evaluate digital initiatives and adjust strategies, identifying indicators such as student satisfaction, technology performance or cost savings. The University of Queensland's annual digital transformation reviews demonstrate the success of this process.

The success of digital transformation depends on several key factors. First, infrastructure and technological resources are important. As Michael Fullan writes in his book, digital transformation will fail if it does not have a strong technological foundation[Michael Fullan. (2020). *Leading in a Culture of Change*. Jossey-Bass; 2nd edition, p:192.]. Fast internet, modern equipment and cloud systems are necessary for the effective implementation of digital tools in higher education. For example, Harvard University has invested in high-level infrastructure in the development of its online learning platforms, which has ensured its global leadership in the higher education system.

The second factor is leadership and strategic vision. Clayton M. Christensen notes in his book that leaders need to have a clear strategy for the successful implementation of innovation[Clayton M. Christensen., Henry J. Eyring. (2011). *The Innovative University: Changing the DNA of Higher Education from the Inside Out*. Jossey-Bass; 1st edition, p:512.]. Digital transformation should not be an accident, but should be aligned with the institution's mission and long-term goals. The Massachusetts Institute of Technology (MIT) has implemented digital transformation through a strategic plan, launching the OpenCourseWare project and expanding it globally.

The third factor is human capital and skills development. Lindsay Ryan writes in her book that the digital skills of faculty and staff are key to the success of the transformation [Lindsay Ryan. (2010). *Corporate Education – A Practical Guide to Effective Corporate Learning*. Griffin Press, p:268]. If staff cannot use Zoom, Moodle, or data analytics tools, technology will be ineffective. The University of Oxford has taken the lead in this area, introducing ongoing digital training programs for faculty and ensuring continuous learning during the pandemic.

Fourth, stakeholder engagement is essential. As Ian Austin and Glen A. Jones explain in their book, involving students, faculty, and administrators in the process reduces resistance and creates shared goals [Glen A. Jones., Ian Austin. (2015). *Governance of Higher Education: Global Perspectives, Theories, and Practices*. Routledge; 1st edition, p:204]. Stanford University has successfully implemented flexible online courses, taking into account the opinions of students and teachers in developing digital transformation projects.

The future directions of digital transformation play an important role in the development of higher education institutions. Artificial intelligence and big data analytics are widely used in education and research. Blended and distance learning will be the main direction in the future. Harvard's offering of online courses through the edX platform and reaching millions of students is an example of this. This direction allows higher education institutions to eliminate geographical boundaries and lead the international education market. Open educational resources and digital libraries are expanding. Sustainability and environmental responsibility are important in digital transformation, as digital tools reduce paper-based processes and reduce environmental impact.

In conclusion, digital transformation is becoming a critical task for modern higher education institutions. Administrators need to focus on improving operational efficiency without compromising the quality of education in this process. As a first step, it is necessary to assess the existing infrastructure and identify priority areas for digitization. For example, automating paper-based processes (student registration, assessment systems) can save time and reduce errors. The use of cloud technologies and data management systems can be an effective solution for this. Second, it is important to invest in improving the skills of teachers and staff in the process of digital transformation.

To effectively use new technologies, they need to be trained and have a system of ongoing support. This is an important factor in maintaining the quality of education, as the ability of teachers to use digital tools correctly ensures the continuity of the learning process. Third, it is necessary to create user-friendly platforms to improve the student experience. Distance learning opportunities, interactive lessons and real-time feedback systems increase student satisfaction. Modern cybersecurity measures are necessary to ensure data security and confidentiality, as the digitalization process can create new risks. Successful digital transformation requires strategic planning and ongoing monitoring. Administrators should test new systems through pilot projects, analyze the results, and make necessary adjustments before large-scale implementation. This approach helps optimize costs and maintain consistent educational quality.

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