

## White Paper

# Digital Transformation of Education: Connecting Schools and Empowering Learners

Sponsored by: TCS

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## IDC OPINION

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The higher education sector has experienced an unprecedented level of change in the past few years as institutions confronted the COVID-19 pandemic and associated challenges. Today, changing skill requirements of a rapidly changing workforce and rising demand for flexible, low-cost, online, and hybrid learning programs leave the industry in a state of flux. Education leaders are working overtime to reimagine how their institutions operate and deliver critical student services. Moving past the pandemic, educators are seeking to leverage lessons learned to shape the next generation of education. As they contend with this wicked challenge, educators are grappling with additional high stakes and immediate-term pressures including faculty and staff shortages, declining enrollments, and a worsening student well-being crisis.

These challenges are having a profound impact on the priorities education leaders establish for their institutions in 2022 and beyond as they are set to increase their IT budgets. Education leaders will be challenged to balance the current needs of their institutions with their long-term goals at a time when the future has never been more uncertain. Nevertheless, technology is going to play an increasingly important role in education, regardless of whether their institutions are remote, hybrid, or in person.

To summarize, education is at a critical inflection point. The decisions and investments institutional leaders make today will have a lasting impact on the industry. The moves they make will determine whether our education systems change for the better or return to the status quo.

## IN THIS WHITE PAPER

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This IDC White Paper discusses the state of education industry and the challenges facing institutions today and in the next few years. Considering the challenges presented, the section that follows outlines the key priorities of education leaders and the influence those priorities are having on the technology investments schools, colleges, and universities are making for the future. This White Paper also features a profile of Tata Consultancy Services (TCS) Limited's Microsoft Business Applications Unit as an example of a vendor developing solutions that help address the challenges facing education leaders.

## EDUCATION IN A STATE OF FLUX

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The K-12 and higher education industries have undergone significant change in the past few years in response to ongoing and unpredictable disruptions. The COVID-19 pandemic forced institutions across the world to adopt new technologies quickly to enable continuity of operations and service. From online and distance learning platforms to multifaceted communication and stakeholder engagement tools, institutional leaders had to quickly reimagine how they operate. Despite some speed bumps along the way, institutions were able to adapt to ensure students could continue to learn and teachers could teach, no matter where they were.

Today, education leaders are looking to move past the pandemic crisis, leveraging lessons learned from the past two years to determine what the new world of education looks like. As they contend with this wicked challenge, educators are grappling with additional high stakes and immediate-term pressures:

- **Faculty and staff shortages, burnout, and change resistance.** From the IT department to the president's office to classroom and everywhere in between, education institutions are struggling with staffing shortages and burnout. To make matters more challenging, there is a potentially larger faculty and staff exodus on the horizon, with surveys showing that half of the educators are considering leaving the field in the next five years. For remaining faculty and staff, there is significant resistance of more change after all they've endured in the past few school years. These staffing hurdles will continue to have a significant negative effect on institutions in the immediate and long term.
- **Student mental health and well-being crisis.** From K-12 to higher education, students are struggling with their mental health and overall well-being. Already an emerging problem in previous years, the pandemic has exacerbated the student mental health crisis. In the next few years, education leaders will be challenged to address student well-being, shouldering the burden of addressing access to mental health resources and providing wraparound, real-time support to students.
- **Changing student demands for flexible, high-quality online learning programs.** In the past few years, education institutions struggled to provide quality online services and programs. As a result, many students were left dissatisfied with their learning experiences. In higher education, this led to demands for refunds or students dropping out, and in some cases, resulted in lawsuits. In K-12, this led to disengaged students and overwhelmed parents, which resulted in significant learning loss, students dropping out, and parents taking their kids out of school. However, most students are not giving up on their digital education experiences, they just expect better from the institutions that serve them. In fact, assuming institutions can replicate the quality of in-person instruction and services, students of all ages see a great opportunity to advance their education with online/hybrid/blended models, and research shows that they (and even many of their parents) want more of it.
- **Digital-native students to expect consumer-grade digital experiences and services.** Beyond learning, students growing up in the digital age expect to be able to access flexible, timely, and personalized services such as academic or career advising on demand, whenever or wherever they need them. Today, a few education institutions have the capabilities and processes in place to deliver services that meet these expectations. Institutions must adapt their service offerings to ensure student success and satisfaction in the new age of education.
- **Declining student enrollment and retention rates.** As K-12 and higher education institutions seek to make new investments in technology to improve their operations and enhance teaching and learning outcomes, they are struggling with declining enrollment and retention rates that have a big impact on the bottom line. In higher education, there has been a 5% drop in enrollments in the United States overall since 2020, including drops of up to 15% at community colleges. In K-12, some school districts saw enrollment declines as high as 3%, with more than 1.2 million

students leaving America's public schools over the past few years. At all levels of education, declining enrollments, even those as small as 1%, can be disastrous for school budgets. This has forced institutions to focus on investments tied to ensuring remaining students stay and reengaging with students that have left in the hopes of bringing them back.

- **Declining trust in education institutions.** At all levels of education, trust in institutions is declining. In higher education, students and parents are questioning the value and return on investment (ROI) in education in ways they never have before. In K-12, significant learning loss during the pandemic, and declining student success rates in years prior, has the public questioning the ability of institutions to effectively deliver on their mission. And politics and polarization are creeping into education at all levels, further chipping away at the trust students and the public once had in our cherished education institutions. Declining levels of trust across education is forcing institutions to refocus on demonstrating and articulating their value to students, parents, and broader society in new ways.

Education is at a critical inflection point, and the stability of our education system is dependent on how education leaders respond in this moment. Whether the future of learning is in person, remote, or hybrid, technology will continue to play a foundational role in addressing the aforementioned issues and in rethinking how institutions will operate in the post-pandemic era.

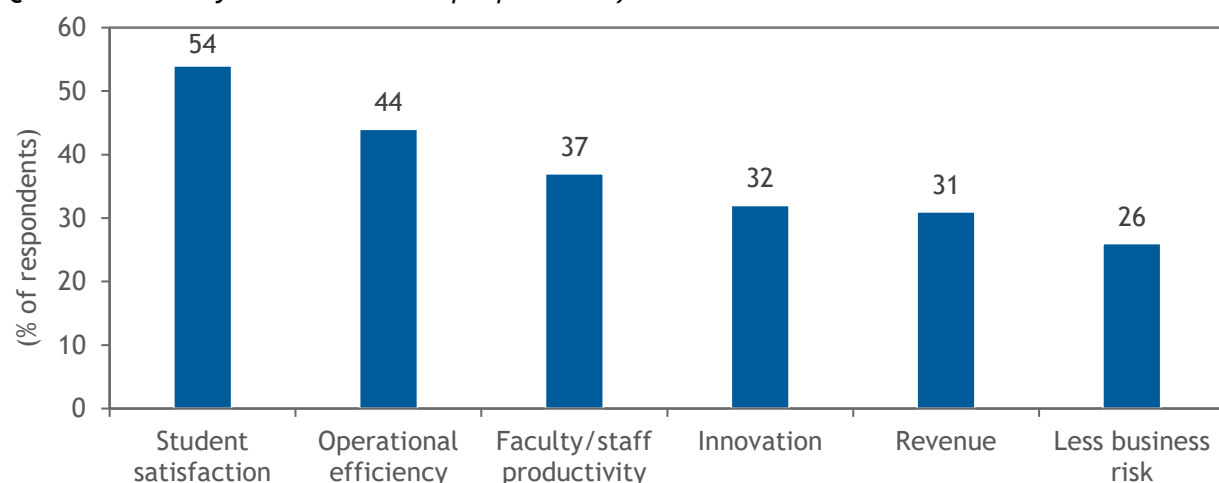
## REIMAGINING EDUCATION SERVICE DELIVERY THROUGH DIGITAL TRANSFORMATION

In addressing these challenges in 2022, education leaders are stepping up to the challenge to address technological shortcomings that are inhibiting their ability to adapt and respond to the emerging challenges noted previously. As institutions are prioritizing IT investments, they are focused on enhancing student experiences and satisfaction and improving operational efficiencies, as well as faculty and staff productivity (see Figure 1).

**FIGURE 1**

### Top Priorities of Education Leaders in 2022

Q. What are your institution's top 3 priorities for 2022?



n = 49 for education

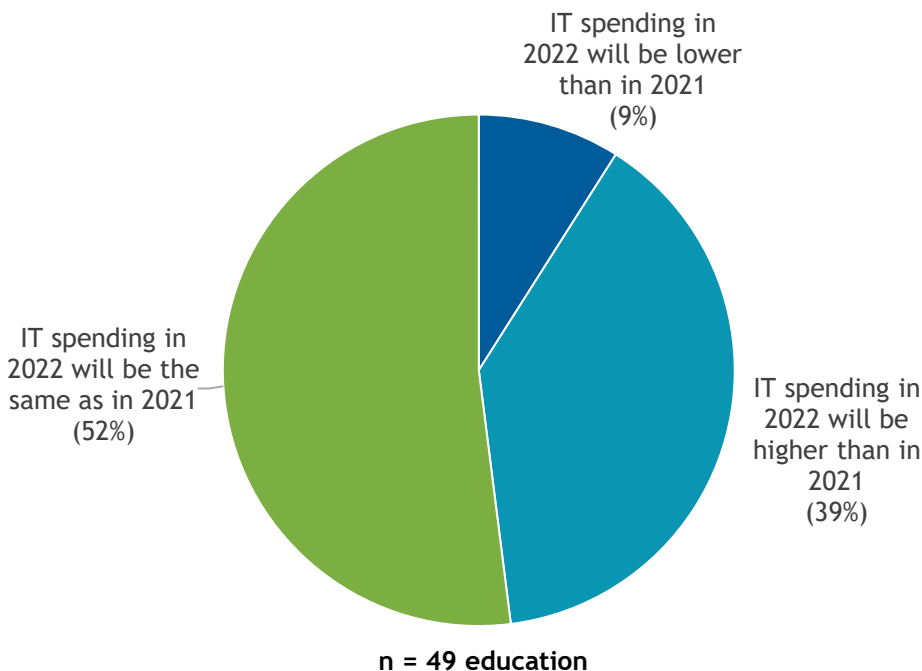
Source: IDC's *Future Enterprise Resiliency and Spending Survey, Wave 12*, January 2022

Aligned with these priorities, education institutions are continuing to invest in IT and digital transformation initiatives. In fact, 91% of education institutions in IDC's January 2022 *Future Enterprise Resiliency and Spending Survey, Wave 12*, noted that they plan to sustain (52%) or increase (39%) their investments in IT in 2022 compared with 2021, which were already at increased levels from the years prior (see Figure 2). IDC anticipates that a core focus of these investments will be to improve student satisfaction, boost operational efficiencies, and enable greater faculty/staff productivity.

**FIGURE 2**

### IT Spend Will Remain Elevated or Continue to Increase in 2022

Q. Compared with your organization's likely final IT spending levels for 2021, which of the following best reflects your organization's most likely IT spending for 2022?



n = 49 for all education

Source: IDC's *Future Enterprise Resiliency and Spending Survey, Wave 12*, January 2022

In the next few years, higher education leaders will be working closely with their IT leaders to align technology investment strategies to their institution's top priorities noted previously. IDC anticipates that higher education leaders will invest heavily in solutions to:

- **Enable personalized, real-time, and actionable engagement and support across the learning journey to improve student experiences and outcomes.** For too long, education has operated through a one-size-fits-some model, where services and instructional delivery are standardized across the board. This model has worked for many students and has helped our education system scale, but this model has also left many other students behind. In today's age where technology is at the center of teaching, learning, and administration, institutions have access to significant volumes of student data that they can use to keep tabs on students

in real time and deliver services in a more individualized way. This is particularly important for supporting at-risk students, as technology and data can help institutions provide proactive support and address student's emerging challenges before they become a crisis. Education leaders need real-time data analytics, machine learning and artificial intelligence, customer relationship management (CRM), and omni-channel engagement capacity to enable personalized and meaningful student engagement at all stages of the student journey.

- **Improve operational efficiencies to build institutional capacity and reduce operating costs.** The education industry leans heavily on outdated, paper-based, and manual processes. Not only is this inefficient, but it also impacts faculty, staff, and student satisfaction, success, and retention. In the case of students, slow administrative processes can be the difference between students receiving the help they need when they need it and students falling through the cracks before support staff can respond. In the case of faculty and staff, inefficiencies in administrative processes increase workloads, which can inhibit performance and lead to low job satisfaction. Education institutions need to align tools, processes, and technologies to improve operational efficiencies so that faculty and staff can focus on the important work and teaching and supporting students.
- **Augment and/or automate faculty/staff workloads to reduce administrative burden and increase student-facing activities.** Faculty and staff have long been burdened by nonacademic activities such as manually grading papers or entering data into an LMS or SIS. This has led to significant inefficiencies and has resulted in staff burnout and lower job satisfaction, especially in schools facing significant staffing shortages. Today more than ever, there is an increased need to automate and/or augment teacher workloads to reduce their administrative burden. This can help free up faculty and staff to focus on student-facing activities, enabling one-to-one support and meaningful student engagement.

To succeed in these efforts, institutions will have to overcome three significant challenges explained in the sections that follow.

## Challenge 1: Competing Technology Investment Priorities from the Back Office to the Classroom

When evaluating opportunities to invest in technology, competing priorities are complicating the process and making it difficult for key stakeholders to buy into certain solutions. For every dollar spent on back-office systems, that is a dollar taken away from the classroom where the greatest investments need to be made. However, improvements to back-office operations have important implications for overall student and institutional success. This puts education leaders in a precarious situation as they evaluate solutions and weigh the costs and benefits of technology.

### Recommendations

- Tie IT investments to student and faculty outcomes to drive the return-on-investment discussion. For example, student affairs leaders may be concerned about increasing campus involvement for disengaged students or providing greater mental health supports. Meanwhile, admissions and enrollment leaders may be most concerned with increasing admissions yield and boosting enrollment and retention rates. For all stakeholders, focus is on the implications for student success and advancement, enabled by whole student supports.
- Portray technology investments not as a "one or the other" argument but how different technology solutions can work together to improve outcomes for the institution and its students.

## Challenge 2: Poor DX Strategic Execution in Education

In IDC's 2021 *CloudPath Survey*, nearly 60% of education institutions were considered "digitally distraught" by IDC. This means that their digital transformation strategies are short term in focus, siloed at the department level, ad hoc, and tactical. This made the rapid adoption of new technologies during the pandemic even more challenging and has resulted in excessive IT redundancy and high levels of technical debt. As institutions reevaluate their needs, disjointed tech stacks and IT ecosystem complexity are hampering the ability of institutions to take full advantage of the technology and tools at their disposal. This is making it difficult for institutions to truly determine what works and what doesn't in this new learning and operating environment.

### Recommendations

- Develop and execute a long-term, institutionwide digital transformation strategy tied to the mission of the institution.
- Identify areas of excessive duplication and redundancy in IT ecosystems and work to simplify/centralize the tech stack. Prioritize solutions and platforms that are customizable/flexible to institutional needs across departments.
- Invest in long-term change management services offered by third-party consulting providers. Be sure to select a vendor that is equipped to serve alongside you as a partner on your digital transformation journey.

## Challenge 3: Breaking Down Data Silos to Enable Personalization at Scale

Enabling personalization in student services at scale is a large hurdle for education institutions to overcome. Across departments, institutions store significant volumes of student data, but this data is often stored in a system or database maintained by that single department, and information is often not shared with other departments. Without sharing information in real time, institutions often have an incomplete picture of what is happening with a student, limiting their ability to support them in a personalized, timely manner. In addition, in many instances, different departments collect and store the same data separately, leading to duplication of effort and redundant data points. To improve student services through personalization, education institutions must break down these data silos to enable information sharing and to build real-time, 360-degree student profiles.

### Recommendations

- Invest in master data management, data warehousing and data lakes, and data analytics and visualization solutions to enable information sharing, centralization of data, and data-driven decision making.
- Prioritize high-value data points that help identify student risk factors when bringing data sources together. These may include attendance, grades, LMS platform engagement, class or extracurricular participation, and missed assignment or payment deadlines.
- When crafting a data strategy, build a data governance model that leads with data privacy and security. While it can be tempting to pull together all student data that exists, it is vital that institutions ensure that access to and analysis of the data does not compromise student's private/sensitive information.

## TCS – MICROSOFT BUSINESS APPLICATIONS UNIT

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Tata Consultancy Services Limited's Microsoft Business Applications (Biz Apps) Unit works with education institutions to develop, plan, and implement Microsoft Dynamics 365 and Power Platform solutions. The partnership between TCS and Microsoft began in 2019, and the two companies leverage their collective industry expertise and technical know-how to design solutions and provide consulting services to address emerging challenges for the education sector. Through their TCS Connected Scholars on Microsoft Dynamics 365 solution, TCS and Microsoft have developed a new set of capabilities to address some of the leading student- and faculty/staff-facing challenges institutions are currently dealing with in the sections that follow.

### A Single Solution to Address Leading Pain Points

The goal of this initiative is to develop a single, affordable, and off-the-shelf solution that addresses a wide range of institutional challenges and enables institutions to unlock creativity, promote teamwork, and provide a simple, safe experience for the campus community. While the TCS Microsoft Biz Apps unit is in the early stages of launching these new solutions for higher education, the team is well positioned to support institutions as they seek to achieve their top priorities in 2022.

### Support and Innovation Across the Student Life Cycle

On the student-facing side, TCS and Microsoft have zeroed in on student engagement, campus participation, and virtual career coaching.

Campus involvement is a key indicator of persistence and retention, especially for first-year students. Many institutions struggle to get students involved in campus activities and lack real-time capabilities to see which students are getting involved and which are not. To address this, TCS Connected Scholars uses Microsoft Dynamics 365 Marketing Journeys to gather data on student's personal interests and preferences to identify relevant campus activities and craft messaging campaigns to nudge students to participate in events. Then, using Microsoft Dynamics 365 Customer Relationship Management, institutions can keep track of which students are engaging in campus activities in real time, leveraging automated alerts to proactively intervene if a student is at risk of disengaging. This is particularly important for institutions struggling to retain first-year students, as they often choose to persist to the next semester or not based in part on campus involvement.

### Always-On Resources for Career Planning

Many institutions also lack the human and technological resources to provide one-to-one career support for all their students, impacting student success and career outcomes. To help institutions scale career support for all students, TCS Connected Scholars features a Virtual Career Coach tool, a platform to connect students with virtual career support and resources, including internship and service-learning opportunities, as well as the ability to track service-learning hours and activities. Virtual Career Coach also helps students draft resumes with a templated resume builder and uses a student's resume and career profile to match them with relevant professional opportunities.

### Curriculum Innovation/New Program Development

On the faculty/staff-facing side, TCS and Microsoft have zeroed in on enabling greater efficiencies in new academic program development, improving learning space management, and streamlining new hire approval processes.



In higher education, the approval processes for new academic programs can be unnecessarily time consuming, complex, and inefficient. Lengthy program approval processes can make it challenging for institutions to launch new academic programs aligned with the needs of a rapidly changing workforce. Slow academic program approval processes can negatively impact institutional competitiveness as well as student enrollment and retention. To address this, TCS Connected Scholars offers New Program Development through Microsoft Dynamics 365, a single, centralized platform that streamlines proposal processes, simplifies documentation, and reduces administrative complexity by connecting key stakeholders, automating workflows, and tracking proposal progress/milestones. This solution aims to help institutions move through the approval process quickly and efficiently, with the goal of reducing time to approval for new course and degree programs.

## Digital Classroom Enablement

When scheduling courses and booking learning spaces (e.g., lecture halls, labs), institutions often struggle to connect professors to rooms with the proper equipment to support their teaching and learning requirements. At times, this can result in a professor lacking the resources they need to effectively deliver instruction and leads to poor learning space management. To prevent this, TCS Connected Scholar features Microsoft Dynamics 365 Customer Service Hub, which provides a room booking system that gives faculty the ability to more effectively book learning spaces based on class and instructional requirements including class size, AV equipment needs, and other critical teaching and learning resources. This offers institutions the ability to streamline learning space management and enhance campus operations.

## Staff Onboarding

Colleges and universities are currently struggling with faculty and staff shortages, limiting their ability to operate at full capacity. To make matters worse, higher education institutions often have slow and cumbersome new hire approval processes that can make it difficult to fill critical roles in a timely fashion. To streamline new hire approval and onboarding processes to improve faculty/staff recruitment, TCS Connected Scholars offers Recruitment Review through Microsoft Dynamics 365. Recruitment Review is a single, centralized platform that streamlines new hire approval and onboarding processes by connecting disparate departments to the university HR or recruitment offices through one unified workflow. This can help institutions improve time to hire for critical roles and keep institutions adequately staffed.

## MARKET CHALLENGES/OPPORTUNITIES FOR TCS AND MICROSOFT PARTNERSHIP IN EDUCATION

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- **Increasingly competitive consulting services market in education.** TCS faces an education consulting services market that is becoming increasingly competitive. The rapidly growing education market opportunity has led competitors in this market to ramp up investment in their education businesses and has paved the way for new market entrants jockeying for market share. TCS' competition is also focused on expanding the company's solution portfolios in terms of breadth and depth of product capabilities. There is significant jockeying for market share around business applications, including collaboration and videoconferencing platforms, data and analytics platforms, ERP, HCM, and CRM, all of which are essential applications for institutions at all levels of education.



- **Long-term technology budget uncertainty building the business case in the face of competing budget priorities.** Government stimulus and aid funding have helped education institutions weather the financial impact of COVID-19. However, as government aid runs out, there is great uncertainty surrounding long-term sustainable funding for technology in education. In addition, as noted previously, school leaders are confronting competing priorities as they determine key technology investments from the back office to the classroom. These concerns in some ways are holding many back from making big, if any, technology investments. TCS and the Microsoft Business Applications team will be challenged to drive the ROI discussion with customers and prove the business case for new solutions to win new deals, even with existing customers.
- **Telling the "one customizable platform" story.** As noted throughout this White Paper, education leaders are seeking technological solutions that help improve operational efficiencies, break down data silos, and simplify the tech stacks. Few solutions on the market are designed to address all these challenges on one platform, and fewer solutions are built to enable flexibility and customization to fit the needs of multiple departments and/or education users. TCS and Microsoft are well positioned to address these wide-ranging needs as Microsoft's Business Applications are built on the same platform and are highly customizable and flexible, allowing individual departments and users to tailor the applications to their unique needs and simplify tools and processes used across the institution. To win in this market, TCS will have to develop the "one customizable platform" story to help articulate the power of Microsoft Business Applications to education customers.

## CONCLUSION

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Education leaders have a tall, rocky mountain to climb in 2022, and the path to the top is unclear. The industry is confronting unprecedented challenges head-on to ensure students can continue to learn, and our cherished institutions can deliver on their core missions. As the old saying goes, "necessity is the mother of invention," and new technology advancements have emerged to help institutions respond to this moment. Education leaders have an important opportunity right now to make strategic technology investments that not only help them transform how they operate today but will also set them up for the future, no matter what it holds.

## About IDC

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