DIGITAL TRANSFORMATION AND AI READINESS IN HIGHER EDUCATION: A CASE STUDY IN PUBLIC SECTOR UNIVERSITIES

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Abstract

It looks at the increase in digitization in schools and explores the new options this may bring. Digital technology allows educational institutions to reach various new possibilities as environments adapt. The research looks at the current use of technology in schools to highlight the improved possibilities created by its integration. Several things are contributing to big shifts in higher education such as higher operational costs, the adoption of micro and Nano degrees, the rise of online education, an increase in digitally-literate students and digital transformation everywhere. Digital tools are being used more often by students to show their knowledge in structured college or university classes. It looks closely at the role of digital transformation in higher education and examines what benefits it might bring in the future. Topics such as digital transformation, virtual reality (VR), artificial intelligence (AI) and Technology, Entertainment, Design (TED) courses are reviewed for their importance in shaping the future of education. It is clear from research that digitalization is only the first part of a bigger process where institutions do not stop at repeating old tasks, but also transform education. According to the study, using new management methods in business can make the most of information and communication technology (ICT). Educational institutions need to dramatically change their approach and start using innovative methods for teaching, learning and administration when undergoing digital transformation. In the process of changing, institutions give more value to students and develop meaningful partnerships with other organizations in the field.

Key words: Artificial Intelligence, Ergonomic Assessment and Optimization, Offices, Universities

Introduction

Bringing emerging technologies into higher education and public administration helps improve productivity, living conditions and makes the system more efficient. For ergonomics, Artificial Intelligence (AI) has been successfully used to assess tasks and make workstations safer and more comfortable. Ergonomics, the branch concerned with fitting environments to users' needs, boosts comfort, lowers the risk of health problems and enhances work or study performance. Because public sector institutions have to manage limited funds, ageing frameworks and a growing number of students, they need creative solutions very much. Generally, using conventional ergonomics can be effective but still involves a lot of manual steps, acts after issues are reported and fails to respond to the shifting needs of the institution. Applying AI to ergonomics offers a new approach to look at and improve the way people work, study and live (Yang et al., 2022).

Ergonomics offers more than better posture and bodily comfort to colleges. The surroundings of academic institutions are important for thinking skills, staying focused and mental well-being. Poorly constructed classrooms or workspaces can trigger back or neck pain, tired eyes and anxious feelings which consequently affect how much work gets done, how much time is spent there and the staff's mood. Ergonomic stress related to fatigue and

injury may happen to instructors who hold long lectures, staff who work at their desks for a long period or students involved in deep study sessions. Because of limited budgets in public sector colleges, the threats are often made worse by antique furniture, crowded rooms and a lack of information on ergonomics (Barrett et al., 2019).

For a priority corporate strategy, "digital transformation" means "extensively modifying business activities, processes, knowledge, abilities and models to fully benefit from the influence of new technology on society." These organizations should keep up-to-date to continue being significant in shaping education today. Colleges and universities have to adopt digital changes to stay relevant and keep up as this development continues. Innovative technologies should be introduced, adapted to different aspects of school life and employees should be trained to make effective use of them (Eltorai & Guo, 2024).

Numerous sectors and education in particular, rely strongly on digital transformation. It can be useful for schools by reducing costs, increasing the involvement of students, helping students succeed and increasing education opportunities for everyone. Universities should respond to these changes to keep up with others and ensure students get the knowledge and skills needed to be successful in the digital world (Parson, 2025).

It is possible for higher education institutions to follow digital transformation by buying and using updated technologies and infrastructure, using digital tools and resources in their teaching practices and training faculty and staff to handle these tools and platforms. They may also communicate with associations, companies and similar entities to stay educated about new trends and leading strategies in digital transformation. Colleges and universities should become early adopters of technology so they remain important and reliable in education and for student success (Gravett & Petersen, 2022).

More attention has recently focused on how digital transformation principles can be applied in education, as these principles clarify the many ways various parties are connected in a digital version of teaching and learning. It is difficult to review the processes of an entire firm because it depends on all the resources and talents made possible by modern technology. This is an even bigger problem for companies working to be competitive globally. But since there is a lot of competition to hire top researchers and students, institutions have to face this challenge as well. It is interesting that adopting modern business strategies encourages universities to cope with new changes, interact more with different stakeholders and foster cooperation among staff and the entire organization. Because of the fast paced changes in business and competition for outstanding talent, universities are feeling pressure to adapt. Because of new economic ideas and new technology, education is being delivered differently and schools need to change in order to stay up-to-date and competitive (Peters, 2022).

Connecting with students, faculty, staff, alumni, employers and community partners is a main issue for colleges and universities. A good level of understanding about what they want and using technology and analytics is necessary to ensure they are provided with a uniform and personalized experience on various channels. It is also hard to build a workplace where everyone is encouraged to be creative and cooperative. By encouraging staff to try new approaches and by supporting joint efforts between different departments across the hospital, boosting innovation. As a result, silos can disappear and people can share ideas and work together (Garfield et al., 2024).

Colleges and universities should be able to adapt quickly and watch market trends to shape their actions as requirements change. This means that leaders and governments must be strong, effective and willing to adopt new practices and face risks that need to be well managed. Thus, they can take steps to excel globally and produce a skilled workforce for the future. In education, digital transformation means using digital strategies to improve teaching, learning, research and administration. There are many organizations that recognize digital

transformation is important, but only some can carry it out because they don't have the required foresight, persistence and endurance (Ambrozie, 2024).

To know what is currently happening in digital transformation for higher education institutions, we should notice the unique traits arising from the change. It brings new ideas in teaching and learning, modifies what roles stakeholders play and strengthens the relationship between them. Because of digital changes, new teaching and learning approaches such as blended learning and online courses, have become popular. Because of these new insights, organizations must examine and update their usual ways of teaching and start using modern technologies. Because of digital transformation, the tasks and roles of instructors, administrators and students have changed. It may be necessary for educators to gain new competences for effective teaching in digital spaces and administrators might need to change their processes to better support digital projects. Equally, students might find it necessary to get used to fresh learning setups and unfamiliar technology (Hartig, 2021).

In the end, digital transformation has resulted in better stakeholder engagement, since financial institutions try to bring all stakeholders into the process. It is necessary to talk with students, teachers, staff, alumni and other people involved to ensure digital activities fit the school's objectives and priorities (Martin et al., 2020).

The first important thing for a higher education institution is to develop a digital strategy targeted to its needs. Yet, it's true (as you mentioned) that a lot of companies are missing the foresight and determination to follow through on these steps. In order to solve these issues, higher education institutions should develop a thorough knowledge of what digital transformation means for their processes and stakeholders. They are to analyze current understanding and abilities, as well as to explore the special benefits and barriers of digital transformation in universities. Building the strategy needs to consider the demands and choices of students, staff, faculty and alumni along with the latest trends and practices in technology and education (Purcell et al., 2019).

Institutions of education should build an environment that encourages new ideas, experimentation and synergy by offering necessary resources, rewards and support. In higher education, applying digital transformation involves adding digital technologies and tools to teaching, research and management and also developing new products and services based on innovative technology and data collection. To have a successful digital transformation strategy, leaders must be strong, management should be well organized and everyone should be committed to continuous improvement. Using digital transformation, universities can provide better service to stakeholders and remain competitive on the international stage (Dwivedi et al., 2022).

Methodology

The study relied on qualitative research practices. We used a sociotechnical frame to find out that our study would be about digital infrastructure. Experts were recruited from many parts of the university to make the study diverse. All informants were picked because of their expertise and experience with digitalization. Many interviews lasted up to an hour and were semi structured to discuss the expertise of every participant. The research hypotheses used to develop the interview were:

Hypothesis 1: considers that having autonomy in digital learning increases motivation and encourages personal work.

Hypothesis 2: Student satisfaction and achievement are affected by teacher professional development.

Hypothesis 3: says that using virtual technologies can make learning and practicing skills more convenient.

Hypothesis 4: Digital education increases students' ability to do well at work after graduation.

Hypothesis 5: Boosting teachers' ability to use digital resources helps digital education succeed.

Along our interviews, we also collected easily available documents like plans, reports and websites. For our qualitative study on digital infrastructure in education, we studied many papers such as plans for digital education and reports covering their digitization projects in universities. We looked into faculty development plans, the school's lessons and how courses are organized. It included reviewing institution websites, online study websites and other online areas for news and updates about digital education.

Along with holding qualitative interviews and gathering suitable materials, we performed a full analysis of the data we gathered. We used thematic coding to spot common themes, hot topics and important insights about digital infrastructure in the academic field. We have used these thematic codes to look at the characteristics of science's digital infrastructure: improved involvement, concerns over platform compatibility, positive effects, adapting to technology, obtaining resources and solving technical issues. We were able to learn key things and discover relationships among several parts of the digitization process by using this method.

To check the trustworthiness and precision of what we learned, we employed member checking, asking participants to look at a summary of their interviews and make sure their words had been understood correctly. Because of this constant cycle, others could trust our investigation more.

Besides, with the aid of the socio-technical approach, we analyzed how social and technical elements are closely linked in the world of digital infrastructure. We focused on how the use of digital technologies has changed family life, ways people stay in touch and how they collaborate at school. In addition, we investigated the technical parts of digital infrastructure and judged how effective, scalable and interoperable the existing methods are.

Toward the end of our study, we combined what we learned from students and faculty. As a result of putting everything together, we are now able to see all the issues, advantages and consequences that digitalization brings to the academic sector. What we have found increases the understanding in this area and provides major insights for academic institutes planning to upgrade their digital services.

The Shift to Digital Methods in Academic Settings

Inside universities and other higher education institutions, digital platforms and resources are now playing an important role. When education standards and methods develop, schools should adopt modern resources to fit with current trends and technology. Digital technology plays a key role, giving us advantages such as having extra flexibility, getting to everyone with easy access and higher engagement. With online learning management systems (LMS), students can view course materials, connect with teachers and turn in assignments whenever and wherever they like on their personal devices. It helps students overcome learning problems linked to distance and time. You can use digital educational technology to support flipped classrooms, blended learning and tailored learning experiences (Ferri et al., 2020).

Using simulations, games and multimedia tools in the classroom captures students' interest, allowing active learning to take place and digital exams with analytics provide quick feedback to teachers. In addition, online platforms give educational establishments the chance to teach more people, including individuals outside their usual student base and those worldwide, to grow their network of allies. It can support greater diversity, equity and inclusion in schools and help students get ready for careers built around technology (Walter et al., 2020).

Digital tools are now an important and necessary part of how instruction and learning happen in higher education. These institutions should keep depending on and adopting these resources to keep up in competition and fulfill the expectations of their stakeholders. For digital education methods to be successful in colleges and universities, academic, programmatic, institutional and structural changes are necessary. Using digital tools effectively in education means switching to new teaching methods and gaining fresh skills by educators and students. Programs for digital education can help students practice thinking critically, solving problems and handling technology in ways needed for their jobs now. With digital tools, educators can work on giving every learner personalized training designed to fit the learner and projects from the real world and used cases study how they teach students (Rapanta et al., 2020).

Any institution should design its online educational offerings so they are in line with its general education plan and also meet what is needed in the labor market and from employers. For this, new courses and programs might be developed and digital technology should also be included in the body of coursework. As a result of digital strategies, schools may need to change their structure, policies and methods which can include developing digital education departments, including open resources and using data to analyze and improve how students do (Mugenda, 2023).

Making digital education accessible can require changes to buildings as well as upgrades to internet, computers and software. In addition, institutions might have to invest in professional development and training for all staff so they all use technology effectively. When digital resources are used, they may encourage teachers and students to try something new, use different ways to learn and help each other in class more freely. This means higher education organizations should put together effective plans to address changes inside the institution such as programs, policies and structures (Dwivedi et al., 2023).

Nowadays, digital literacy and digital skills are key skills for a job. Since we are in the digital age, the ability to use and learn technology has become very important in many professions. To have digital literacy is to use computers and other tools to gather, review and share information. This refers to online search, using social media and sending and receiving messages digitally. It is about the specific abilities needed to use and control digital technology such as coding, data analysis and creating software. The sharing economy now requires people who understand both people and technology, as digital skills are essential there. Ride-sharing and food delivery workers in the gig economy rely on digital tools to deal with customers and arrange their duties (Van Doorn & Chen, 2021).

Higher education instructors are recommended to give guidance on technical matters and teaching. Some universities have taken advantage of technology to provide flexible teaching and to quickly provide help to students which has made education available to more people and improved internal teaching processes. Based on the circumstances, digital technology can appear as different storefronts in its infrastructure. Learning portals and digital services keep up with current trends and ways education is delivered (Dwivedi et al., 2020).

Educational institutions are now required to prioritize digital transformation which alters the teaching approaches, administrative work and experiences of learners. Digitally transforming schools includes changing attitudes, the way staff works and installing new technologies. This journey of change leads to the application of modern education and operation models that cause a school to take a different approach to its strategy, way of working and what it offers. As a result, cultural transformation, an adaptable workforce and technological progress unite which helps reshape the institution's key structure and contributes to its achievements in the digital world (Figure 1).
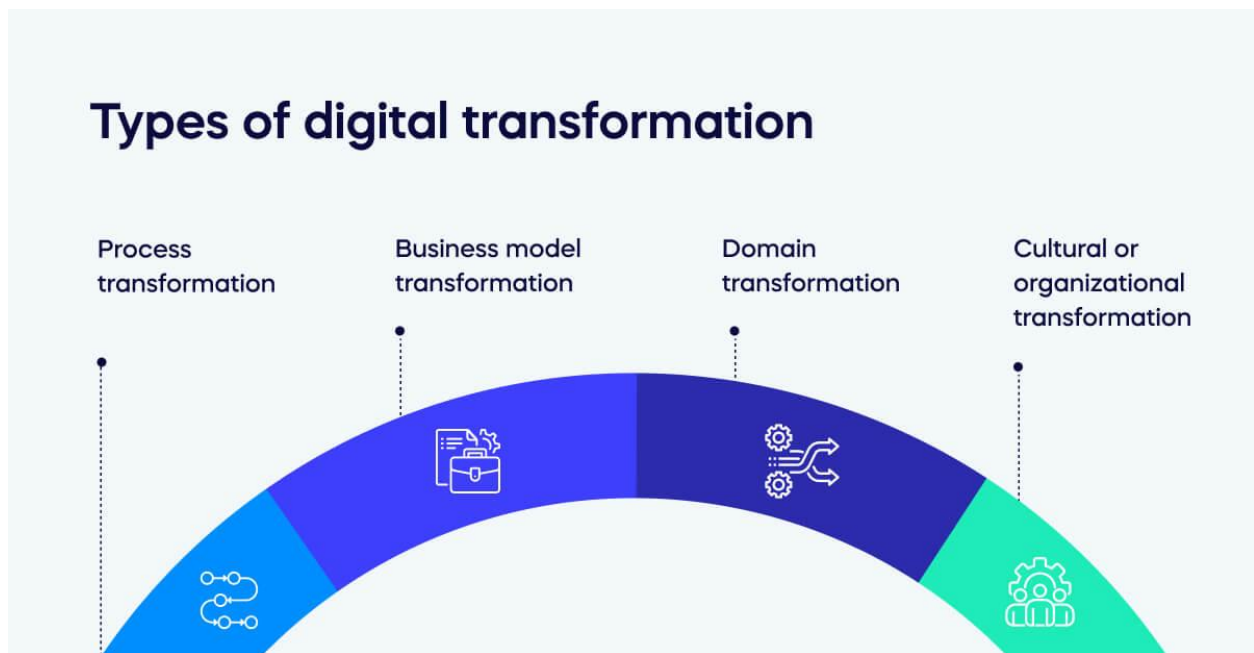
Figure 1: The process of digital transformation

The main objectives are to upgrade how teaching is done, make education management more effective and inspire a culture where students learn to meet technology-related challenges. Regardless of the problems, the great results make education institutions leaders in giving students valuable, easy-to-use and interesting learning experiences. Institutions for higher education are introducing digital methods to improve teaching, stay in touch with their student body and supporters and remain competitive amid fast changes. There are a number of reasons behind this such as the changing focus of the job market and more students wanting creative and appealing lessons. Using digital means, institutions can make their recruitment and operational processes better, cost less and be more efficient. Employing digital tools and platforms could enable schools to take care of time-consuming administration responsibilities like admissions, enrollment and student records which frees up their staff and budget for more strategic goals (Oecd, 2020).

Also, digital approaches can support institutions in bettering their educational programs by introducing latest technologies and teaching methods and by allowing students to learn flexibly and in a way that best suits them. It can support the school in responding to the changing needs and anticipations of their students, as well as helping them get ready for what's expected in today's jobs. This may help the institution build a better image and brand and support teaming up with different partners and groups from outside. Currently, digital strategies are being used by institutions of higher education to optimize their work, make more profit and underline the role of digital technology, so they remain up-to-date and competitive in the rapidly evolving environment. By embracing digital transformation, institutions can make their learning programs better, streamline their internal procedures and reach more people which helps them succeed and remain sustainable for the future. A lot of money must be put in to update the DT from old-fashioned to modern technology (Allam et al., 2022).

Academic institutions can grow if they update their accountability and education management to be more efficient, help employees think creatively and offer hospitality in their services and facilities. It is important to help people start thinking like entrepreneurs. Using business intelligence systems together with data management and services gives decision-makers a complete picture and tool for strong choices (Parycek et al., 2023).

The research process should match what the participants expect and relate properly to today's digital transformation. Legal studies are enhanced by joining technical advancements and human resources in universities. Modern technologies are changing various parts of human resources which leads to better overall performance. Universities focus on creating a strong workplace on digital tools, with the help of employees' digital skills. Such independent skills certificates help build relationships between organizations, community colleges, big businesses and local authorities. Effective use of digital technologies depends largely on businesses making sure they are correctly identified and administered because changes can affect how well such products are used (Dwivedi et al., 2023b).

To support the main strategy and rules of higher education, the educational sector must go through full analysis and design on how governance connects to the conceptual, structural and practical aspects of using resources creatively. The important people involved are academics, students, professors, college officials and the team responsible for digital technology. Universities rely on many objectives in controlling their digital technology, influenced by culture, the institution and technology. Sociologically speaking, the main aims today are to help society, help workers improve their abilities and enhance social conditions (Wen & Wu, 2023).

To use tech, change courses and keep flexibility, staff at higher education institutions are extremely important. With their validity such institutions drive administrative progress, make travel between planets easier and increase the possibilities for learning. The key reasons for digitization in universities are the framework model, business operations, administration, pedagogy, curriculum, employment preparedness, marketability, research and online marketing and these should all be recognized separately. The way individuals in a college community see things, what culture they come from and their technology skills can powerfully shape the institution's activities and student outcomes. Worldview is the title for the beliefs, views and routines regarded by people as truths about the world and how it operates. They can modify the learning habits of students, the pedagogical efforts of professors and how school leaders make decisions. The environment and values of a university can affect things like the class options and relations between students (*Higher Education*, 2023).

Digital literacy is having the skills to use digital technology to search for, assess, create and spread information. As technology starts to play a greater part in education, knowing how to use it is needed by everyone: students, staff and administrators. Understanding how stakeholders think, their culture and their level of digital understanding helps administrators guide students more successfully. Emphasizing collaboration and community development at a university, administrators may prioritize activities that bring students together. When the staff and students know how to use technology well, the institution might consider getting new advanced technology to support teaching and learning. Therefore, the main challenges and opportunities from organizational change come from people, teams, companies and the market competition (Hodges, 2024).

Because of the overlap between many fast-growing innovations, the fourth industrial revolution, also known as Industry 4.0, involves AI, biotechnology and nanomaterials. Such technologies are set apart by their quick ability to improve and speed up things, helping many areas develop rapidly. These advances are driven from a scientific and physical perspective by the way computers get faster, how new materials and manufacturing techniques are introduced and the rise of data and connection via IoT. There are new inventions and improved ways to run enterprises and industries as a result (Schot & Steinmueller, 2018).

Schools are being influenced in many new ways by the fourth industrial revolution. Technology and computer-based resources are included to help students and teachers

collaborate and innovate. New technologies such as artificial intelligence and virtual or augmented reality, make it possible to tailor and adjust how we learn. The fourth industrial revolution is modernizing our daily lives, the way we work and our schools and it is set to play a big role in society's future (Stek, 2022).

Since digital transformation is different in every situation, a universal solution is not effective. How successful a digital transformation program is often depending on choosing activities and strategies that fit the unique goals, beliefs and business plans of each company. Giving careful thought to how you execute is essential for a successful change within the given situation. There are many paths to digital transformation and some basic elements drive it. Usually, these essential elements are set within the company which helps to evaluate different stages of change. As shown in Figure 2, the process of digital transformation requires using a purposeful and suitable plan that reuses existing elements in the organization. It serves as a picture to highlight how every phase of digital transformation interacts and supports the organization's bigger vision and commitment (Ricks & Peters, 2023).
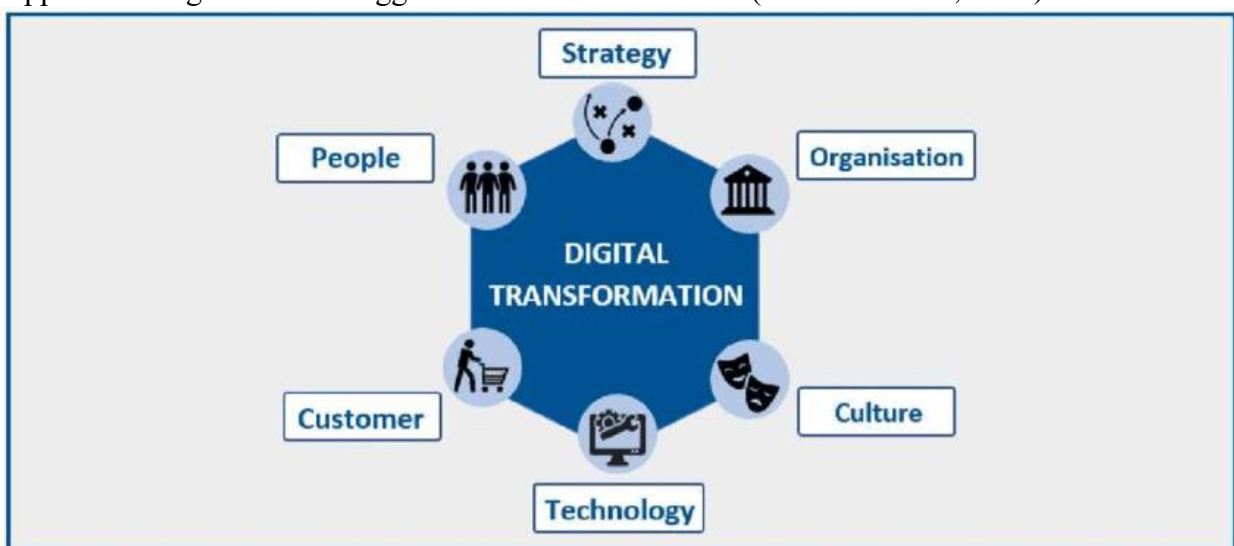

Figure 2: Diagram of digital transformation steps

For example, technologies such as IoT devices (Santos, Batista & Marques, 2019), 3D printing and analytics of big data facilitate important changes in higher education, expanding beyond internal improvements. Such technologies may encourage universities to shape new business approaches, improve how they are run and potentially modify whole industries. For colleges to use these technologies well, they must create an agile IT structure, put new platform technologies into action and build a solid and upgradable core operation. It means organizations should buy leading hardware and software tools and update existing infrastructure to make it easier to add digital technologies to standard processes. Schools need to properly train and guide their staff and faculty to properly use and benefit from new technologies. For this reason, organizations should put into place many training sessions, workshops and certificates, mostly focusing on data analytics, 3D printing and IoT (McDonald, 2024).

The aim is to prepare the academic community so they can use and advantage from the new technology tools. In addition, universities should develop a culture focused on innovation and entrepreneurship which motivates students, staff and professors to develop new approaches for these technologies that help the institution and society overall. It might include developing incubators, accelerators and other hubs for innovation that help new companies progress. In the end, colleges should guarantee they are accessible to the world's market and different groups, mainly students, faculty and industry. Using digital solutions across borders

can help universities get better at human resources, education, innovative thinking's and managing tasks, contributing to their relevance and competitiveness in the changing environment (Pawirosumarto, 2025).

The Promise of Digital Education and Future Outlooks

Higher education is being strongly influenced by digitalization: international partnerships and new ways of moving people around the world offer numerous benefits for all. Within the past two years, digitalization has increased in universities, causing changes in education, research and managing the university. Internationalization can be enhanced by digital educational technologies which also enable unique ways for people to interact and move (Branch & Durnali, 2023).

In recent years, the influence of EdTechs (Education Technology) has become obvious. Learning companies are working to increase the way learners interact and assist them in improving their understanding. The cost of joining EdTech companies has increased by five times in the last year. Most of this increased demand is because students are not attending school which is partly related to the pandemic. Because online learning was becoming more popular, EdTech companies had to organize support services for both student onboarding and coaching. Many EdTech companies are now using customer relationship management (CRM) software like their B2C counterparts (Antipova, 2020).

Because of COVID, institutions in higher education agree that digital higher education policies are required for both potential difficulties in the future and because everyone now sees digital technology as the main approach for education. To push forward institutional growth in digital learning, policies should be developed and applied throughout the system which inspires different areas within the institution to innovate together. Governments might help this along by aiding and supporting new ways of thinking about finances. Digital progress in higher education before COVID was mostly driven by the efforts of individual university leaders and professors, not by a coordinated effort across the country (Rich, 2023).

For institutional digitization strategies to work well, they must be supported by a different structure and organized change management. Making good decisions while leading, it is important for leaders to support and motivate people from all levels within the school to fulfill institutional objectives in benefit of students. Drivers affect how all levels of leadership and instruction make decisions about prioritizing innovation. These factors concern those who create and implement educational policy: students, professors, educational institutions, legislators and governments are demanding advancements in digital education and system experts and leaders expect modifications in funding high-quality digital education, lifting up successful schools who use digital education, creating plans with targets and costs for digital education for all, introducing digital competencies in all curricular areas, using technology for all kinds of assessments, ensuring quality assurance through innovative teaching, meeting students' special requirements, motivating teachers and rewarding those who teach effectively using technology (Luo, 2024).

Who is responsible for drivers is split between various institutional and government authorities. There are no drivers that are 100% controlled by the institutions. Every part of higher education needs to join in on innovation and digitalization for effective change. The COVID pandemic strongly impacted these drivers, mainly in how schools fund, budget and manage technology, plan for technology and innovation, develop their curriculum and testing and support students. In the next few years, we need to add more support and solidify the effects of this influence. This idea is also encouraged by the European Digital Education Action Plan (Slapac & Huertas-Abril, 2024).

Leaders in higher education usually focus on these four important objectives. They are using more technology to make education better for students, streamline their operations, increase

tools for research and introduce innovative teaching methods. Technological tools like TEDx, specific applications and VR-AI are being adopted to reach these objectives by giving students new ways to explore knowledge. With their help, students gain the abilities crucial for doing well in the modern workplace such as critical thinking, problem-solving and technology use (Bakhshandeh, 2024).

In addition to helping students, technology provides teachers with useful resources and tools so they can teach more effectively and students get better results. Examples of digital resources such as quizzes and modules, can help teachers monitor student progress and update the curriculum for the best student outcome. Because of this, more educational institutions are working to incorporate digital transformation to be relevant and adapt to growing needs in the 21st century. Adopting technology and new teaching methods allows colleges to help students handle the issues and opportunities they might face after college (Sandhu, 2021).

Since around 2000, a number of higher education institutions have begun using analytics to deal with differences in enrollment and rising costs of recruiting students. More universities and colleges are using data analytics to help with deciding on a wide variety of subjects such as marketing, recruiting employees or students, planning for classes and management of the budget. The main task of diagnostic analytics is to investigate data in order to identify the source of a problem or issue. Many institutions use this data mining to spot where they need to improve and what can be done to resolve these problems (Obatomi, 2024).

Descriptive analytics is about studying data to find out about trends and patterns from the past and present. With this type of analytics, universities can outline several options based on student makeup, academic success and money matters within the college. The purpose of predictive analytics is to study data in order to identify what might come up in the future. Organizations rely on this kind of analytics to guess future outcomes such as enrollment numbers, graduation rates and how much income will be made (Kim & Deka, 2021).

In higher education, data analytics helps universities to make the right decisions and compete effectively in a complex and swift changing environment (Hess et al., 2020). Because of digital advances, students can get quality educational resources more easily and at a lower cost. JSTOR, Google Scholar and ProQuest digital libraries give access to millions of publications which include books, reports, conference proceedings and dissertations. Because these resources are online, students can access and use them from any place with Internet access (Experts, 2022).

Google and YouTube allow students and teachers to view countless research and educational videos and documents online. They allow users to look through a broad range of subjects quickly, so they can easily find important resources. At the same time, different schools are assembling their own IT infrastructure to make it easy for students to get information on test dates, courses and other matters. IT stacks usually have learning management, digital libraries and technology designed to make teaching and learning easier. Education has been transformed by digital technology which allows students to find and use a lot of information and learning tools. With new improvements in technology, we expect to see better and more creative tools for education that students will use easily. An approach to digital transformation in schools suggests using technical improvements, new teaching strategies and flexible policies together (Durakbasa & Gülen, 2025). As shown in Figure 3, digital tools, teaching strategies and the main framework help education to address challenges brought by digital change.
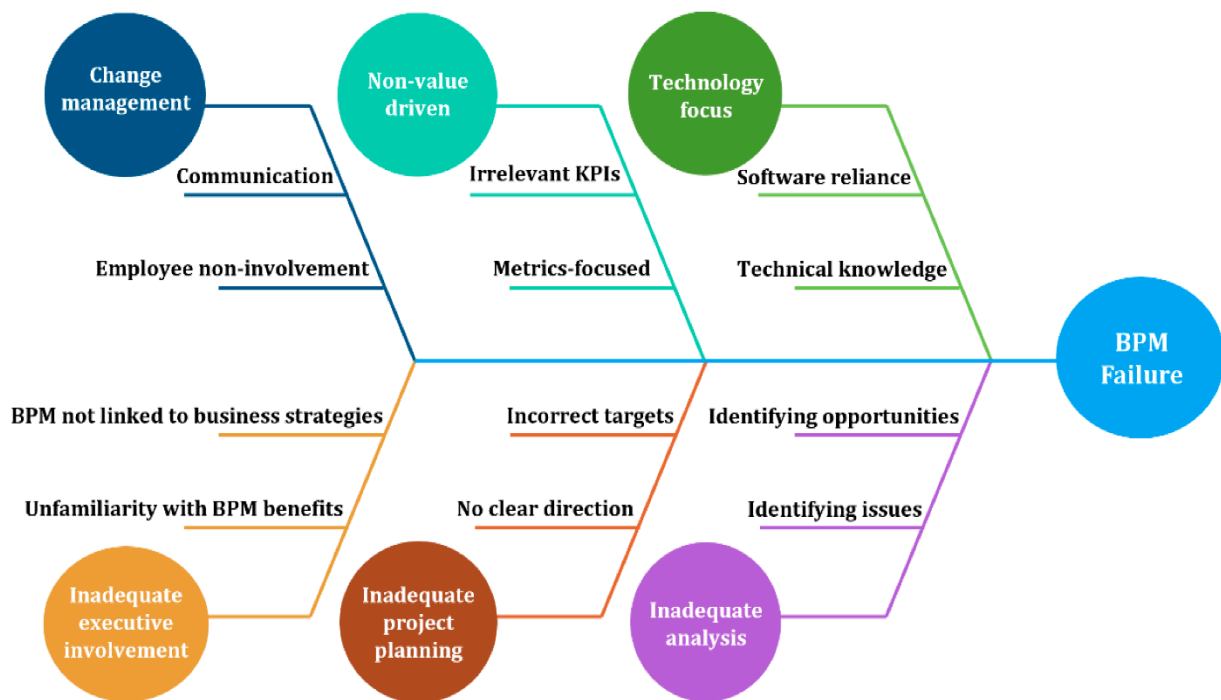
Figure 3: Conceptual framework for the digital transformation of the educational landscape

According to students, having digital parts in education gives them independence in resource gathering for themselves, supports their adapting and encourages self-motivation. Most students agree that educators need to develop their public speaking skills, technical abilities and understanding of psychology. Using virtual technologies in digital higher education helps students develop many different talents. It means being able to use knowledge from online courses, deal with technology in distance learning and improve communication to effectively manage learning activities in these institutions. Also, students believe that it is important for governments and international educational groups to improve access to electronic resources for all and to properly train future students to maximize their opportunities in using technology and online resources (Oecd, 2023).

This is very important because digital technology is becoming more important in education and students need the skills needed by today's workforce. At the same time, students at digital universities may find themselves dealing with issues. It also covers setting up education which can lead to too many rules that prevent new approaches and add too much stress on students. Projects in digital education might not work well if teachers are not skilled at using technology. Dealing with these matters, institutions may have to provide additional help for students and teachers by teaching them to use online tools and making the curriculum easier to adapt. Because of this, educational institutions can make sure students are equipped with the important tools and knowledge needed to succeed in a digital world (Lytras et al., 2024).

To implement digital education well, it is important to look at how strategies are executed and to handle important legal and methodological matters. Defining the parts digital technologies play in both education and learning is highly important. This covers using digital technology to improve learning and bring students into education and also merging it with standard teaching methods and assignments.

As a result, it becomes important to figure out different ways digital technologies are used in education, for example, in online classes, blended courses or with technology in classrooms. Understanding and supporting the right conditions guarantees digital technologies help

students learn and engage more. This can consist of educational courses and skill-boosting programs for educators, putting money into making outstanding digital tools for students and setting guidelines for using technology in the classroom (Hidayat et al., 2024).

For digital education to be pedagogical, you should carefully examine digital tools in teaching, where they are used and what is necessary for them to work properly. By managing these issues, educators improve the way digital technology aids learning in the digital age. Because of technological progress, education has greatly changed and encouraged more collaboration and new ideas in science, society, government and business. Because of technology, digital education has become much more common, using online learning, virtual classrooms and many different digital teaching methods. As a result, people everywhere are now able to build relationships, exchange information and get more access to educational resources. Because of online courses, individuals inner-city restricted educational services or struggle with finances can now participate in education from home. Besides, new technologies make it easier for educational institutions to connect with employers which leads to the creation of programs that suit the workforce's growing needs. New types of employment have appeared and technology has improved in many industries as a result (Johannessen, 2024).

So, universities here have to think about progressive ways to teach and train which might involve blended learning and courses that are offered online. The use of digital tools and resources could make teaching better and encourage students, professors and others to cooperate and communicate. Being aware that proper use of digital technology in education calls for good preparation and strict implementation is very important. It means dealing with matters like accessibility, equity and digital literacy so that digital technologies help improve and support learning. Schools are therefore using digital tools to ensure every student has the chance to receive good education and training. Because of digital education, cooperation between those who teach and those who learn becomes easier in gaining new digital knowledge. Certain researchers state that current virtual education technologies allow educators to handle most tasks automatically which frees up their time for various purposeful activities, engaging students, learning from their responses and helping them improve in their education (Bagga & Agrati, 2024).

Conclusion

New technology has helped education a great deal and led to many new chances for industries to join forces. Technological progress will most likely cause more changes in education in the years to come. Educational institutions and systems must introduce a strategy that involves changes in teaching, management and general culture as digital transformation takes place. Using digital technology in different fields, schools can make learning more exciting, effective and efficient for students ready to face today's world. A major change in our lives can be seen in nearly everything and it is largely being noticed and affected by Generation X and baby boomers. Because of social media, the Internet and other changes, the way we interact, shop, amuse ourselves and work has been affected. Improvements in technology rely on strong education. Now that technology is being used in schools, every subject is taught and studied in a different way. Surprisingly, through these institutions, future generations will learn what they need to use ICTs which may prevent them from coming up with path-breaking solutions. Being digitalized is an early part of a bigger transition in which institutions handle common tasks with advanced technology. Making educational institutions digital means doing more than simply introducing technology. It needs all stakeholders in education to reconsider their duties and roles. This requires using strategies such as flipped learning, gamification and crossover learning, while using information and communication technologies (ICT) to transform the main activities that determine the success of these

enterprises. Survey evidence shows that students who are more free to organize their work and choose how they learn were eager to continue their self-learning and personal improvement. It appears that when faculty grow professionally in public speaking, technology skills and psychological understanding, students generally achieve and feel happier in digital higher education. It was clear from the interviews that virtual tools employed in online classes are positively linked to improvements in students' application of knowledge gained, technology use and communication abilities. Supporting students in mastering digital tools and electronic resources in digital higher education is very important to meet the expectations of employers nowadays. Statistical analysis reflected that teachers' digital skills play a key role in how well digital education programs are carried out, showing that educators must be good at using digital tools for programs to succeed. The results of the interviews back up the study theories which allows for more solid investigation. Such concepts could be used as reference points for detailed research and data from these studies might be applied to teaching in digital universities.

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