**Higher education institutions are striving to create student-centric, digital-first experiences to improve student satisfaction and boost operational efficiencies. However, IT leaders in the sector are confronting significant headwinds and competing priorities.**

# Building Student-Centric, Digital-First Campus Experiences in Higher Education

*December 2023*

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## Accelerating the Shift to Digital-First Experiences in Higher Education

Faced with compounding economic, political, and societal pressures to change, colleges and universities — whether big or small, public or private — are transforming their business and operating models. IDC is increasingly seeing institutions turn to IT modernization to create differentiated digital campus experiences and reimagine the delivery of educational services.

However, higher education institutions have significant room to improve in building digital capabilities. According to IDC's August 2023 *Future Enterprise Resiliency and Spending Survey, Wave 8,* nearly 70% of education respondents noted that their institutions were only in the strategic planning stages of developing and deploying a digital-first strategy, while another 10% noted that technology was not core to their business operations, services, and experiences. Compared with all other industries, education is behind in building digital-first capabilities (see Figure 1). IDC defines a digital business/campus as one where value creation is based and dependent on the use of digital technologies, including the way processes are run and the products, services, and experiences the institution provides.

## AT A GLANCE

### KEY STATS

» 70% of higher education institutions are in the early stages of their digital-first strategies.

» 96% of college students agree that a high-quality digital experience is important for their overall satisfaction.

### WHAT'S IMPORTANT

A student-centric, digital-first experience has the potential to increase student satisfaction, enhance operational efficiencies, and boost alumni engagement.
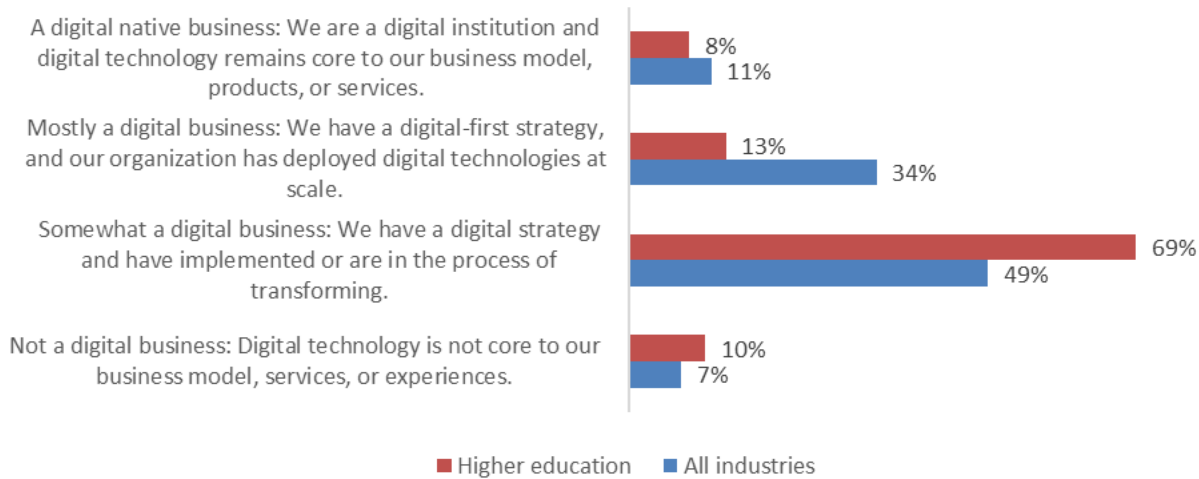
### KEY TAKEAWAY

While institutions are focused on developing their student-centric, digital-first experience strategies, they face competing priorities, including ensuring financial sustainability and preparing for emerging technologies such as GenAI, while navigating staffing capacity challenges across the institution.

FIGURE 1: *Education's Digital-First Transformation Journey*

*The Education Sector Is Far Behind Other Industries in Terms of Digital-First Capabilities*

**Q** **To what extent do you think your organization is a digital business/institution?**

### Digital-First Maturity in Higher Education

| Category | Higher education | All industries |
|---|---|---|
| A digital native business: We are a digital institution and digital technology remains core to our business model, products, or services. | 8% | 11% |
| Mostly a digital business: We have a digital-first strategy, and our organization has deployed digital technologies at scale. | 13% | 34% |
| Somewhat a digital business: We have a digital strategy and have implemented or are in the process of transforming. | 69% | 49% |
| Not a digital business: Digital technology is not core to our business model, services, or experiences. | 10% | 7% |

■ Higher education   ■ All industries

*n = 41*

*Source: IDC's Future Enterprise Resiliency and Spending Survey, Wave 8, August 2023*

The rapidly changing needs and demands of prospective and current students and alumni are driving the digital-first revolution in higher education. As institutions build and implement their digital-first strategies, their investments will focus on the following areas:

» **Reimaging student success and well-being:** A top priority for education leaders is student success and well-being. In the past few years, IDC has seen a significant increase in interest from education leaders in identifying solutions that can enable faculty and staff to provide more timely, personalized, and holistic services to students/learners. These institutions aim to take a proactive, rather than reactive, position when providing services to overcome student challenges (e.g., failing a class or dropping out of school) and mitigate the risk of attrition. To provide more holistic and timely support to students and increase their success, institutions are making critical investments in technology to build what IDC calls a "responsive institution" — or an "educational institution that is equipped with the tools, information, and human capacity to enable faculty/staff to provide high-quality educational and wraparound support that proactively meets the individual needs of all learners in all situations."

» **Meeting the demand for modern, personalized, and engaging digital-first experiences:** Research shows that students of all ages are demanding a more modern digital experience. They are putting pressure on institutional leaders to transform the student experience and increase their chances of academic, personal, and professional success. In their view, technology is a core enabler of enhanced experiences and value creation. According to a global student survey by Accenture, 96% of student respondents indicated that a high-quality digital experience is

important for their overall satisfaction. This includes not only high-quality online and hybrid learning experiences but also digital experiences related to course registration and enrollment, academic and career services, and campus life, among others. In today's environment of high student expectations, poor or ineffective student engagement can hamper enrollment and retention, posing a significant threat to the business of higher education.

» **Accelerating the shift toward lifelong learning:** Modern digital experiences must extend beyond current students to encompass the lifelong learning journey. Emerging technologies and the rise of AI and automation in the workplace will require the workforce to continuously upskill and reskill to remain competitive in the labor market. This continuous demand for new skills will require higher education institutions to adapt their business and operating models to build the capacity necessary to support ongoing inflows and outflows of students at different stages of their professional lives.

At the core of these efforts is data management. Institutions must pull together and leverage existing data on their students, both current and former, to monitor their progress and behavior in real time and tailor services and messaging to meet them where they are with information to solve problems as they arise. However, institutions often operate in silos, with limited interaction or interoperability between departments and systems (e.g., LMS, SIS, and CRM) and outdated, duplicative, and static information that makes it difficult to create accurate student profiles and leverage data to improve student services. To provide high-quality, student-centric, digital-first experiences, institutions will need to address these data integration, management, and analytics challenges as a critical component of their transformation strategies.

## *Definitions*

» **Digital campus/institution:** IDC defines a digital business as one where value creation is based and dependent on the use of digital technologies, including the way processes are run and the products, services, and experiences the organization provides. In the context of higher education, a digital campus/institution is one where digital technology is a leading force for delivering a high-quality, meaningful student experience in all aspects of campus and academic life.

» **Communications platform as a service (CPaaS):** CPaaS facilitates cloud-based hosting and management of application programming interfaces (APIs). The CPaaS market is a rapidly evolving industry that provides cloud-based tools and APIs for businesses to integrate various communication channels, such as voice, SMS, and video, into their applications. The industry enables real-time, personalized, and interactive customer engagement, fostering digital transformation and improved customer experiences.

» **Customer data platform (CDP):** The CDP market centers on platforms that facilitate the collection, integration, and management of customer data from diverse sources, such as online and offline channels. CDPs enable businesses to create a unified, 360-degree view of individual customers, organizing data into profiles for use in marketing, sales, and services.

» **AI:** IDC defines AI as systems that learn, reason, and self-correct. These systems hypothesize and formulate possible answers based on available evidence, can be trained through the ingestion of vast amounts of content, and automatically adapt and learn from their mistakes and failures.

» **Generative AI (GenAI):** GenAI is a branch of computer science that involves unsupervised and semi-supervised algorithms that enable computers to create new content using previously created content, such as text, audio, video, images, and code. Examples of GenAI solutions include ChatGPT, Claude, Bard, Bing Chat, and DALL E.

## The Benefits of a Student-Centric, Digital-First Experience

By building student-centric, digital-first campus experiences, institutions can realize significant benefits, including:

» **Increased student satisfaction:** As noted previously, high-quality digital experiences are important for student satisfaction, and research has shown that higher student satisfaction can reduce attrition, a deeply important focus area for institutions struggling with student enrollment and retention. Importantly, a digital-first student experience is one that empowers students to take control of their academic journey and campus experience and connects them with key stakeholders across campus, such as their academic or career advisors, when self-service offerings are not equipped to deal with complex student challenges.

» **Streamlined workflows for operational efficiencies:** Many higher education institutions are struggling with staffing shortages and burnout, which are compounded by outdated paper-based processes that make it difficult to serve students efficiently and effectively. Institutions can leverage digital-first capabilities to improve operational efficiencies, increase productivity, reduce costs, improve student services, and do more with less.

» **Enhanced alumni and donor engagement:** With digital-first capabilities, institutions can connect with alumni at scale to increase engagement, which can lead to increased individual contributions and institutional loyalty.

## Challenges in Creating Student-Centric, Digital-First Experiences

As institutions seek to build student-centric, digital-first campus experiences, they will face challenges surrounding staffing capacity and financial sustainability/stewardship while balancing the need to invest in emerging technologies.

» **Ensuring financial sustainability/stewardship:** Higher education institutions have long struggled with limited resources to drive large-scale technological transformation. The COVID-19 pandemic forced many to digitize their operations, enable remote/hybrid work, and move student services and classes online. Today, institutions are experiencing significant financial constraints while balancing the need for continued digital transformation. They are working to evaluate the return on investment for technology, financially sustain technological advancements, and identify next-level opportunities that can continue to bring value to their institutions.

» **Investing in emerging technologies, including GenAI:** Beyond the societal, economic, and political pressure to change, advancements in emerging technologies are also driving digital transformation in higher education. Most importantly, the challenges and opportunities that GenAI presents have dominated almost every discussion in the sector over the past year. While institutions are navigating sensitivities regarding academic integrity as it relates to student and researcher use of GenAI, institutions are exploring ways to benefit from this emerging technology, such as building administrative capacity and operational efficiency, accelerating academic research, and creating more personalized learning experiences. Institutions will face challenges balancing the significant technology investments they have made over the past few years with the need to capitalize on emerging technologies such as GenAI with the aim of continuously enhancing student-centric, digital-first campus experiences.

» **Navigating staff capacity challenges:** The higher education industry continues to struggle with staffing capacity challenges that inhibit the success of digital transformation efforts. With limited ability to attract and retain staff, institutions are investing heavily in technology to streamline operational efficiencies, reduce administrative burdens, improve the employee experience, and free up faculty/staff to build meaningful relationships with students. However, the same challenges facing administrative staff in colleges and universities are also impacting their IT functions. According to a survey by EdScoop, staffing challenges were the number 1 inhibitor of education IT transformation efforts globally in 2022. In addition, multiple IDC surveys throughout 2023 have consistently shown staffing/talent shortages continue to be one of the top barriers to successful digital transformation efforts in education.

## Twilio's CDP and CPaaS Offerings for Higher Education

Twilio has served the higher education sector since the early days of its founding nearly 15 years ago. In 2013, the company launched Twilio.org to serve as its social impact arm and bring Twilio's customer engagement platform to the social sector and nonprofit organizations in higher education and healthcare. Understanding the IT resource limitations and transformation challenges facing higher education, Twilio.org offers product credits and discounts for nonprofit higher education institutions and a pay-as-you-go model. A dedicated team matches institutions with Twilio's ecosystem of more than 30 technical partners, directs them to relevant low-code/no-code guides, and identifies implementation plans to help them get started or build upon their existing digital projects.

Higher education institutions around the world have used Twilio's solutions to engage prospective and current students and alumni at different stages of their academic journey and streamline operations by automating and augmenting student support services and communications. The company's offerings include:

» **A CDP to create personalized student experiences and services:** Higher education institutions can leverage Twilio's CDP to unify and centralize student information from across the institution's data silos to develop a more complete, holistic view of the student. Using real-time data insights and student profiles, institutions can communicate with students in an automated and personalized fashion by tailoring communications and services to engage and support learners, helping to create more meaningful and engaging experiences while shifting from a reactive to a proactive approach to student success.

» **A CPaaS solution to integrate student communications capabilities across the IT ecosystem:** Twilio enables timely and personalized engagement through its CPaaS offering. It enables higher education institutions to integrate communication capabilities such as voice, SMS, email, chat, and videoconferencing into their existing systems and applications, including the institution's website, student portal, LMS, or SIS, to connect with students through different channels, foster collaboration, streamline administrative processes, and connect the campus community. Institutions have leveraged Twilio's CPaaS solutions to build automated chatbots to enable student self-service during admissions processes, leverage conferencing to engage with clinical trial and research study participants, and communicate about campus alerts, activities, and events. Importantly, Twilio's CPaaS solution offers a range of security and compliance features to ensure the protection of sensitive student and institutional data.

## Challenges

As Twilio continues to build its higher education solutions, it must address several headwinds in the sector. First, higher education institutions face significant financial constraints stemming from challenges related to COVID-19 and accelerated enrollment declines. Any new investment in technology in the sector will encounter increased scrutiny, which will require Twilio to demonstrate a clear, measurable, and demonstrable return on investment for its solutions. In addition, the introduction of new technical capabilities and automation within student service functions will require a shift in operating models and workflows of administrative staff that deeply value face-to-face student interaction and relationship building. To communicate the value of its CDP and CPaaS solutions to, and gain buy-in from, support staff in higher education, who are often important decision influencers for student engagement solutions, Twilio will need to articulate how its communication solutions make the student experience more human and focus on the administrative efficiency benefits that its solutions offer.

## Conclusion

Higher education institutions around the world are facing pressure to transform the student experience to improve learning outcomes, increase enrollment and retention, and demonstrate the value of higher education in new ways. As they enhance their student engagement and success strategies, institutions are dealing with competing priorities related to financial stewardship and sustainability, preparing for emerging technologies, and navigating significant staffing capacity challenges. Given these complexities, Twilio.org is well-positioned to support institutions with its dedicated higher education offering, flexible pricing model, and customer support capabilities tailored to institutions seeking to create student-centric, digital first experiences.

> Higher education institutions around the world are facing pressure to transform the student experience.

# About the Analyst

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Matthew Leger is a research manager on IDC's Government Insights team responsible for the Worldwide Education Digital Transformation Strategies practice. Mr. Leger's research focuses on key education IT and digital transformation trends, as well as emerging solutions impacting how primary, secondary, and higher education and related services are delivered. His primary focus will be on identifying best practices for the implementation and use of key technologies to improve student outcomes and teacher performance, streamline operations and administration, and improve campus management.

## MESSAGE FROM THE SPONSOR

Twilio.org exists to bring the power of Twilio's Customer Engagement Platform to organizations advancing a social good — such as access to healthcare, community & social services, and education. Our teams have experience working with leading education institutions around the world to engage students across the main stages of the student life cycle — recruitment and admissions, student success, and alumni advancement.

Twilio's student engagement platform brings together the three essential components of digital engagement — communication channels, engagement apps, and personalization — into one integrated solution to better serve your student, alumni and faculty. Read this blog to learn how Twilio's Student Engagement Platform provides higher education institutions with the tools and capabilities to transform engagement at every stage of the student life cycle.

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The content in this paper was adapted from existing IDC research published on www.idc.com.

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