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Strategic Tech Decisions During the Pandemic

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The pandemic has forced higher-education institutions to use technology to quickly ramp up their capacity for online teaching and learning. Further, institutions have had to rely on technology to facilitate remote operations, sustain research, deliver student services, and meet goals for admissions, enrollment, and fund raising.

To better understand how the pandemic has changed or accelerated the ways colleges use technology to fulfill their missions, *The Chronicle of Higher Education* recently surveyed more than 600 senior administrators from colleges and universities. This report summarizes those findings and also includes interviews with presidents, chief information officers, and other institutional leaders.

Respondents said that the emergency switch to remote instruction opened doors for deeper adoption of new modalities like HyFlex and more fully realized delivery of online learning. (HyFlex options vary, but generally give students the ability to learn in the classroom, online, or both.) The changes brought on by the pandemic also led to the development of new approaches for using technology to deliver student services, manage enrollment, and interact with outside stakeholders like donors and alumni. The increased reliance on technology during the pandemic amplified the role of the chief information officers in the development of institutional strategy and sparked more collaboration among members of institutional cabinets in decision-making around technology. Experiences during the pandemic also helped institutions clarify directions for future investment in technology, including cloud computing and the ongoing importance of faculty and staff training around technology.

The *Chronicle* survey was conducted in March. Of the 665 respondents, 15 percent identified themselves as presidents, chancellors, and provosts; 18 percent as vice presidents; 17 percent as deans; 29 percent as directors. An additional 11 percent of respondents work in campus finance, and another 11 percent oversee campus technologies.



Innovations in the Short Term

With the rapid migration of teaching and learning to remote instruction and campus staff moving to home offices to do their work, technology provided invaluable tools for colleges and universities to navigate the challenges of Covid-19.



Campus Collaboration

The rise of technology in higher education has made chief information officers essential players in planning university strategy. The pandemic highlighted the CIO's role as a key colleague for presidents and other institutional leaders.



Strategic Investments After the Pandemic

The technological innovations that colleges and universities were forced to adopt in the face of the pandemic showed that rapid change was possible and highlighted some ways in which technology might help shape future strategy.

INTRODUCTION

When it comes to the application of technology in higher education, the Covid-19 pandemic was a game changer: It both introduced significant, immediate changes and set the stage for possible future reforms.

“One of the well-known keys to effecting change management is to have a so-called burning platform, a situation that’s just so difficult or even frightening that people don’t have any choice but to leap up into change,” says Susan Grajek, the vice president for partnerships, communities, and research at Educause, an association focused on higher ed’s technology needs. “The pandemic was higher education’s burning platform. Faculty, administrators, board members, alumni — all those places where you typically find the entrenched defenders of the status quo as the only template for the future — all those people had no choice but to agree to the notion that remote teaching and learning and working

and everything else were viable options for keeping institutions open during the pandemic. In fact, the only option.”

Given that technology was the key tool in helping institutions use wholly new ways of teaching and working, Grajek says the pandemic fundamentally helped entire campus communities see more of the utility and inherent benefits of the application of technology in higher education.

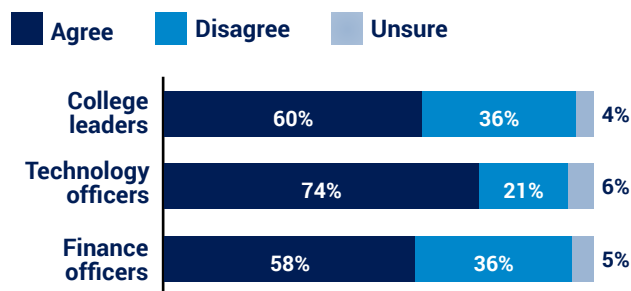
The most significant short-term change during the pandemic was the “pivot” — a term so overused that it quickly became a cliché — from classroom learning to remote, online instruction. As colleges and universities sent their students home to stem the spread of Covid-19, they simultaneously ramped up their capacity to deliver instruction online. For most institutions, that required concentrated, rapid development of their technology infrastructure, including the software needed to support remote instruction. Faculty members were given short windows — weeks, if not days — to shift from working in classrooms to teaching online. Researchers closed their physical labs and did their best to continue their work from home offices. A related significant change

came when institutions closed their campuses, sending employees home, using tools like videoconferencing to communicate with colleagues.

Were institutions ready for the degree and pace of change that the pandemic sparked? That depends on which campus administrators you're talking with. In the *Chronicle* survey, nearly three-quarters (74 percent) of staff members who work in technology agreed with the statement, "My institution's technological capabilities and systems were prepared for remote operations and remote education during the pandemic." By contrast, only 60 percent of top administrators, including presidents, and 58 percent of top finance officers agreed.

An officer in finance noted that "while we had significant portions of infrastructure in place, we did not have consistent tools for all teaching needs when we were 100-percent remote, and also needed to enhance subscriptions (Zoom) and cloud

My institution's technological capabilities and systems were prepared for remote operations and remote education during the pandemic.



Source: *Chronicle* survey of 665 college officials

capabilities for video storage and remote work." Few institutions were prepared for the pace of change that the pandemic demanded. As one respondent said, "We are well resourced and staffed and in normal times highly functional, but the scale and speed of the pandemic caught us out, and we had to scramble to adjust, especially through unanticipated purchases of goods and services and by shifting staff into new, temporary roles."

Some respondents suggested that campus cultures, including an ethos focused on in-person teaching, slowed the

adoption of remote instruction. As one respondent said, “As a residential liberal-arts college, the faculty were previously not interested in or supportive of exploring online teaching to any significant degree.

“We are well resourced and staffed and in normal times highly functional, but the scale and speed of the pandemic caught us out, and we had to scramble to adjust.”

Therefore, classrooms were not equipped with the ideal hardware, and we did not have expertise with the ideal software.” Another respondent, from another liberal-arts college, said, “It was a very heavy lift to switch to online classes for us. We did it — and I think we did it pretty well — but it was not an easy transition.”

While activities like online learning were already gaining traction in higher education, the pandemic accelerated and broadened their adoption. Faculty and staff members kept their institutions operating and educating despite working from home. In driving those kinds of changes, the pandemic forced higher education to make big decisions about technology at a much more rapid pace than is typical. As one expert put it, the “runway” for making choices and innovating around technology became much shorter. Speaking to that experience at one institution, an administrator in the *Chronicle* survey said, “We were not prepared, but were able to leverage our resources and capabilities to successfully provide a remote-learning experience very quickly.”

At the same time, the pandemic spotlighted just how fundamental and essential technology has become across the higher-education enterprise. By highlighting that centrality, the pandemic also opened doors for colleges to experiment in new applications of technology.

Innovations in the Short Term

By the spring of 2021, many of the tech-supported practices colleges were forced to adopt in response to the pandemic no longer seem like temporary experiments. The switch to remote instruction has opened doors to deeper adoption of technology-enhanced teaching and learning. Telehealth and remote advising are commonplace now in student services, as are virtual tours of campuses and classrooms in admissions. In addition, the pandemic opened new possibilities for staff members to work remotely, leading some institutions to start to think differently about their needs for physical office space.

“We had no idea what to expect. As a traditional, private university, we had very little experience with the online delivery of courses.”

For many institutions, the pathways that ultimately led to these innovations were rocky. Some respondents to the *Chronicle* survey reported that their institutions did not have the right mix of technologies — including universal access to videoconferencing platforms and an adequate number of virtual private networks — for delivering online courses. At some institutions, respondents reported, faculty and staff members lacked adequate access to essential tools like

laptop computers. Physical classrooms and teaching studios were not equipped for emergency remote learning. “Many faculty who had never taught remotely were unskilled,” one respondent noted. Finances were also an issue: One institution “had to spend into the next fiscal year” to ramp up technology during the pandemic. Reflecting another challenge, a respondent said “we have scrambled and severely overworked our sparse staff in order to moderately support our students. [A] hiring



freeze has made the already understaffed areas even more painful.”

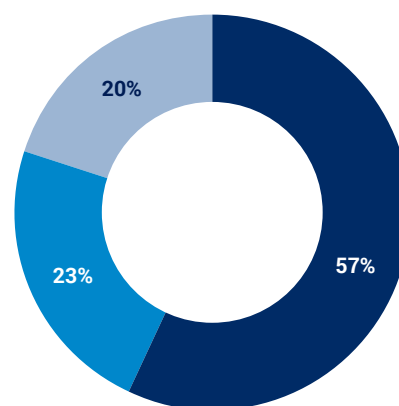
In still other instances, the campus culture and inculcated business practices proved a barrier. Respondents said campus red tape and poor emergency planning hampered institutional responses to the pandemic. One respondent suggested their institution was slow to adopt remote instruction “because previously the institution had resisted online learning.” Another said, “We had no idea what to expect. As a traditional, private university, we had very little experience with the online delivery of courses.”

The pandemic forced the University of California at Berkeley to put planned improvements like next-generation Wi-Fi and a new campus IT-governance model on hold to focus on immediate needs around “instructional resilience, Covid recovery, and the support of remote work.” Jenn Stringer, Berkeley’s associate vice chancellor for IT and chief information officer, says ongoing planning for how the university could mitigate the effects of California’s wildfires and related power outages proved fortuitous as a base for the university’s response to Covid-19. “When the pandemic hit,” she says, “while we weren’t fully through that [earlier planning] work, we were much better prepared for sending everybody home to work and to teach.”

One key to Berkeley’s IT strategy during the pandemic was to focus on existing areas of expertise and nurture more benefits from existing technology investments, Stringer notes. For example, she says, “Our instructional-technology unit knows how to build online courses. We know how to support faculty in that way, and so we focused on that core strength.” Similarly, she says, the university sought to find new ways to improve use of its investments in things like virtual private networking and access management — because, she says, “our paradigm had

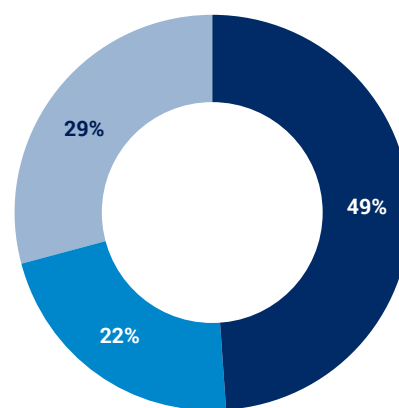
During the pandemic, my institution has a good balance between open experimentation with academic technologies and a deliberate strategic approach.

■ Agree ■ Disagree ■ Unsure



During the pandemic, my institution has done a good job knowing whether teaching and learning improves with academic technologies.

■ Agree ■ Disagree ■ Unsure



Source: Chronicle survey of 665 college officials

shifted, and we were now utilizing [those technologies] in a different way.”

Changes to Teaching

For some institutions, the pandemic may have had a profound impact on teaching and learning. At Robert Morris University in Pennsylvania, for example, Mary Ann Rafoth, the provost, says efforts to cope with the effects of Covid-19 have “provoked a lot of discussions about a lot of different learning.” In practice, the pandemic

“I anticipate that this kind of technology is going to be moving forward and all of us will have to stand up and take advantage of it.”

essentially broadened the university’s palette of pedagogical approaches. To put that in context, Rafoth says that when new contract-renewal discussions start with the university’s faculty unions, “I anticipate that the number of instructional modalities we’ll be discussing will be much, much larger than it was the last time we looked at a contract. We’ll need to talk about synchronous online learning, asynchronous online learning, hybrid learning, and HyFlex learning, as well as remote instruction, which I think I would like to retain as an emergency option.”

How well colleges understand what has worked well — and what hasn’t — with online or hybrid instruction isn’t clear. Less than half of survey respondents (49 percent) said their institutions had done

a “good job knowing whether teaching and learning improves with academic technologies.” A greater portion — 57 percent — did say their colleges had a “good balance between open experimentation with academic technologies and a deliberate strategic approach.”

Such a balanced approach is continuing. Reflecting work by many institutions to experiment with virtual versions of instruction that traditionally have been hands-on, Framingham State University is engaged in a pilot program that is exploring applications of virtual reality in chemistry labs. “Trying to do the labs through virtual reality gives a sense to the students that they are present” even though they are physically remote, says the institution’s president, F. Javier Cevallos. “I anticipate that this kind of technology is going to be moving forward and all of us will have to stand up and take advantage of it.”

Delivery of student services, which like instruction had to largely switch from in person to online, has also been affected. Scott Ralls, the president of Wake Technical Community College, says that even though his institution had more of an online presence prior to the pandemic than other colleges, “we were still pretty traditional in terms of student services — meaning that you came to the campus to get those services.” When Covid-19 hit, he says, “we quickly had to rethink things in that regard, such as how we use technology for tutoring, student advising, and counseling. Those were areas we had to jump into.”

The pandemic also meant that colleges had to find new ways to connect with constituencies, like donors, prospective students, and alumni, that they would usually meet with in person. Conducting open houses for would-be students via videoconferencing platforms enabled Framingham to simultaneously translate

that programming into Spanish and Portuguese, languages spoken in many homes in the region where the university recruits heavily. “Face to face is always the best, but if we can make things easier for families and students, why not?” Cevallos says.

Like many institutions, Robert Morris University shifted to virtual meetings with donors and alumni groups. For fund raising, Rafoth says, one plus is that with online meetings “things move along quicker sometimes when you can all meet virtually.” Stringer says Berkeley had already adopted many tools for virtual fund raising, including an online event called the “Big Give” that began in 2014, and had “worked hard to create an online experience for university donors that connects them to the Berkeley campus community by enabling online meeting and event engagement.” As part of its IT strategic plan under Covid, she says, a related focus has been to provide better analytics and technology solutions to both help fundraisers working remotely and assess “what [online] experiences were resonating most with donors.”

The pandemic also highlighted the digital divide. “When we had to suddenly move everything online, it brought into very sharp focus the divide between the haves and the have-nots in terms of what [technology] students had at home, and how much harder online learning is for low-income students,” Stringer says. “We distributed thousands of

“When we had to suddenly move everything online, it brought into very sharp focus the divide between the haves and the have-nots.”

Chromebooks, but we still find students who are literally trying to complete a bachelor’s degree from their phone.” Even students with high-quality internet access routinely have connectivity issues, she says.

Such challenges led Berkeley to consolidate help for students in an initiative called the Student Technology Equity Program, or Step. As of March 2021, Step had loaned 9,378 pieces of technology hardware to students, including Wi-Fi hotspots, laptops, and headphones. “We cannot assume students all have the technology they need to be successful when they’re not on campus,” Stringer says. Ultimately, though, she believes that the solution to this challenge is bigger than any one institution’s response, and that more needs to be done at the policy level to make internet access more equitable.



Campus Collaboration

The importance of technology in higher education had been growing exponentially before Covid-19 became a factor. As institutions turned to technology to support remote instruction and remote work, the pandemic brought that role into even clearer relief.

In annual interviews that she conducts with college presidents, chancellors, and provosts, Susan Grajek of Educause found a new trend for 2021. This year, she reports, institutional leaders have been talking about technology and its importance with a focus and “astounding amount of sophistication” that Grajek says “is fundamentally different from previous years.”

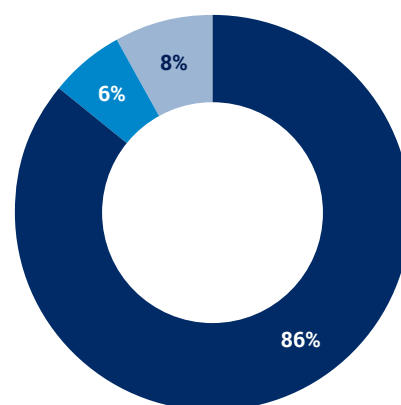
Administrators, she says, have been telling her that “technology has never been more important” and “is just at the bedrock of all we need to do.” Among other specifics, Grajek says that university leaders today “understand that data governance and data integrations are critical if we’re actually going to put data to work” in such applications as understanding student progress and helping learners succeed. Cloud computing is also on their radar, she says, in the sense that administrators increasingly understand “that cloud is fundamental and really important to a more manageable and more cost-effective and less complicated technology infrastructure.”

Bigger Roles for Technologists

One manifestation of that trend is that the perspective of chief information and chief technology officers has become more prominent in discussions about institutional strategy. The voice of the CIO was already becoming more pronounced

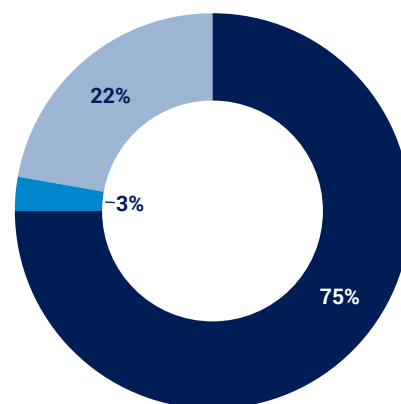
Has the pandemic required closer collaboration between senior administrators to make strategic decisions about technology?

■ Yes ■ No ■ Unsure



Will this collaboration continue post-pandemic?

■ Yes ■ No ■ Unsure



Source: Chronicle survey of 665 college officials

in such conversations, but the pandemic gave that expertise even more value. Further, the pandemic appears to have changed the nature of conversations that institutions are having about technology. For example, when the *Chronicle* survey

asked respondents whether the pandemic “required closer collaboration between the president, provost, CIO/CTO, CFO, and other senior administrators to make strategic decisions about technology,” 86 percent said yes.

For many institutions, the pandemic also highlighted the more central role that campus chief information officers now play in institutional strategy writ large. [A survey by Educause](#) of senior campus IT leaders in the fall of 2020 framed an environment in which CIOs viewed their campus role during the pandemic as expanding in two vital tracks, operations and strategy. Two-thirds (66 percent) of respondents said their influence on operations (supporting systems and services) had either increased or increased greatly as the pandemic progressed. More than half (56 percent) said that the strategic influence of IT (informing key business decisions and “shaping academic directions”) also increased or increased greatly.

Respondents said in the wake of the pandemic the IT function had become even more involved in key institutional functions and decision making and that campus partners were more actively seeking IT’s counsel. One survey respondent said that “we are seen as the ‘connective tissue’ of the institution, a key partner in making the pivot to remote teaching, learning, and administration.”

At Robert Morris University, Mary Ann Rafoth, the provost, reports that her office, the CIO, and the director of the Center for Innovative Teaching “became a team that had to work together constantly to prepare and adjust to the pandemic.” That underscores the value that CIOs can provide in sharing expertise not just with

a college’s leader but across the president’s cabinet. Michael Zastrocky, executive director of the Leadership Board for CIOs in Higher Education, or Lbcio, says that prior to the pandemic, “there’s no question that many institutions had already embraced the idea that technology was core to teaching and learning as well as managing their resources.”

Zastrocky says that, in general, “the CIO has been a part of strategic planning for a long time.” Surveys that his organization has conducted over the last decade or so show an increase in the percent of CIOs who believe their contributions to their institutions are genuinely strategic, in the sense that they report to a high-level leader, including presidents, and are part of institutional strategic planning. Still, Zastrocky notes, there is room for improvement; at some institutions surveyed by Lbcio, some CIOs report that their role is “in between being strategic and just purely tactical.”

Results from the *Chronicle* survey suggest that while the pandemic may have aided decision-making around technology in becoming more democratic, it has not appreciably streamlined such discussions. When asked how the pandemic might have changed how a college or university makes major decisions about using academic technologies, 61 percent of respondents said faculty members are more involved in such deliberations, and more than half (54 percent) said more administrators are involved. Exactly half (50 percent) of respondents said the pandemic had led decision-making to be more “campuswide.” Only a quarter of respondents (23 percent), however, said the pandemic had caused the decision-making process to have fewer steps.

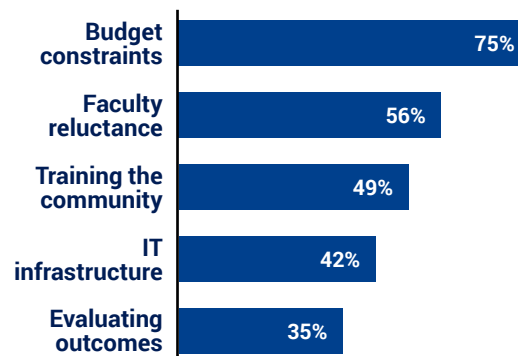


Strategic Investments After the Pandemic

No one can say for certain what the future of higher education will look like once the pandemic ends, but it would be safe to bet that technology will continue to play an increasingly important role in whatever version of “normal” ultimately evolves.

What in many ways were large-scale experiments in using technology during the pandemic — including the great switchover to remote instruction, staff members working from home, virtual admissions outreach, and more use of online fund raising — seem destined to have a strong influence on future practices by colleges and universities.

Top five challenges for adopting academic technologies



Note: Respondents were allowed to pick multiple choices from a list of nine challenges.

Source: *Chronicle* survey of 665 college officials

To get a better sense of how higher education might be changed post-pandemic, the *Chronicle* survey asked respondents what academic technologies they planned to invest. The area of most interest was open-education resources (cited by 45 percent of all respondents), followed by predictive analytics (37 percent) and “AI and chatbots” (25 percent). (The survey question did not include investment in online or hybrid instruction as an option, given that all institutions likely plan to spend more on it.)

When asked what challenges might slow such investments, 75 percent of respondents said “budget restraints.” More than half of respondents (56 percent) said “faculty reluctance” would be a factor, and nearly half (49 percent) were concerned about training the campus community in academic technologies. Other challenges included strengthening the IT infrastructure (42 percent) and measuring outcomes (35 percent) and calculating the benefits (27 percent) of investments in technology. Administrators including presidents and provosts, finance officers, and technologists were generally in agreement about those challenges, although IT staff were somewhat less worried about the IT infrastructure and were more concerned than their colleagues about evaluating outcomes.

Changes in educational delivery during the pandemic gave many faculty members a chance to experiment with versions of online learning in real time. The pandemic may have inspired more institutions to think about starting more online programs, with an eye toward realizing attractive new revenue streams drawn from new student populations. Further, the pandemic underscored the comfort that many students have with learning online, and showed that those modalities may actually

better serve the needs of some adult and working students. For those reasons, it seems likely that more institutions will invest in helping faculty build on their experiences with remote instruction to realize the full potential of true online learning. That trend will require attention to the IT infrastructure, perhaps a deeper investment in instructional design, and ongoing training.

“Once you invest in technology, it ages out pretty quickly, so that is a continuing cost factor for us.”

Michael Zastrocky of Lbcio says that when Covid-19 first hit campuses, a CIO from an Ivy League institution told him, “We have the technology in place, but 95 percent of our faculty have never really used it to teach and learn. We realized we have to start transforming the way teaching is done by spending time helping faculty learn how to teach in a remote environment.” The need for that kind of training will continue as more faculty members deliver courses fully or partially online.

At Robert Morris University, the dive into different kinds of online learning has sparked new kinds of discussions about how courses can best be delivered. Rafoth, the provost, says she is now engaged regularly in conversations focused on “instructional curricular decisions about what the modality should be for a given program. Is this a fully online program, is it fully online asynchronous, is it fully online synchronous, is it hybrid, is it HyFlex?”

The focus, she says, is on deciding which modalities best serve the institution's learning goals and learner needs. The pandemic prompted Robert Morris to outfit more classrooms with the technology needed to support HyFlex learning. The university also increased staffing in its Center for Innovative Teaching — in part, Rafoth says, because “there’s a great demand among both our full- and part-time faculty for more training, more innovation, and more discussion about how to use the technology.”

“We’re really opening up a lot of flexibility for students.”

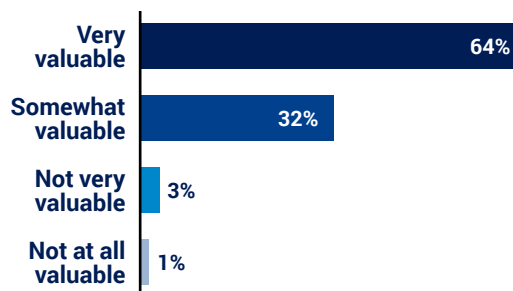
Rafoth says that such investments will likely continue after the pandemic ends. Apart from demand for new technologies, she says that “once you invest in technology, it ages out pretty quickly, so that is a continuing cost factor for us. We’re going to have to invest to keep that investment up.” In discussing investments in technology during the pandemic, she says, Robert Morris realized that they needed to treat such expenditures as capital expenses, not merely as one-offs to meet emergency needs. Ralls, president at Wake Technical Community College, says, “Some of the investments that you’ll see more of is how we use technology as supplements — how we use video and gamification in certain courses and how you embed those, not as replacements for lectures but as supplements.” Like Rafoth, Ralls foresees more investment in repurposing physical classrooms to better support HyFlex teaching and learning.

Rise of Cloud Services

Cloud computing may offer a channel for extending the value of investments in academic technology. “The cloud is important to institutions today because frankly they don’t want to waste their in-house IT teams’ efforts on managing commodity infrastructure. They want to take those efforts and apply them to true mission-related technology investments like online learning, cyber infrastructure, and technology for research,” Susan Grajek of Educause says. “Leaders know that they have to simplify technology management. They know that they need to invest and reinvest. Cloud moves a lot of that effort and expertise offline. It helps to simplify technology management.” Another value of cloud computing, Grajek says, is that it can effectively integrate different applications.

When asked how valuable cloud-computing services have been in responding to the institutional needs that have emerged during the pandemic, 64 percent of respondents in the *Chronicle* survey said they had been “very valuable,” and an additional 32 percent said they had been “somewhat valuable.” And 63 percent of respondents said that the coronavirus outbreak has sped up adoption of cloud services.

How valuable have cloud-computing services been during the pandemic?



Source: *Chronicle* survey of 665 college officials

Asked to specify areas where cloud services will have the most benefit for their institution's operations, respondents named online instruction (76 percent), student services (56 percent), and enrollment and admissions management (52 percent), as well as the ability to quickly adopt the latest technology and functionality versus waiting for software upgrades (52 percent). But as with other new academic technologies, the biggest challenge to adopting cloud-computing opportunities was budget constraints. Other significant issues to adoption identified by respondents were training and IT infrastructure.

“The cloud is important to institutions today because frankly they don’t want to waste their in-house IT teams’ efforts on managing commodity infrastructure.”

In terms of applications of technology for student-support services, for example, Wake Technical Community College is investing more in “how we use outreach technology, whether that is through texting

or call centers, and how we use data science to fine-tune how we reach students,” Ralls says. For admissions, technology has helped the college reach out to re-enroll students who had stopped off their educational pathway, he said.

“The pandemic to a large extent broke a lot of enrollment models,” Grajek says. Institutions are using technology, she says, to try to repair those programs. One strategy, Grajek says, is to use data analytics to develop more sophisticated models of potential student markets. Another technology to watch, she says, hinges on applications of customer-relationship management, or CRM, in support of enrollment as well as alumni relations and student services. Technology is also enabling institutions to serve different students in different ways.

Robert Morris University's vice president for enrollment management “is looking at student interests across the board and student interests by technology and need and time,” Rafoth says. “We’re really opening up a lot of flexibility for students.” Post-pandemic, she says, “The HyFlex options that were utilized during the pandemic, to allow students to get some in-classroom experience, if they desired, while maintaining social distance, will be used probably to offer students, especially working students and working adults, the ability to be in class sometimes and to just participate virtually other times. I don’t think that will go away. And I think it can be very effective.”

CONCLUSION

Technology played an outsized role in helping colleges and universities respond quickly to the challenges of Covid-19. But those short-term responses to the public-health crisis may ultimately be far overshadowed by more long-term impacts.

As students and staff members slowly return to campuses, technology may have helped transform higher education in profound ways. Higher education's response to Covid-19 had the effect of greatly emphasizing the value and importance of technology in the academy. Reflecting on that value, John O'Brien, the president of Educause, [recently noted](#) that "technology can no longer be seen as a utility working quietly in the background. Now more than ever, technology is a strategic asset that is vital to the success of every higher-education institution."

As colleges and universities recover from the impact of Covid-19, one challenge will be building on the inherent value of technology and inculcating some of the gains that the pandemic showed that technology could imbue. Essential questions will be in play. How can technology help colleges and universities keep education affordable and accessible? How can technology help institutions serve an increasingly more diverse student population, including support for adult students over the course of their careers? Can applications of technology help colleges and universities create new academic programs to establish new revenue streams? How can applications of technology best help colleges operate more efficiently and economically?

"Now more than ever, technology is a strategic asset that is vital to the success of every higher-education institution."

The challenges going forward will far transcend the need for institutions to make good decisions about the execution of technology solely at the operational level. Rather, colleges and universities will need to develop practices and perspectives that enable them to capitalize on technology in the context of strategy and big-picture thinking. It's

about changing perhaps entrenched behaviors and integrating technology into the culture of a college or university. Another imperative will be intentional design in how technology can best help an institution make progress in advancing its mission. “There’s really going to need to be intentionality on campuses about what makes sense in our particular context,” Jenn Stringer at Berkeley says, suggesting that institutions need to craft that intentionality around their strengths, missions, and faculty interests.

“What we’ve been seeing in the last 12 months is more institutions are moving to accept that technology is strategic, and they’re beginning to look at how to embrace technology and incorporate it into their planning for the future,” Michael Zastrocky of Lbcio says. “I don’t think very many institutions today think they can survive without a good technology infrastructure and plans for how to utilize that to transform the institution.”

“When you look at the integration of technology, we have been doing this for quite a while now,” Zastrocky says. “The key to integration, though, isn’t technology. It’s more of a behavioral issue. How do people change the way they work and do business and communicate with one another in order to bring technology to bear fruit in the work that they’re doing? It’s not just technology; it’s the way people are working and changing. I think that’s really key.”

Further Reading

[“Cloud Needs to Be High on Higher Ed IT Priority Lists in 2021,”](#) John Kitchen, *Campus Technology*, February 11, 2021

[“Educause QuickPoll Results: Senior IT Leadership,”](#) D. Christopher Brooks, *Educause Review*, October 9, 2020

[“Not in the Future — Now,”](#) John O’Brien, *Educause Review*, May 18, 2020

[“Survey of Higher Education CIOs on the Impact of the Global Covid-19 Pandemic,”](#) Michael Zastrocky, Leadership Board for CIOs in Higher Education, July 2020

[“The Pandemic May Have Permanently Altered Campuses. Here’s How,”](#) Francie Diep, *The Chronicle of Higher Education*, March 15, 2021

[“Why Haven’t More Colleges Closed?”](#) Rebecca S. Natow, *The Chronicle of Higher Education*, March 1, 2021

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