

# Driving Digital Transformation in Higher Education



**EDUCAUSE**

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## About EDUCAUSE

EDUCAUSE is a higher education technology association and the largest community of IT leaders and professionals committed to advancing higher education. Technology, IT roles and responsibilities, and higher education are dynamically changing. Formed in 1998, EDUCAUSE supports those who lead, manage, and use information technology to anticipate and adapt to these changes, advancing strategic IT decision-making at every level within higher education. EDUCAUSE is a global nonprofit organization whose members include US and international higher education institutions, corporations, not-for-profit organizations, and K-12 institutions. With a community of more than 99,000 individuals at member organizations located around the world, EDUCAUSE encourages diversity in perspective, opinion, and representation. For more information, please visit [edUCAUSE.edu](http://edUCAUSE.edu).

## Introduction

Digital transformation (Dx) is more than merely migrating paper records to a computer, and it is more than adopting technologies to perform business operations faster and more efficiently. As we at EDUCAUSE define it, Dx 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.”<sup>1</sup> Dx runs wide and deep across the whole institution, requiring innovative leadership at all levels, as well as advanced cross-unit coordination. And it demands flexibility and agility that will stretch higher education beyond the comforts of its traditions.

Dx is a journey with multiple paths and many stages. It is not a single transformative initiative but a process of increasingly consequential transformations. Regardless of where higher education might be on the Dx journey, though, we can all work together to better understand Dx, to share and learn from our collective experiences, and to build better models and stronger capabilities for Dx in the future.

That is the purpose of this report and the research it summarizes: to enrich the collective understanding of Dx in higher education and explore the challenges and opportunities that lie ahead on the Dx journey.

In August 2019, EDUCAUSE disseminated a survey to higher education IT leaders to explore their current experiences, attitudes, and practices related to Dx at their institution. Specifically, the survey presented respondents with a comprehensive set of questions focused on EDUCAUSE’s three primary Dx indicators:

**Culture shifts:** Is the institution progressing toward shared institutional goals, emphasizing change management, and increasing in agility and flexibility to meet rapidly changing needs?

**Workforce shifts:** Is the institution fostering new skills and competencies and responding to opportunities to reinvent human resource management?

**Technology shifts:** Are IT leaders adopting innovative practices and technologies and strategically implementing those practices and technologies to support new institutional directions?<sup>2</sup>

This report summarizes the findings from our analyses of the responses we received from the 181 IT leaders who completed the survey. Our hope is that this report will not only shed light on the current status of Dx across the higher education landscape but also point readers to the horizons of that landscape and enable them to identify their next steps forward on the Dx journey at their institution.

## Key Findings

- **We cannot ignore digital transformation (Dx).** The importance of Dx has been growing in recent years and is expected to continue to grow.
- **Few say their institution is currently engaged in digital transformation, but many are preparing to do so.** Slightly more than half of respondents said they think their institution either is not yet engaged with Dx but is exploring it, or is not engaged in Dx at all. However, almost one-third reported that their institution is developing a Dx strategy.
- **Optimism about achieving Dx in the near future is high.** Respondents think that their institution can make significant strides toward digital transformation in the next five years. Those who have yet to start thinking about Dx are expected to be significantly behind those already planning and implementing Dx approaches.
- **Perceptions about who is aware of, understands, and supports Dx vary widely by campus role.** Groups that are closer to technology and digital innovations (e.g., CIOs, librarians, directors of institutional research, and student success leaders) are believed to both understand and support Dx efforts more than those in other groups. Executives and administrators are thought to have a long way to go to develop awareness and understanding of Dx.
- **Dx is a student-centered endeavor.** The major benefits and drivers for engaging in digital transformation are related to the student experience and student success efforts. Dx is also seen as potentially beneficial to improving the institution's reputation, competing with institutional peers, and improving the financial health of the institution.
- **The impact of Dx across institutional functions varies widely so far.** The digital transformation of institutional functions is an uneven process, with some functions (e.g., central IT, libraries) being significantly more advanced along the path to Dx than others (e.g., community partnerships, faculty promotion and tenure).
- **The greatest barriers to Dx are the usual suspects: culture change and cost.** Not having information digitized and processes digitalized are also seen as barriers to Dx. Privacy is considered to be the lowest barrier to carrying out Dx initiatives.

## Defining Digital Transformation

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 operations, strategic directions, and value proposition.” Many people mistake digital transformation for other applications of information technology to work and personal life: *digitization* (of analog information) and *digitalization* (of processes) (see figure 1). But Dx is very different from either of these. It is more complex and more impactful. Our survey was careful to provide a definition and context for Dx to ensure that respondents were reporting on digital transformation rather than digitization or digitalization by defining all three and repeatedly clarifying whether we were asking about digital transformation, digitalization, or digitization.

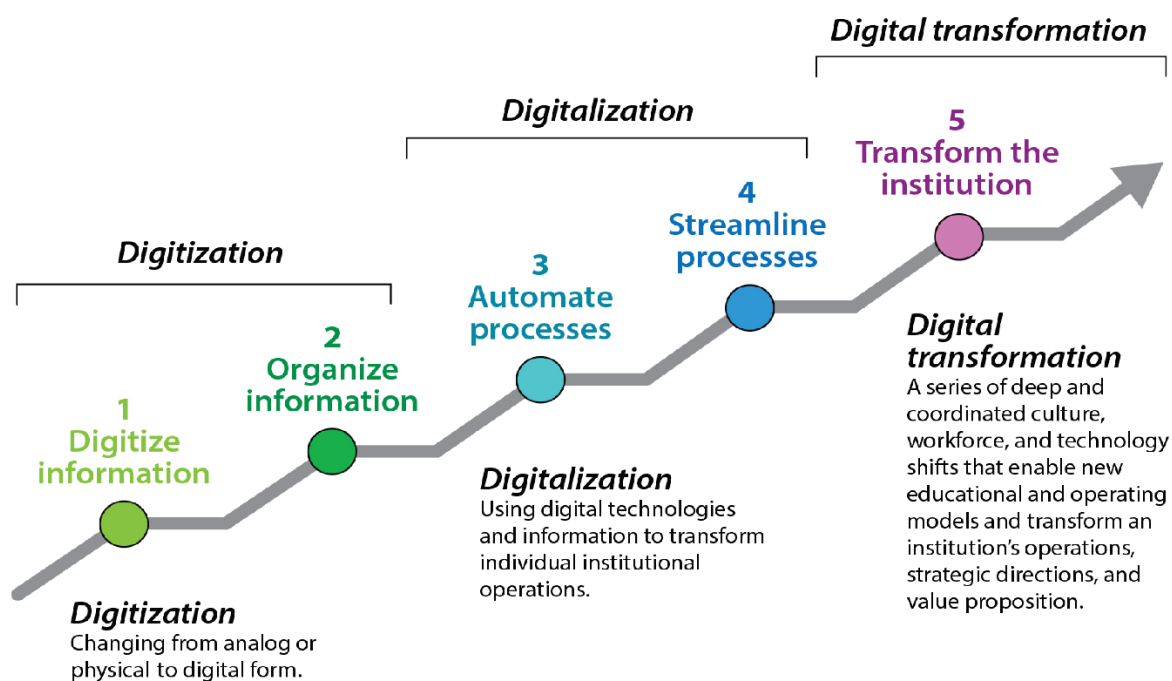


Figure 1. Digital transformation in context

## The Growing Importance of Dx

Digital transformation has become more important to the success of higher education in the past two years and is expected to become even more so in the next two years. We asked respondents to evaluate the retrospective and prospective importance of digital transformation for the success of higher education. Two-thirds (67%) of respondents told us that compared to two years ago, digital transformation has become more important; nearly another third (31%) said that it was just as important as it was two years ago. Looking forward, three-quarters (75%) of respondents think that Dx will become more important in the next two years. Sixty-one percent of respondents said both: that Dx has increased in importance and will continue to do so (see figure 2).

**In the next two years, digital transformation will be...**

<b>Compared to two years ago, digital transformation is now...</b>	<b>less important</b>	<b>just as important</b>	<b>more important</b>
<b>less important</b>	2%		
<b>just as important</b>		17%	14%
<b>more important</b>	1%	5%	<b>61%</b>

Figure 2. The retrospective and prospective importance of Dx

## Institutional Engagement in Dx

Only 1 in 10 say their institution is currently engaged in digital transformation, but most are exploring Dx or preparing a Dx strategy. Fewer than half of respondents said their institution is either in the process of developing a digital transformation strategy (32%) or is engaging in digital transformation today (13%) (see figure 3). About two in five respondents (38%) told us that their institution is not yet engaged in digital transformation but is exploring it.

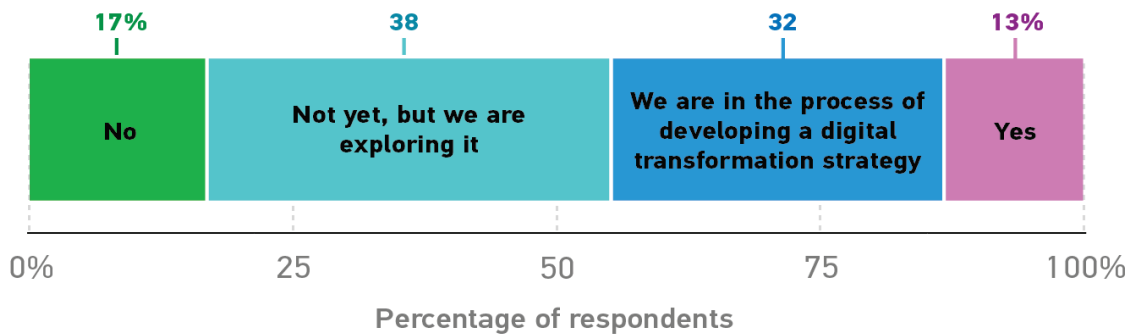


Figure 3. Would you say your institution is engaging in digital transformation today?

## The Present and Future Institutional Levels of Dx

**On average, institutional Dx remains considerably underdeveloped, but respondents are optimistic that progress will be made in the next five years. But those who have yet to start planning for Dx are already behind.** We asked respondents to rate their institution’s current and future levels of Dx on a scale of 1 to 10, with 10 representing an imagined Platonic ideal of “an institution transformed by digital technologies and capabilities, as well as a correspondingly reshaped culture and workforce that are enabling new educational and operating models, strategic directions, and sources of value.” An overwhelming majority (84%) rated their current levels of institutional Dx on the lower half of the scale (see figure 4); no one thinks their institution has achieved full Dx. Respondents predicted a significant increase in institutional levels of Dx over the next five years, with a majority (56%) expecting to be closer to the ideal than not. Respondents who said their institution has yet to engage in digital transformation at all are significantly more pessimistic about where they will be in five years than those who have already begun—these respondents on average reported a smaller expected increase in their level of Dx over the next five years compared to respondents who have already started their Dx journey. In other words, rather than a leveling of the playing field in which late adopters catch up to their peers, responses indicate the next five years will widen the gap between institutions that have not begun in earnest and those at the forefront that will position themselves even farther ahead.

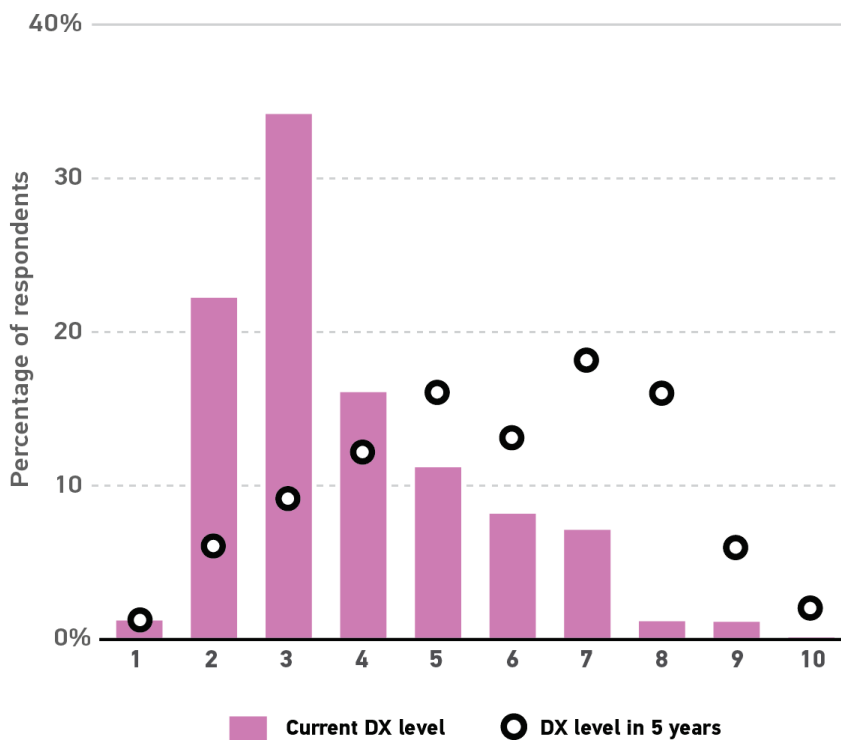


Figure 4. Levels of Dx currently and in five years



## Awareness, Understanding, and Disposition to Dx

CIOs are believed to understand and support Dx more than any other group. Alumni, students, boards, and faculty are thought to be largely unaware of Dx or to be aware but lacking in understanding of Dx; faculty are believed to be the most resistant to Dx. A majority of three groups that are likely closely engaged with processes related to Dx were identified as both understanding and supporting Dx in higher education: CIOs (83%), librarians (55%), and directors of institutional research (51%) (see figure 5). Some campus groups are believed either to be completely unaware of Dx or, if they are aware of it, not to understand it. Among the more alarming of these include executive and administrative positions such as presidents (32%), provosts (38%), chief business officers (36%), and chief HR officers (39%), suggesting that there is considerable and targeted work to be done to educate different groups about what Dx is and what it means for them and their institution. Not only are faculty perceived to have the least amount of awareness and understanding of Dx among those on campus (only alumni are thought to be less aware), but they are also seen as the group most resistant to Dx.

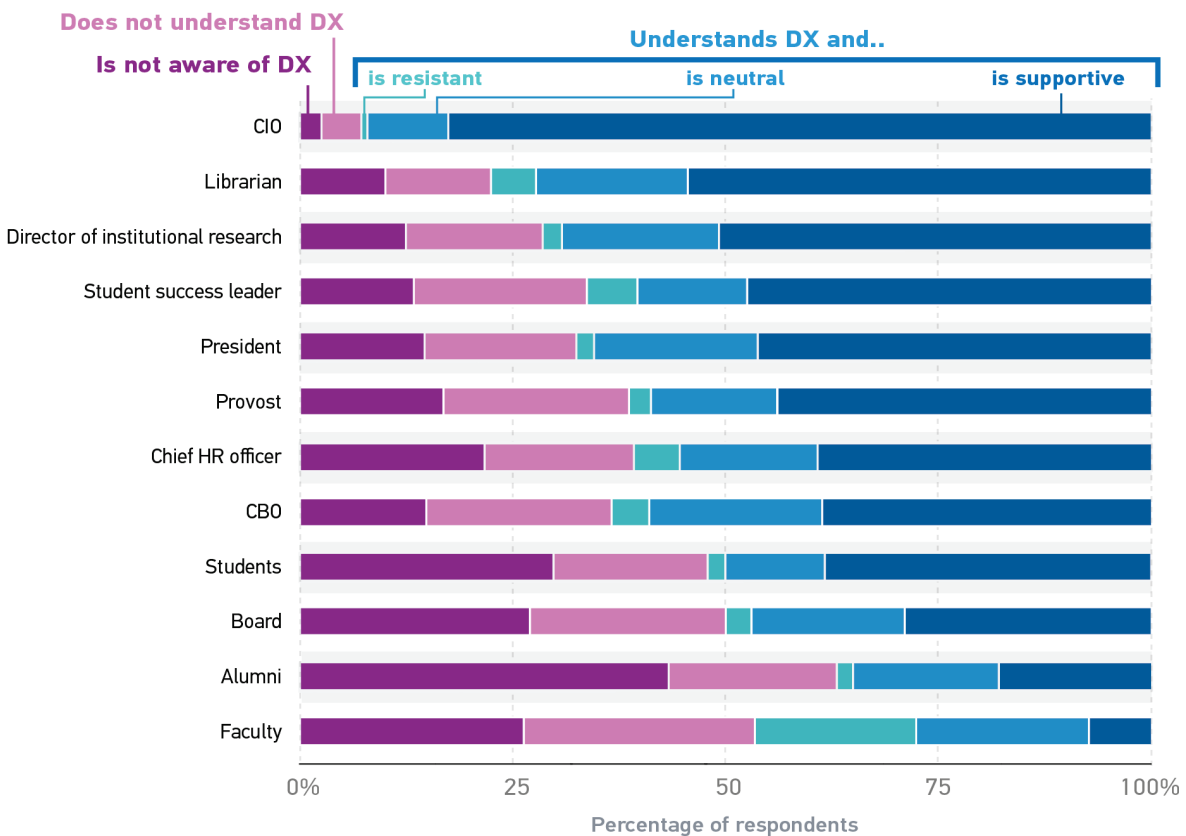
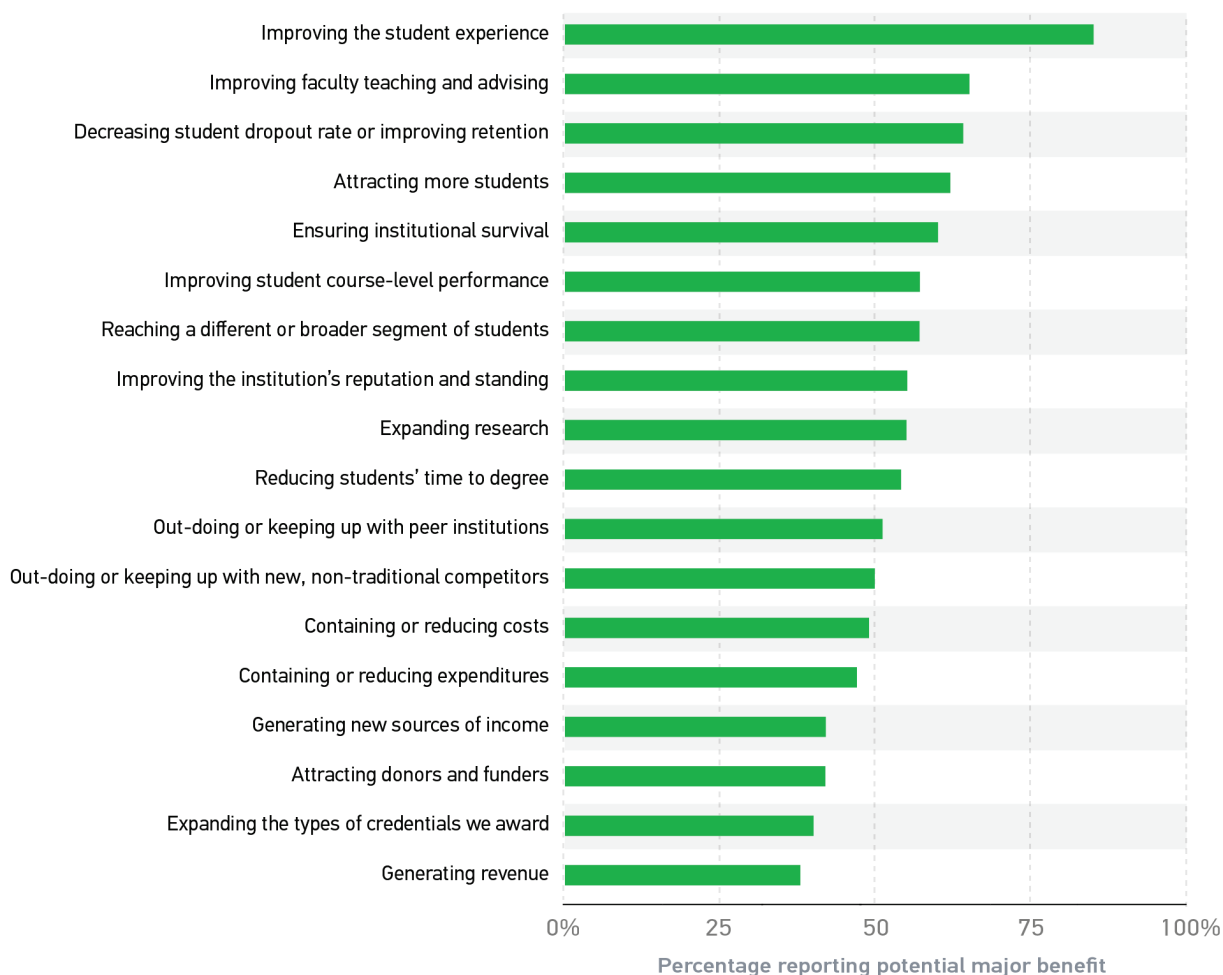


Figure 5. How well Dx is understood and supported by different institutional groups

## Dx and Students

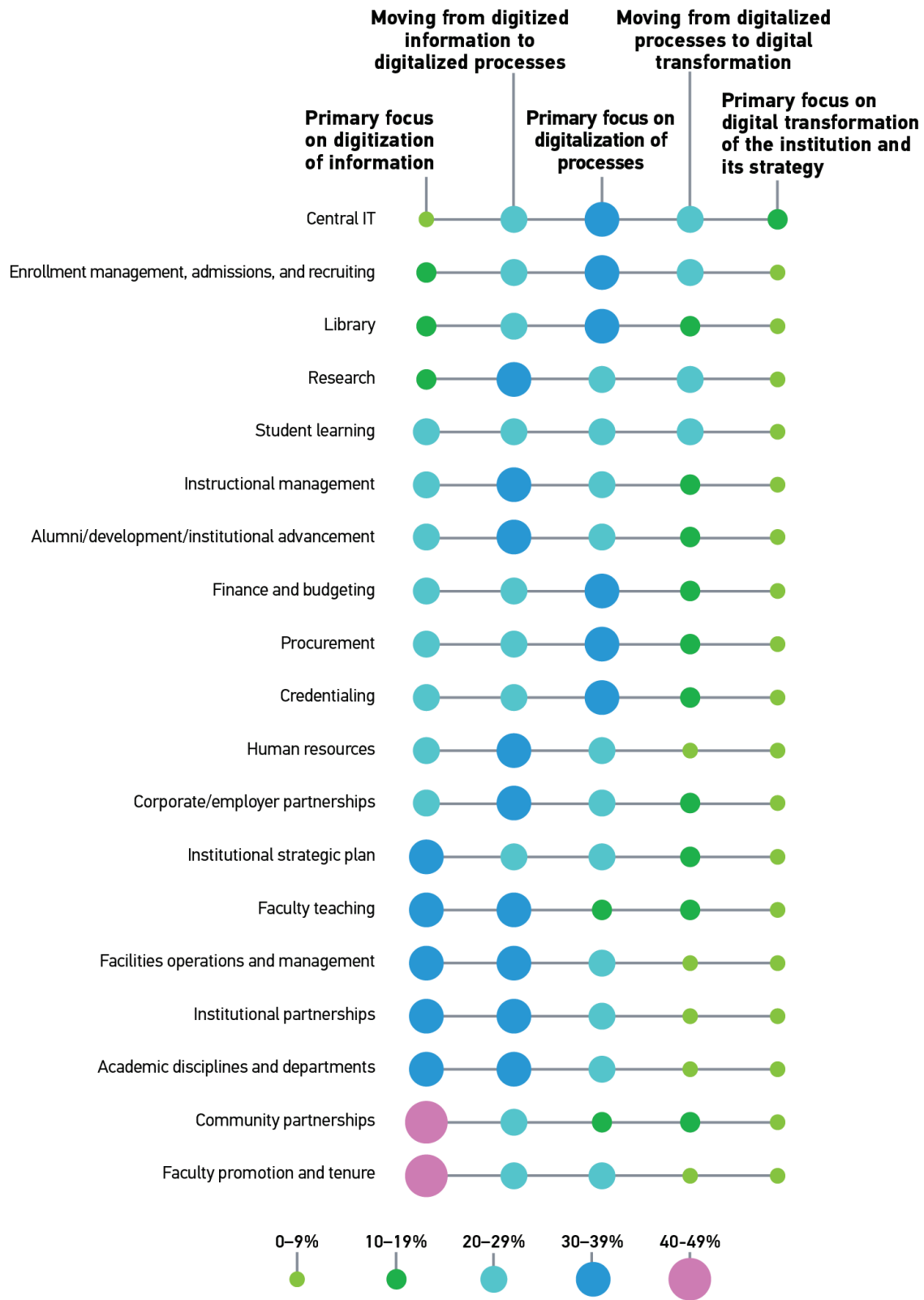
**Dx is a student-centered endeavor.** Six of the top seven major benefits of Dx that respondents identified are directly focused on student success (see figure 6). Indeed, 87% of respondents from institutions currently engaged in Dx said that “Improving the student experience” was driving institutional planning and investment in Dx. Other expected benefits following closely behind are the student success benefits (and drivers) of improving faculty teaching and advising, decreasing student dropout rates or improving retention, and improving student course-level performance. These potential benefits of digital transformation align well with the EDUCAUSE [2020 Top 10 IT Issues](#) theme of innovation, which includes three of the top 10 issues: student-centric higher education (#5), student retention and completion (#6), and improved enrollment (#7). Other perceived major benefits and drivers of Dx are related to improving the institution’s reputation, competing with institutional peers, and improving the financial health of the institution.



**Figure 6. The potential major benefits of Dx**

## The Stages of Dx: Institutional Functions

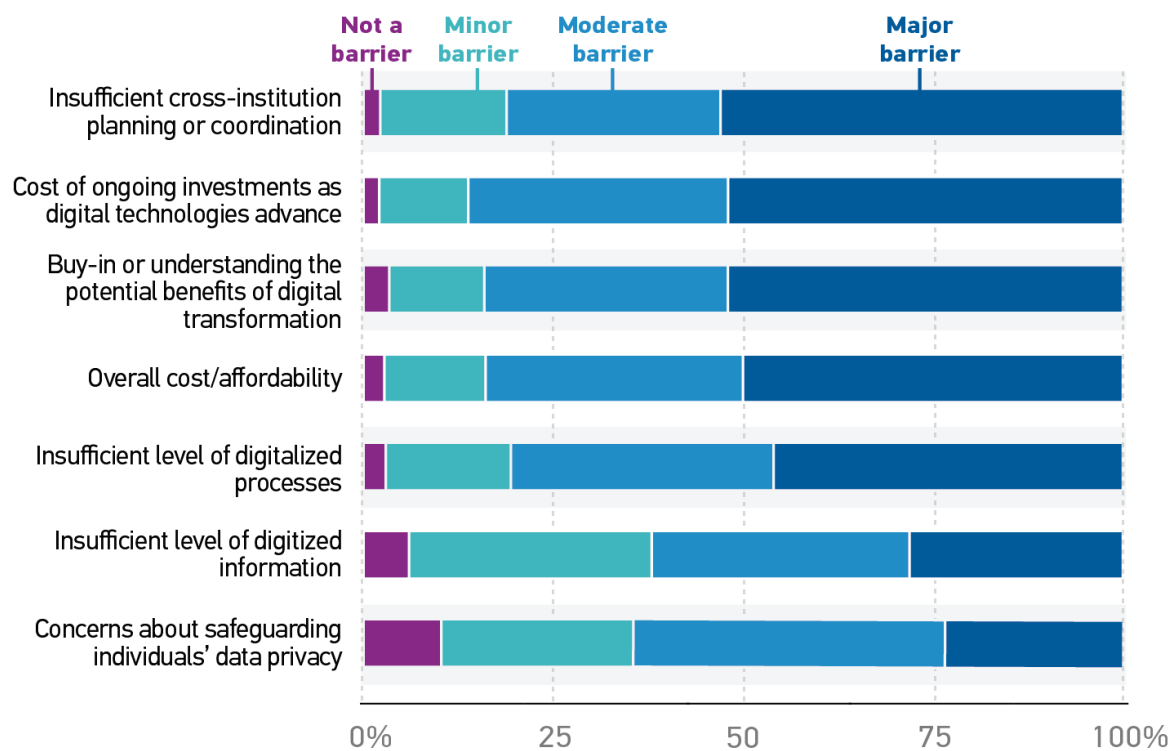
**Many institutional functions are focused more on digitization and digitalization than actual digital transformation. Digitization and digitalization** both help lay necessary groundwork for digital transformation. The most digitally evolved institutional functions are those that have been engaged in the digitization of information and the digitalization of processes the longest: central IT; enrollment management, admissions, and recruiting; libraries; student learning; and research (see figure 7). Most institutional functions are believed to be either in the initial phase of digitizing information or just now moving to digitalization of processes.



**Figure 7. Moving from digitizing information to digitalizing processes to digital transformation, by institutional function**

## Institutional Barriers to Dx

**The major barriers to digital transformation are related to the usual suspects of cultural change and cost.** The greatest obstacles to Dx are on the change management side of the coin, with most respondents thinking that insufficient cross-institutional planning or coordination (53%) and buy-in or an understanding of the potential benefits of digital transformation (52%) are major barriers to success (see figure 8). Majorities of respondents also view the cost of ongoing investments as digital technologies advance (52%) and overall cost and affordability (50%) as critical obstacles to Dx. A majority of respondents also consider insufficient progress toward the milestones of digitizing information and digitalizing processes to be at least moderate barriers. Concerns about safeguarding people’s data privacy are believed to present few problems for institutions as they move through the stages of Dx.



**Figure 8. Barriers to Dx**

## COVID-19 and the Acceleration of Dx

At EDUCAUSE we've been forecasting a digital transformation in higher education for the past several years. This has included initial work defining exactly what "digital transformation" means so we can discuss it with each other and start planning for it. We've looked at the trends that have been pushing us toward Dx, as well as some of the early signals of Dx. In 2020, though, we found ourselves faced with something that none of us anticipated. COVID-19 has pushed us all to become more agile, more strategic, more collaborative, and more focused. It has asked us to look at what we do in new ways and to prioritize outcomes in support of our mission more quickly and more directly than we ever have before. What it has done, in essence, is move colleges and universities into digital transformation faster and more directly than we could have ever imagined. The time devoted to laying the groundwork in this space has been well spent. The initial work that we did was already being reflected in work at many of our member institutions and is even more in evidence since the pandemic began. Those institutions that hadn't been considering Dx to any significant measure are now faced with shifting in that direction out of necessity. As we look toward a very uncertain future, we are already seeing evidence that institutions are prioritizing efforts that bring the greatest value and most tangible results, in a deep and coordinated fashion. They are, in effect, embracing digital transformation, intentionally or not, as a matter of survival. These are not easy times. Yet, as we move into transformation faster than expected, perhaps we can all be helped by the knowledge that the cultural, workforce, and technology shifts we are now experiencing are, in fact, not completely unexpected, that there are some frameworks and support tools (in existence and being developed) that can help shine some light on the discussions that are taking place now, and, indeed, that we are in it together.

—Karen Wetzel, Director, Community and Working Groups, EDUCAUSE

## Where to Go from Here

- **With Dx expected to only grow in importance and many believing their institution has yet to begin even exploring what Dx is, we recommend starting by learning what Dx is and what it is not.** Begin educating yourself about how shifts in technology, culture, and workforce are serving as the catalysts for the process of digital transformation. Seek out and consume [resources](#) (e.g., research, community forums, case studies, articles) to deepen your understanding about Dx and to begin thinking about the scope of your Dx initiative.
- **Given that many key institutional groups are thought to lack awareness, understanding, and support of Dx, we recommend communicating about Dx with other key stakeholders and engaging the institution about Dx as a first step toward institutional planning.** Having conversations about what Dx is and what it means for the future of the institution is a crucial step in the planning phase. From there, the institution can begin to set goals for Dx and build a roadmap for how to reach those goals.
- **Once goals and plans have been developed, then it is time to begin a Dx initiative.** This process will more than likely be incremental and iterative and should start with institutional functions that are already further along in the process and of strategic importance to the larger Dx initiative. As different phases of Dx projects wrap up, assess the progress and set new goals, communicating successes, setbacks, and next steps to the broader institutional community.

## Methodology

Survey invitations were sent to 13,845 IT leaders in the EDUCAUSE database. A total of 181 respondents provided data that could be used for analysis, resulting in a response rate of 1.3%. Respondents were from 37 US states and 13 countries outside the United States; 151 institutions of higher education were represented. Non-US respondents made up 16% of the sample. Data collection took place in August and September 2019.

## Acknowledgments

The authors would like to first thank the 181 higher education IT professionals who responded to the Digital Transformation (Dx) Survey. The authors would also like to thank the members of the EDUCAUSE Digital Transformation (Dx) project team—Susan Grajek, Betsy Reinitz, Karen Wetzel, Malcolm Brown, and Brian Kelly—for their thought leadership, guidance, and subject-matter expertise on the Dx research project. Ben Shulman, our intrepid statistician, deserves many thanks for his contributions to the construction of the final data set and for his careful review of this manuscript for errors in data reported, statistical calculations, and interpretation of results. Kate Roesch designed the report’s compelling data visualizations. Gregory Dobbin and the publications team provided copy edits and other editorial suggestions. Lisa Gesner applied her content management and marketing skills to support the release of Dx research materials. Finally, special thanks go to Susan Grajek for her vision and leadership on this and all things Dx.

## Notes

1. Malcolm Brown, Betsy Reinitz and Karen Wetzel, “[Digital Transformation Signals: Is Your Institution on the Journey?](#)” *EDUCAUSE Review*, Enterprise Connections Blog, October 9, 2019.
2. Ibid.