Management of Dx: Digital Transformation in Indian Higher Education

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Abstract

Digital transformation is a series of deep and coordinated culture, workforce, and technology shifts that enable new educational and operating models and transform an institution's business model, strategic directions, and value proposition. The digital transformation of higher education is at hand. Embracing digital transformation is about building on the core values of higher education and developing new and significantly more effective ways to enrich and expand higher education's mission. That means creating a culture that embraces change, adding new roles and training staffers to implement DX. It's also more than just one-off projects; it's a larger, coordinated effort.

Keywords: Digital Transformation, Higher Education, Digitization, Technology, Data and IT

Introduction

Higher education, like every industry, embraced digital transformation (DX) when COVID-19 forced universities and colleges to pivot to remote work and online learning. EDUCAUSE defines DX as the process of optimizing an institution's operations, strategic direction and value proposition. But it also requires coordinated culture, workforce and technology shifts. In higher education, the customers are the students and they have an immense amount of learning options to choose from — private vs. public schools, online vs. on-campus learning and full-time vs. part-time enrollment.

Thanks to the coronavirus pandemic, colleges and universities are experiencing transformation right now—regardless of whether they were prepared for change or had a transformation strategy in place.A college or university could elect to begin at the institutional level at the very outset, or it could start its Dx journey with a series of "local" transformations of individual campus organizations. A campus IT organization, for example, could transform itself not only to better serve the institution but also to set an example and enable other campus units to undertake their own transformations. In this way, transformations at the campus-organization level can act as stepping-stones and build momentum toward transformation at the institutional level.

Colleges and universities are facing significant challenges right now, and much is at stake. Institutional leaders know that transformational change is needed, and as a result, there's an opportunity in this challenging time for institutions to advance their Dx efforts. Institutional responses to the pandemic have shined a spotlight on technology as a critical piece of institutional strategy and provided CIOs with an opportunity to engage their institutions in conversations about digital transformation. And those conversations can start with a better understanding of the three Ds—digitization, digitalization, and digital transformation.

Dr Sancheti is a member of the University Grants Commission (UGC), which works with the Indian government in developing models for higher education's technical requirements. New modes of learning require new resources on campus, and much of the work of the UGC is trialling IT-based solutions. The government has created the National Educational Technology Forum to provide direction, support, investment and advice to institutions whose technological capacity is crucial to the success of the Academic Bank of Credit scheme, which seeks to liberalise higher education by offering flexible credits-based degrees.

VMware shared the results of its India-focused research report, titled 'Future of Education Survey,' based on a survey of close to 100 higher education institutes across India. The national study, which was conducted in early 2021 in association with The Guild Media, revealed that 71% of the higher education institutions surveyed are looking to invest in digital transformation and integration of new technologies.

COVID-19 has changed the way in which teaching takes place. Within the first few months of the pandemic restrictions, all the educational institutions including the students were closed and gradually, the offline classes before the pandemic shifted to online classes when it was predicted that the pandemic will last for quite some time. The online shift proved to be quite profitable for the edtech industry which saw funding of INR 30,0000 crore in the sector in less than a year. Big brand names like Byju and Unacademy that not only prepare the students for school exams but also Government Jobs saw huge popularity amongst the students.

Why Higher Education Needs Digital Transformation

There's no such thing as a traditional student anymore. It's more common for a student to balance work, family and school on a day-to-day basis than for one to be on campus full time with a sole focus on going to class. That's where digital transformation comes in. By leveraging technology and data, institutions can:

Use digital avenues like social media, websites, email marketing and more to recruit and retain students.

Measure institutional success and make data-driven decisions using big data.

Digitize library resources so they are available online and for more than one student at a time.

Create mobile apps to keep students updated on campus events, news and more.

4 Primary Goals of Digital Transformation in Higher Education

Before any institution can implement a successful digital transformation strategy, they need concrete goals to work toward. Changing a business in any way requires sincere effort, and without solid goals in mind you won't be able to know for certain whether your hard work was worth it. Every college and university will have a

different area they want to focus on first, but some of the primary goals of digital transformation for higher education include:

Enhance Student Experiences: This focuses on improving student metrics like retention and graduation rates, course success rates and other markers that prove overall success.

Improve Competitiveness: This goal focuses on differentiating an institution from the competition by using digital avenues.

Create a Culture of Data-Driven Decision Making: This includes adopting a digital mindset across all areas of the campus for students, faculty, leadership and other staff members.

Optimize Resources: This covers everything from improving communication between administrators to cutting costs related to electricity usage.

**Differentiating Dx from Digitization, Digitalization and Digital transformation**
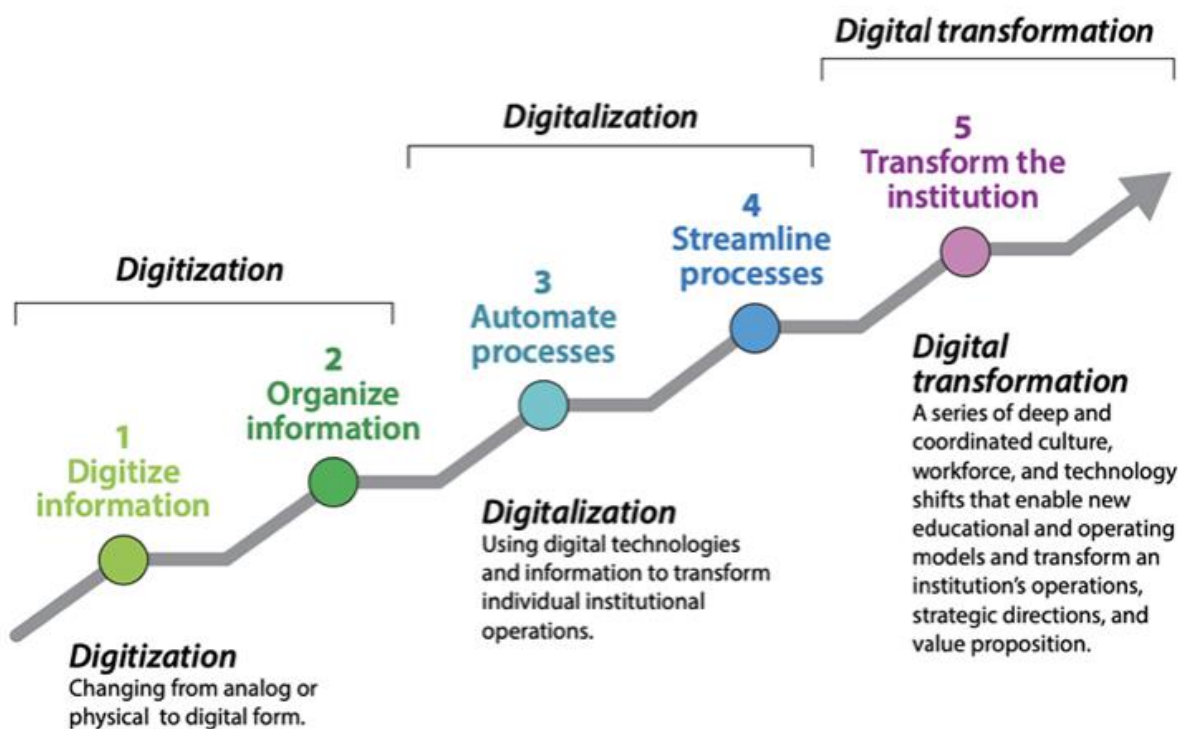
We digitize information. Digitization is the transition from an analog to a digital form. For example, we digitize paper records for archiving and retrieval. We put information online that wasn't online before.

We digitalize processes. Digitalization describes using digital technologies and information to transform individual institutional operations (such as payroll, procurement, research administration, and even course delivery). The missing piece in digitalization, the thing that keeps it from being Dx, is the intentionality of a coordinated effort aimed at institutional transformation.

We digitally transform institutions. Digital transformation is an institutional strategy to transform the strategic direction or value proposition of the college or university. Dx involves deep and coordinated shifts in culture, workforce, and technology. Institutions will likely need to have gone through significant digitization and digitalization work for digital transformation efforts to be successful.

We follow a four-point plan when helping universities evolve, transform and pivot with the ever-changing digital landscape whilst continually providing the most valuable outcomes to their customers.
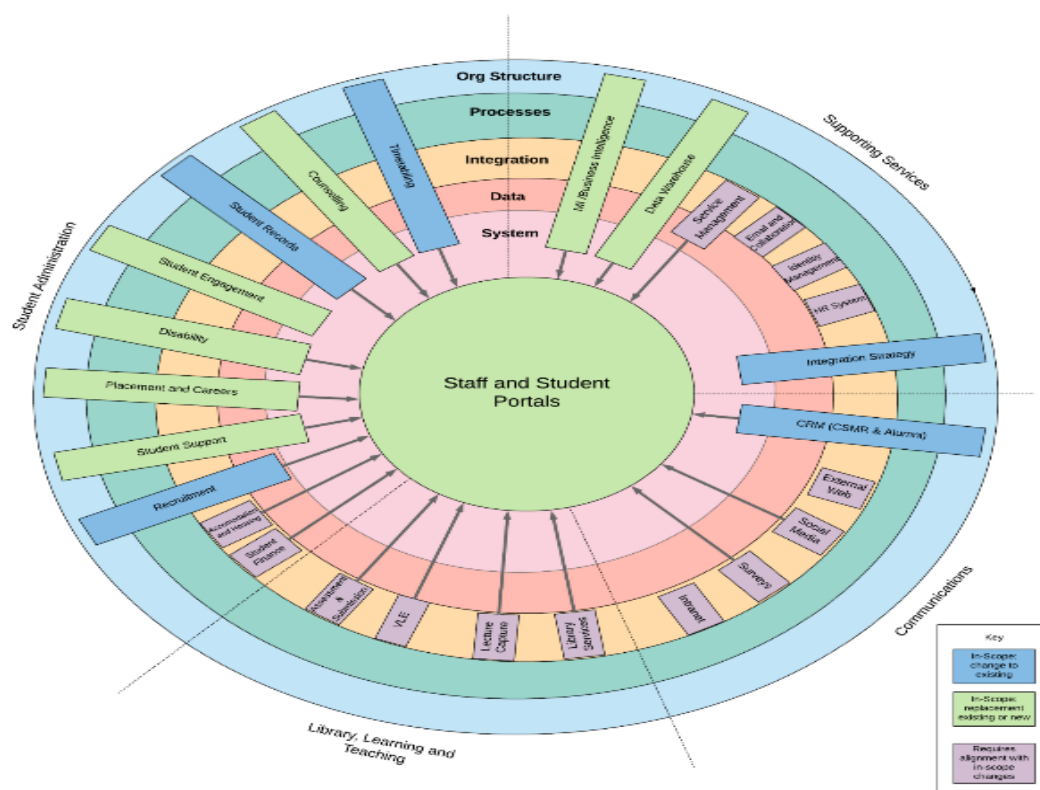
8 Digital Transformation Trends

Services: This transformation involves creating new products and changing existing ones. Examples include offering an online MBA program or migrating from using tangible textbooks to digital eBooks.

Operations: Processes are going completely digital. Examples here include applying for admission or graduation, registering for courses every semester and monitoring resource allocation using modern technology.

But how are colleges and universities putting their digital transformation strategies into action? eLearning Industry explains with the following trends:

The Internet of Things (IoT)

The IoT refers to the extension of internet access to devices and everyday items, like a Fitbit fitness tracker.Schools can use the IoT to better allocate campus resources by installing devices like intelligent thermostats and lighting. These smart devices can detect occupancy and adjust settings accordingly to eliminate wasted electricity.

Security

With so much student data available, security is a top concern — especially since IoT devices are expanding the reach and amount of information that can be collected. Institutions are installing new tools to enhance cybersecurity, most notably user and entity behavior analytics to detect suspicious activities.

Augmented Reality & Virtual Reality

Classroom learning can mimic hands-on experience through augmented reality (AR) and virtual reality (VR). These technologies can put architect students right in the middle of a construction site or bring medical students inside of a hospital.

Blockchain Technology

Known for making Bitcoin possible, blockchain offers exceptional security. According to Forbes, "blockchain is a public ledger that automatically records and verifies transactions … and operates through a decentralized platform making it fraud resistant."In higher education, blockchain is being used to:

- Verify academic credentials
- Share student records
- Secure infrastructure networks from hackers
- Access employment and criminal records

Artificial Intelligence & Machine Learning

Artificial intelligence (AI) tools can be set up around campuses to answer simple student questions, like where the library is or what time the cafeteria closes. This can be especially impactful for first-year students who are still finding their bearings.

Chatbots

The University of St. Thomas offers a website widget that lets students chat with librarians and ask questions about basic research topics, eliminating the need for them to go to the library or pick up the phone. This practice can be utilized across any department to streamline processes like making appointments, requesting dorm room maintenance or checking on financial matters.

ADA Compliance

Making education accessible to everyone is an absolute must under the Americans with Disabilities Act (ADA), and digital transformation is helping colleges and universities go above and beyond. Tools designed for transcription services can help hearing-impaired students easily understand an entire lecture.

Big Data Analytics

Technology has fast-tracked the amount of data colleges and universities collect, and digital transformation is all about using it to your advantage. Institutions are using data analytics platforms to collect, manage, analyze and share reports for crucial metrics like student success rates and retention rates. With the help of an automated and secure analytics program, making data-driven decisions can become the foundation of your digital transformation.

Overcome Challenges That Stall Higher Ed's Growth

Digital transformation is improving day-to-day operations for higher education. Still, institutions face organizational barriers that prevent them from achieving digital maturity. This is the result of competing priorities, decentralized decision-making, budget constraints and cultural resistance. To mitigate these challenges that stall growth, institutions should:

Make Tech Investments with Good ROI. Cloud technology can be off-putting due to costs, but its ability to scale and replace other homegrown systems means good ROI. Institutions are making the decision to sunset underused services to help consolidate technology and defray costs for more effective tools.

Centralize Decision-Making. Digital transformation thrives on data-driven decision-making. However, when there are different data systems across the institution, it affects how decisions are made — and the foundation on which the future is built.

Take Small, Strategic Steps. Institutions migrating to a new system like Google for Education can make the mistake of changing too much far too quickly, which can disrupt the present workflow. Digital transformation is a journey that spans the institution, but there is no need for a complete overhaul. Start with small projects and technology integrations that work with what's already available. This will help leaders reduce resistance among their stakeholders.

Colleges and universities cannot delay digital transformation if they want to retain current students and increase enrollment. Institutions must urgently prioritize digital capabilities, beyond just having the latest technology. There is value in acquiring digital tools that help define a strategic direction, shift propositions and cater to the new student experience.

3 Tips for Successful Digital Transformation in Higher Ed

1. Create a DX Strategy after Taking Inventory

The first step to creating a strategy is to take inventory of your technology and meet with stakeholders. Matthew Hall, the new CIO at the University of Central Florida, is doing just that. "We are in the middle of an assessment. You can't go where you want to go until you know where you are," he says.

2. Focus on Inclusiveness and Accessibility

When building new applications, the team at the University of Southern California meets with faculty, staff and students to understand their needs, says Veronica Garcia, USC's associate CIO of application services. The IT staff takes a mobile-friendly approach because some students use smartphones as their primary computing devices, she says.

3. Digital Transformation Is an Ongoing Project

Brown University takes an agile approach and continually adds new features to its mobile and portal apps, says Brown Chief Digital Officer and CIO William Thirsk.

Conclusion: Digital transformation is evolving every day and the technology is evolving with it. Traditional IT infrastructure is no longer effective to manage workloads in the digital age. Once you're digitally enabled, you no longer need a digital strategy since digital has become a part of a university's way of life. I would recommend that universities take a customer-centric approach to executing and sustaining a transformation to maximise the value of their digital initiatives.

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