



DIGITAL TRANSFORMATION IN HIGHER EDUCATION: BENEFITS AND CHALLENGES

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RESEARCH ARTICLE



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Abstract

The 21st century is characterized by rapid technological advancements, with higher education institutions increasingly adopting digital solutions to enhance teaching, learning, faculty performance, and student management. Digital technologies help students to accelerate their learning, grasp complex concepts, participate in online examinations, and explore career opportunities. In this technology-driven era, the digital transformation of higher education institutions (HEIs) is imperative. This research paper examines the importance of digital transformation in higher education, highlights its objectives, and explores the challenges associated with its implementation. The study is based on secondary data collected from sources such as newspapers, magazines, journals, and government reports. Findings reveal that in India, a wide range of virtual tools has been introduced across educational levels, facilitating the transition to online learning. The study concludes that integrating digital tools can significantly enhance the quality of education and provide trans-formative experiences for both students and educators.

Keywords: *Digital Transformation, Higher Education, Online Learning, Modern Education, Traditional Education*

Introduction

Digital transformation is a key trend today, driving significant changes and disruptions in the job market, industries, and education sector (Bogdandy et al., 2020). It challenges conventional business interactions and dependencies (Veckalne & Tambovceva, 2022). Digitalization has become a crucial part of various fields due to the advancement of digital technologies and ongoing external pressures. Businesses must adopt digital solutions to remain competitive by lowering costs while introducing new products and services (Tulchinsky, 2017). Similarly, government and public sector organizations are embracing digitalization to improve accessibility for the public, particularly during COVID-19 restrictions and lock-downs (Matsieli & Mutula, 2024). Digital technology transformation is a significant trend in today's industries. In the Indian education system, there is vast potential for digital advancements, particularly in schools, universities, and colleges. Digitization and digital methods help convert lecture content into digital formats and provide online access to education and learning modules. It goes beyond technology, incorporating modern ways of working (Mukul & Büyüközkan, 2023). In the world of education, the scarcest resource is not just technological expertise but also effective leadership. Today's leaders and students must navigate a vast range of digital initiatives, adapt to rapid innovation cycles, and reshape organizations with new approaches. The widespread use of digital resources has become essential for modern learners, who seek advanced learning opportunities beyond traditional classroom methods. Considering the evolving needs of young students, schools and colleges must develop innovative and advanced teaching methods to ensure quality education. The impact of technology should never be underestimated. With a population of 1.31 billion, the use of technology in India has grown significantly in recent years. With approximately 140 million mobile phone users and being the second-largest user base for social media, India has immense potential to expand in this field and harness the benefits of technology in education. Recognizing the importance of digital advancement, Prime Minister Modi launched initiatives like Digital India to drive technological progress (Ergashev, 2025). The aim is to make India a digitally strong society with a knowledge-based economy. The Digital India initiative focuses on improving the education system by providing access to learning resources worldwide. Today, students spend more time online and on smartphones to learn new things. Schools, colleges, and universities must adopt new technologies to keep up with these changes. With the rapid growth of technology, along with social media, the Internet of Things (IoT), Artificial Intelligence (AI), Augmented Reality (AR), and Virtual Reality (VR), India's education system is getting new opportunities for improvement and progress.

Objectives of the Study

1. To overview objectives of digital transformation in higher education.
2. To know about the advantages and challenges of the Digital transformation in education.
3. To Explain the major government initiative about Digital transformation in education.

Research Methodology

This study is based on secondary data which is collected from various reports, journals and websites. Various government reports have also been considered. This study tried to study the digital transformation in the field of higher education.

Objective: 1 Key Objectives of Digital Transformation in Higher Education

Following are the important objectives behind digital transformation in higher education:

- a) Improving the student's learning environment**
Technology improves the learning experience through educational platforms, videos, online quizzes, and tests. Virtual reality and AI tools help students express their ideas and understand subjects more easily.
- b) Enhancing the institution's operational efficacy**
Digital transformation improves how institutions work by using data analysis to understand problems, predict outcomes, and suggest possible solutions.
- c) Increasing computing power for cutting-edge research**
Digital libraries and databases allow access to various research studies. Platforms like Google Search, Research Gate, and Google Scholar help students and teachers find unlimited research materials. Digital technology offers an easy and affordable way to access quality education and the latest information in different subjects.
- d) Stimulating innovation in education**
Technology drives innovation by replacing textbooks with digital content and reducing the need for expensive equipment through VR and AR resources.
- e) Improve Competitiveness**
The goal is to make an institution stand out from others by using digital tools and methods.
- f) Create a Culture of Data-Driven Decision Making**
This means using digital tools and thinking in all parts of the campus, including students, teachers, leaders, and staff.
- g) Optimize Resources**
This covers everything from improving communication between administrators and reducing electricity costs.

Objective: 2 Advantages of Digital Transformation in Education

- a) Cooperative learning**
Digital learning encourages teamwork. Teachers can create and manage groups on learning platforms. Writing papers and making presentations are easier with tools like Google Docs, Twiddla, and Edmodo. Many organizations already use these interactive tools.
- b) Future-focused curriculums**
Institutions teach subjects like robotics, artificial intelligence, automation, and science fiction films. There is strong evidence that workforce demands are changing and will continue to grow in the future. However, organizations are not fully ready to prepare students for these changes. Updating the curriculum should not take years. Students now have easier access to relevant and regularly updated content. To stay up to date, they need daily access to new learning materials and tools.
- c) Enhance cooperation between parents and teachers**
Studies show that children perform better in school and stay healthier when parents are involved in their education. Automation helps by sending progress reports and updates to parents, encouraging them to support their child's learning. Imagine software that could suggest career options based on a student's strengths and weaknesses, using data to guide them toward the right path.
- d) Tracking of student results**
One effect of digital transformation in education is better tracking of student progress. Technology helps record student work, allowing teachers and parents to monitor their growth. For example, written or creative work can be compared over time with previous digital records, making it easier to see who is improving and who needs extra support.
- e) Improved results with data analytics**
Schools can use data analysis to track and improve student performance. Teachers can better understand each student's needs by reviewing information gathered through technology in the classroom. Identifying where a student struggle makes it easier to adjust lessons accordingly. Technology helps detect these learning gaps more accurately and efficiently.

Challenges of the Digital Transformation in Education

a) Unequal Access

Modern technology can be expensive, and not all students can afford it. To make digital transformation successful, schools should ensure that all students have access to the necessary tools and materials. However, teachers do not have to apply digital learning to each student individually; instead, they can use technology for classroom-wide teaching.

b) System-based compatibility

Today, most companies and organizations rely on technology-based systems to run smoothly and efficiently. One big challenge in digital transformation for education is that many systems do not work well with modern digital technologies. This mismatch means that schools may need to upgrade, adjust, or replace their current systems, which takes time and resources.

c) Reticence to change

In India, nearly 70% of public sector employees feel that their digital skills are behind those in the private sector. However, many key policymakers resist taking the next big steps toward digital progress. People often stick to what they know and are unwilling to step out of their comfort zones, slowing down growth and development. In the education sector, many fear failure and hesitate to learn new skills or adapt to new technology, culture, or ways of thinking.

d) Inferior knowledge or skills

A good level of trust, knowledge, and skills is essential for fostering innovation in an organization. Educational institutions must either compete for a limited number of skilled professionals or adopt new methods, such as cloud technology, to train and develop new talent for a smooth and effective digital transition.

e) Data reliability

In today's digital world, various tools help schools, universities, and trainers understand future learners, improve efficiency, and enhance user experiences. This data is highly valuable. However, in the education sector, it is often unorganized, inaccurate, or unreliable. Education leaders need to analyze data carefully, make informed decisions, and adopt new strategies to ensure they receive accurate, timely, and well-structured information.

f) Lack of strategy

A major challenge in making progress today is knowing how to start digital transformation in any field. The idea of large-scale change can feel overwhelming, making it hard to choose the right direction or create a clear strategy.

Objective: 3 Major Government Initiatives

a) New Education Policy

The National Education Policy 2020 aims to make India a global leader in knowledge by bringing various changes to the education system, from schools to colleges, with a strong focus on digital learning.

b) Digital Infrastructure for Knowledge Sharing (DIKSHA) Platform

DIKSHA is India's national digital platform for school education, accessible to all states and the central government for students in grades 1 to 12. Launched in September 2017, it is part of the Prime Minister's e-Vidya initiative under the Atmanirbhar Bharat Programme, promoting the concept of 'one nation, one digital platform' for school education.

c) Swayam Prabha TV Channel

To support and reach those who do not have access to the internet.

d) Online Massive Open Online Course (MOOC)

MOOC courses for the National Institute of Open Schooling (grades 9 to 12) are available on the SWAYAM portal. So far, about 92 courses have been launched, with 1.5 crore students enrolled.

e) On Air

Shiksha Vani, the Digitally Accessible Information System (DAISY) by the National Institute of Open Schooling for students with disabilities, e-PathShala, and radio broadcasting are being used to help children in remote areas who cannot access online learning.

Conclusion

The Covid-19 pandemic led to a massive and rapid shift toward digital technology in society. It forced us to make a sudden and significant jump into digital life, including education. Almost overnight, learning moved from traditional classrooms to online platforms. An entire generation had to quickly adapt and learn how to use digital tools to continue their education. This needed big changes not just for students and teachers, but also for their families, school administration, and society as a whole. Even though digital learning has been discussed for a long time and many schools already use technology, teachers, students, and school leaders were not well prepared to lead this sudden digital shift. Students and their families faced a huge challenge as they suddenly had to develop new skills, knowledge, and access to resources.

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