

# FORCES SHAPING CHANGE AND INNOVATION IN HIGHER ED

The future of higher ed IT 2025





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# Rising to the challenge

**We asked 230+ IT professionals working in US higher education how their organizations are faring amidst financial constraints, operational challenges, and pressure to innovate.**

In this first annual *Future of Higher Ed IT* report, we examine the ways IT teams are adapting to change amidst serious headwinds and — even more importantly — how best-in-class institutions are reacting to and overcoming these pressures.

Among the top findings:

- **Nearly 1 in 3 IT professionals say their institutions are experiencing “high” or “extremely high” financial pressure.** That pressure has strong impacts in areas like inadequate IT staffing (44%) and delayed IT investments (49%).
- **Lack of institutional buy-in for IT’s objectives is a serious obstacle.** Just half (52%) report a high degree of support from college/university leadership. And only 43% say university leadership consults IT leadership for long-range strategic planning.
- **Satisfaction rates are high for IT professionals in higher ed.** 83% say they are satisfied in their current roles and just 25% have plans to leave their current institution.
- **Outsourcing is a critical way institutions can overcome staffing challenges.** Approximately half of institutions (51%) currently outsource some aspect of IT and another 24% say they have plans to do this.

Investment in and support for IT is critical for student success and the long-term viability of US colleges and universities. Boldyn’s research aims to uncover the behaviors of the best-in-class — whether small or large, public or private — and the practical lessons gained from these findings.



# How financial pressure impacts IT

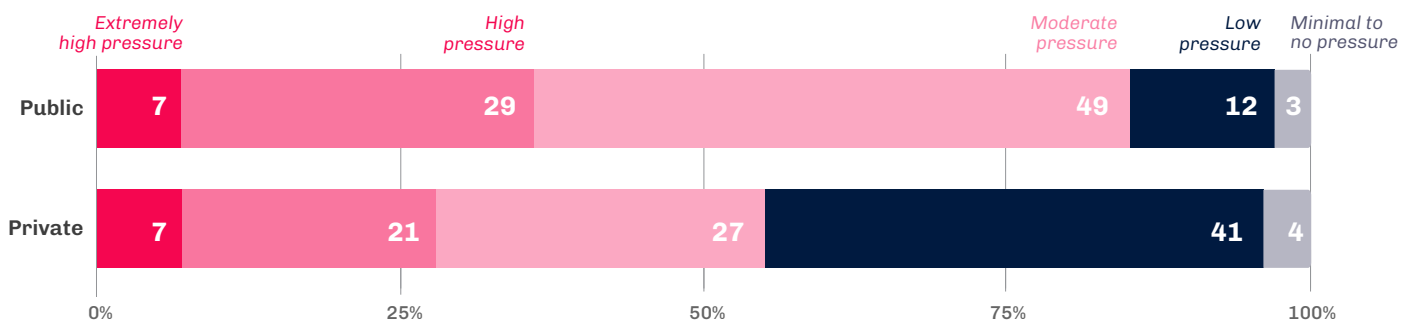
A startling number of US colleges and universities are experiencing financial distress — this according to Boldyn’s latest research, which surveyed IT professionals working at US colleges and universities.

- 30% of all respondents reported “high” or “extremely high” financial pressure at their college/university.
- At public universities, the rate is even more elevated: 36% of those respondents reported high levels of financial pressure.

This pressure has serious knock-on effects: reduced budget for IT projects (53%), delayed investment in new technologies (49%), and staffing shortages (44%).

And among schools that report a high degree of financial pressure, 73% say it undermines their institution’s cybersecurity preparedness.

**FIGURE 1: High financial pressure common in higher education**

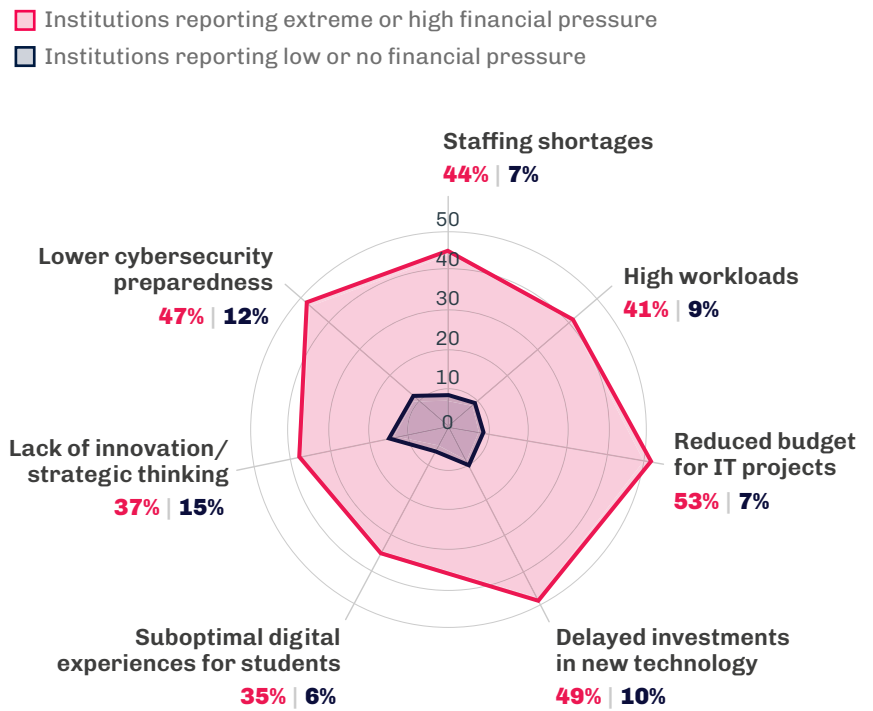


Q: What degree of financial pressure does your institution face, if any? (Shown as %.)

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That pressure is not likely to abate anytime soon: Demographic shifts, combined with changing attitudes about higher education among young people, are expected to drive a significant enrollment decline — as much as 15% between 2025 and 2029, according to some estimates.<sup>1,2</sup> And with those declines will come tuition discounts and falling revenue.

**FIGURE 2: The multiplier effects of financial pressure**



Q: How does college/university financial pressure affect IT operations at your institution? (Shown as %.)

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**73%**

IT professionals who say high financial pressure is undermining cybersecurity preparedness in higher education.

**US \$3.7M** Average cost of a data breach in higher education

*Cost of a Data Breach Report 2023 by IBM Security (IBM, 2023)<sup>3</sup>*

**US \$4.0M** Average cost to recover from a ransomware attack in 2024

*(Sophos, 2024)<sup>4</sup>*

**FIGURE 3: How financial pressure affects cybersecurity**

	DEGREE OF FINANCIAL PRESSURE		
	Extreme or high financial pressure	Moderate	Low or no financial pressure
Challenges attracting security talent	46	44	15
Increased vulnerability to attacks	46	30	12
Unable to adapt to new threats	35	25	7
Reactive approach to security	46	25	11
Inconsistent security hygiene	37	21	14
Outdated security technologies/tools	43	35	6
Lack of advanced threat detection & response systems	38	34	7
None of the above	1	12	64

Q: To what extent does financial pressure affect your institution's cybersecurity preparedness specifically? Choose all that apply. (Shown as %.)

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**■ HOW DO TALENT SHORTAGES AFFECT YOUR TEAM?**

“ We are a small team and wear many hats within our team. Workload balancing and burnout effects are evident.”

Many IT professionals report that budget increases are not sufficient to meet the operational and innovation needs of their institutions.

### IT budgets not keeping pace

Despite financial pressure, most colleges and universities are growing their IT budgets in an effort to meet rising costs — for critical expenses related to managing cybersecurity, maintaining high user experience, and supporting remote learning, among other priorities.

Most (76%) IT professionals say higher ed IT budgets will increase in 2025, but many report that those increases are not sufficient to meet the operational and innovation needs of their institutions.

“To stay competitive, colleges and universities have had to radically change the way they deliver education and support student needs — and university leaders are leaning heavily on IT teams to execute these strategic changes,” says Matt Loecke, Executive Vice President, Higher Education, Boldyn Networks, US. “On campuses across the country, there’s a real tension between a high need for IT innovation, and a ‘bootstrap’ approach to budgeting for IT.”

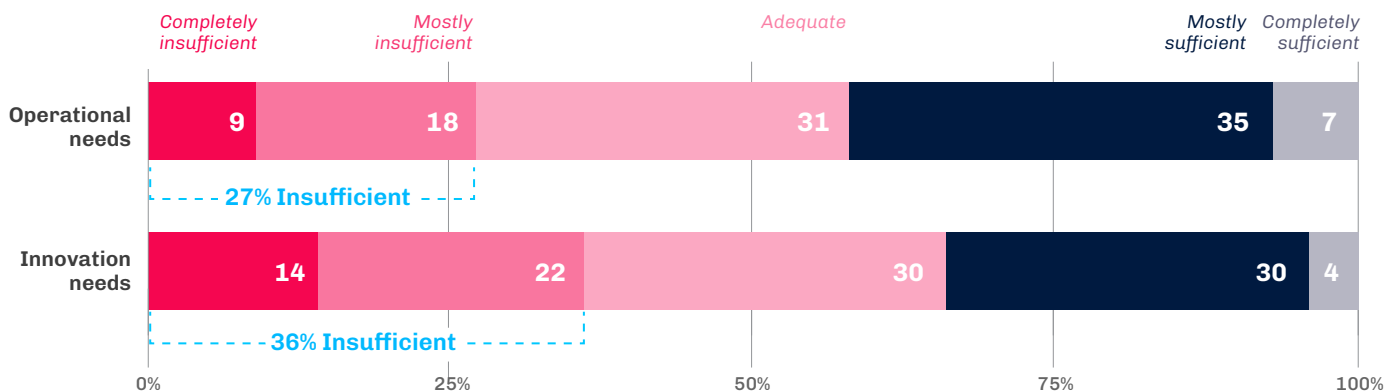
Overall, 1 in 4 say IT budgets do not cover operational needs, and more than 1 in 3 say they don’t cover innovation needs.

Among institutions experiencing greater financial duress, well over 50% report that budgets are insufficient for IT operations and innovation.

As one IT professional working at a four-year institution reports, “I work on a wide range of projects — some more interesting than others — but *budget is always the constraint*.” He explains that, due to budget constraints, his team must balance priorities and make trade-offs: “In my experience, security takes a back seat to ease of use. There are a lot of battles I would like to fight but there’s no point in me doing so.”<sup>5</sup>

Universities face a deep challenge: How can they optimize costs while *improving* student and employee experience? As Brian Rosenberg, President-in-Residence at the Harvard Graduate School of Education, explains, “Very few businesses have ever cut their way to greater success. You don’t draw more students by cutting lots of programs. And you don’t get financial sustainability by just putting what you’re offering on sale at a higher and higher discount. At the heart of this crisis is economics.”<sup>6</sup>

**FIGURE 4: A significant share say budget is “insufficient” for IT operations and innovation**



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# The high cost of operational inefficiency

Colleges and universities have a tremendous responsibility to maintain operational continuity across teaching, research, and administrative activities, as well as to protect sensitive data such as student records, financial information, and research data. Yet the Boldyn research shows many institutions struggle to maintain IT operational excellence.

We asked IT professionals to rate the IT maturity level of their institutions — from “ad-hoc” at the lower end to a high of “quantitative/optimized.” (See maturity model description, Figure 5.)

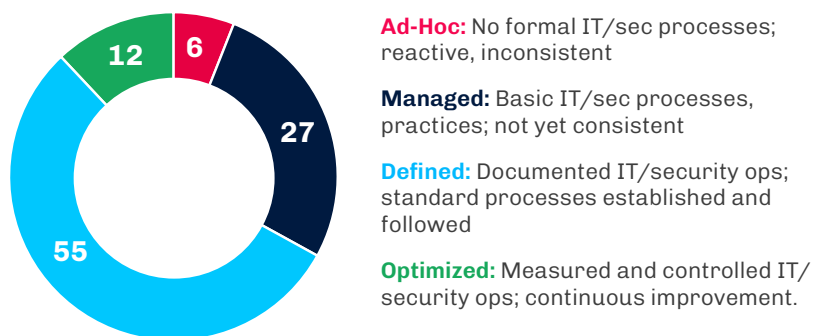
- Just 12% reported their institutions were at the highest level, quantitative/optimized.
- Larger institutions and public colleges/universities were more likely to report highly mature IT operations compared to all others.

The downside risks are many — from operational interruptions and data breaches to budget overruns and inability to support innovative teaching/learning.

These issues are particularly salient as institutions grapple with generative AI and its many impacts on higher education.

Research from EDUCAUSE finds that more than half (56%) of IT teams say their workload is *growing* because of AI — whether due to adopting new technologies, instituting AI policies and procedures, or protecting the institution from AI-related risks.<sup>7</sup>

**FIGURE 5: The higher ed IT maturity model**



Q: Below find a maturity scale for university IT operations. Please choose the answer that best fits your organization’s current position. (Shown as %.)

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## How AI is changing colleges and universities

Some of these applications support existing staff and make them more efficient and effective; others supplant existing roles and help universities save money.

- **Personalized learning and tutoring:** Universities are using AI tools to develop personalized learning pathways for students — helping them learn at their own pace.
- **Operational efficiency:** AI tools are being used to eke out operational efficiency across campus — in areas such as admissions, course registration, student housing assignments, IT help desk support, financial aid, and more.
- **Student support and retention:** New tools play a critical role in student health and retention by helping educators and administrators identify students who are at-risk — due to everything from academic struggles to mental health challenges — and offer appropriate interventions.
- **Academic research:** The applications for AI inside research universities are massive: automating data analyses, leveraging predictive modeling, extracting data-driven insights, and detecting research errors and/or fraud.
- **Career preparation and job placement:** AI is used in career tools for tasks like resume building, job matching, mock interviewing, and career advising.



### Capitalizing on the AI moment

AI brings significant challenges as well as disruptive opportunities for higher ed.

The problem of academic and research integrity gets the most attention, but AI presents other substantial challenges for IT — including rising cybersecurity threats, challenges maintaining data privacy, a widening IT skills gap, and runaway budget demands.

At the same time, many believe AI will be a locus of innovation and efficiency for higher education at a moment when institutions need the boost.

Some experts — like Ray Schroeder, senior fellow at UPCEA, the Association for Online and Professional Education — believe universities will soon adopt “synthetic instructors” to help with tasks like tutoring, constructing syllabi, and developing grading rubrics.<sup>8</sup> These can make faculty more efficient while improving student outcomes.

But there is also tremendous opportunity for operational efficiency across the institution, touching nearly every administrative and operational area of modern colleges and universities.

**76%** say the IT team's goals are highly aligned with larger institutional goals.

### Building a collaborative vision for IT

Given these myriad forces, it's critical that IT leadership and university leadership be aligned — sharing the same vision for how technology can shape everything from classroom experience and talent management to organization-wide cost efficiencies.

76% of IT professionals we surveyed say their team's goals are highly aligned with larger institutional goals — though those at private institutions are significantly more likely to report “high alignment” than those at public ones.



“

Technology is at the heart of many exciting new university initiatives. The pressure on IT teams to support all these initiatives is tremendous. Universities must find ways to free up time for IT to weigh all these opportunities and drive the most promising ideas forward. Outsourcing segments of IT’s responsibilities is one important way to unlock time and drive value.”

—Scott Drossos, CEO, Higher Education, Boldyn Networks

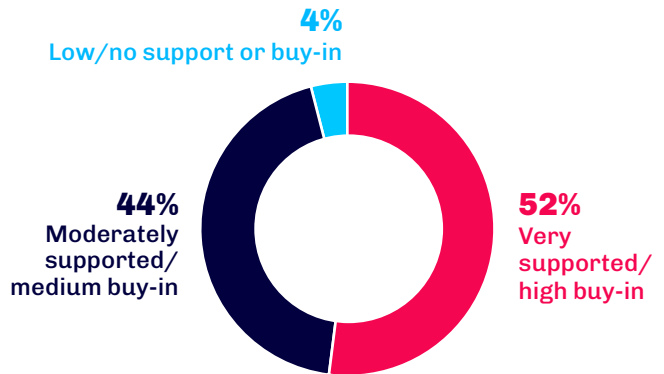


70%

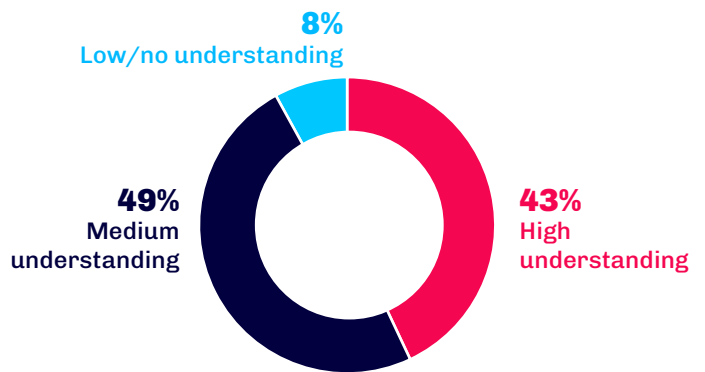
say university leadership views IT as a cost center, not a value center.

FIGURE 6:

Does IT feel supported by your institution’s leadership?



Does your institution’s leadership understand IT’s challenges/hurdles?



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Levels of support and understanding from leadership, however, are lower.

- Just 52% of IT professionals report a high degree of support from college/university leadership.
- Even fewer — 43% — report their leadership has a high level of *understanding* of IT’s challenges/hurdles.
- Less than half (43%) report their college/university leadership is likely to consult with IT leadership for long-range strategic planning.
- Most troubling of all, 70% say university leadership views IT as a cost center, not a value center — an arresting figure considering how important technology will be to university innovation and growth.



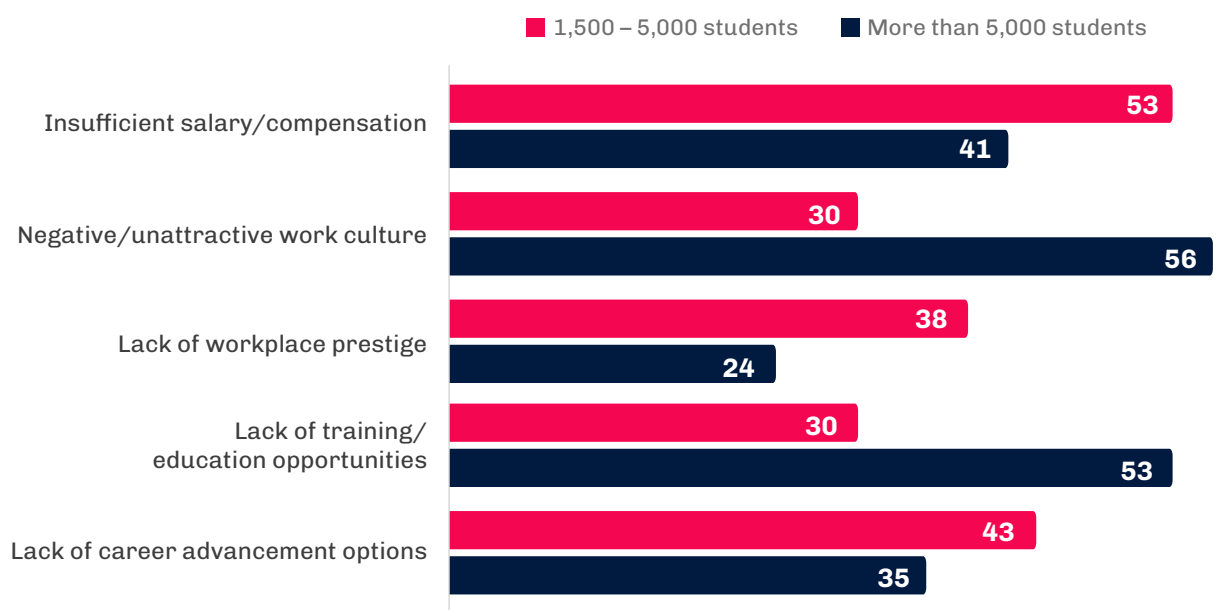
# Staffing challenges and opportunities

Recruiting for roles in cybersecurity, data science, network engineering, and many other IT disciplines is already highly challenging, no matter the industry.

But at higher ed institutions, the challenge is felt much more deeply, since compensation tends to be lower than the industry average (over \$150k per year for roles like IT director or systems security managers across all industries).<sup>9</sup>

- Overall, 21% of higher ed IT professionals report hiring is challenging. For public institutions, the challenge is even greater: 29% report hiring is “very” or “extremely” challenging.
- Insufficient salary/compensation is the biggest barrier to hiring, cited by 48%.

**FIGURE 7: Hiring challenges differ starkly by university size**



Q: What in particular makes hiring challenging? (Shown by university size.) (Shown as %.)

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## IT attitudes about higher ed jobs

83% say they are satisfied in their current role

48% say they are unlikely to leave their current position

Despite all these headwinds, higher education IT does have some advantages in the talent market:

- IT professionals working in higher ed overwhelmingly say they feel satisfied in their roles (83%).
- And few (25%) have plans to leave their current institutions.

But low turnover — usually viewed as an advantage — cuts both ways: It can also lead to complacency.

One IT professional explains, “On the plus side, [colleges have] a generally relaxed culture. The people you work with and support are friendly and it is not nearly as cutthroat as the private sector/business world. But that same relaxed culture can be problematic in some circumstances, such as people not getting stuff done in a timely manner or individual users getting their way because of politics.”<sup>10</sup>

### ■ HOW DO TALENT SHORTAGES AFFECT YOUR TEAM?

“Talent shortages on our team reduce the quality of our team’s products and services. Everyone’s ability and energy are limited. When the workload is too large, it’s difficult to ensure that every job is done meticulously and thoughtfully.”

“Our team is overworked. It’s difficult to prioritize the projects on the docket, never mind work on innovative ideas.”

■ **WHAT'S MOST SATISFYING ABOUT WORKING IN A COLLEGE/ UNIVERSITY SETTING?**

“

Seeing students thrive because of our technology support. Whether it is through the learning platform we develop or the technology equipment we provide, seeing students are able to learn and explore better because of these tools makes me feel very fulfilled. I love the feeling of being able to directly influence their future.”



**Partnerships empower IT to focus on strengths**

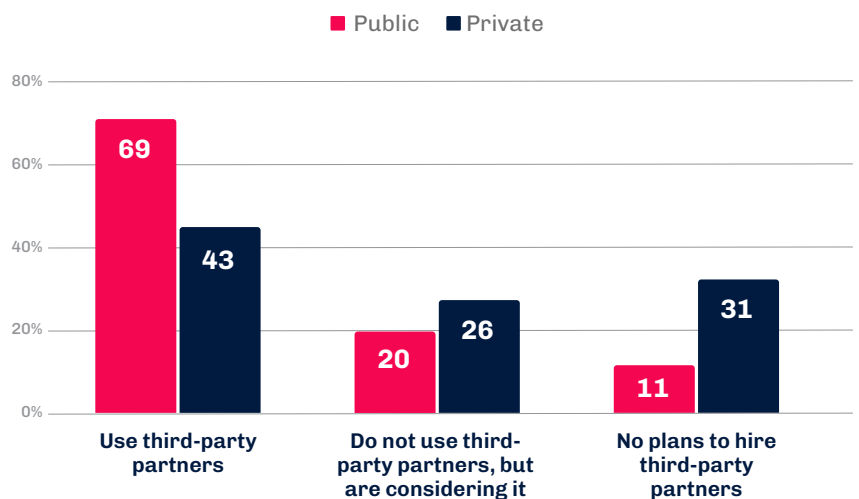
Partnering with a third-party provider is a key strategy for higher ed IT — to close the talent gap and to introduce new skills, workflows, technology, etc.

Over half (51%) currently outsource at least some aspect of IT functions and/or services, and another 24% have plans to do so.

Those who currently do this report that approximately 35% of their IT services are outsourced (compared to managed in-house).

Partnering with a third-party provider also allows IT teams to refocus their efforts on tech-driven innovations and opportunities, unlocking value for the organization — and is just one aspect of driving greater IT efficiency across the organization.

**FIGURE 8: Third-party partners to manage IT functions/ services are more common in public institutions**



Q: Does your organization currently hire any third-party partners to manage IT functions and/or services within your college/university? (Shown by public vs. private institutions.) (Shown as %.)

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## Unlocking value through IT innovation and excellence

### ■ AI-powered optimization

AI tools show promise across a wide range of IT services, including identifying and responding to security threats, analyzing system performance, and helping to allocate resources more effectively.

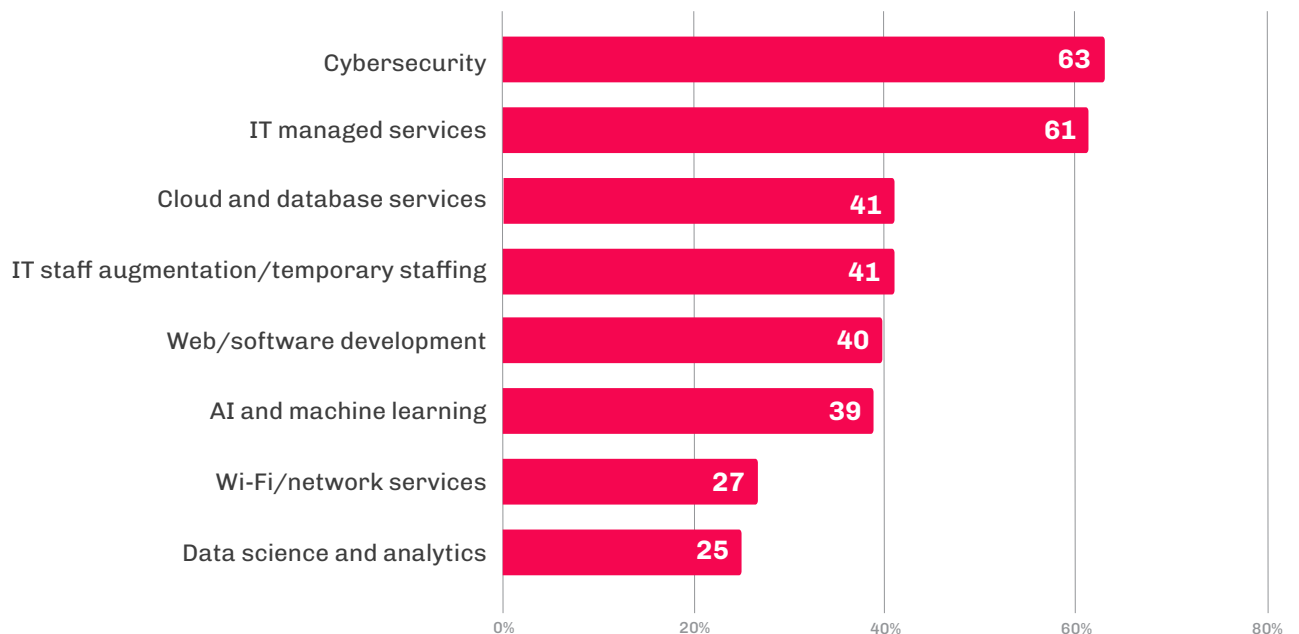
### ■ Automation

IT teams can deploy automations to streamline a wide range of university services, including admissions, enrollment, financial aid processing, and IT support. Done well, these can save money, speed up workflows, and reduce errors.

### ■ Outsourcing

Universities are increasingly outsourcing specific IT services, such as help desk support, network services, and cybersecurity. Outsourcing can simultaneously reduce costs, drive up quality, and manage IT talent shortages.

**FIGURE 9: Third-party partners are used most commonly for cybersecurity and IT managed services**



Q: For which of these IT services does your college/university hire outside partners? (Showing responses for those who use external partners' services.) (Shown as %.)

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# Leading by example: How IT can drive change and innovation

## 1 | Aim for IT operational excellence as “table stakes” for IT innovation.

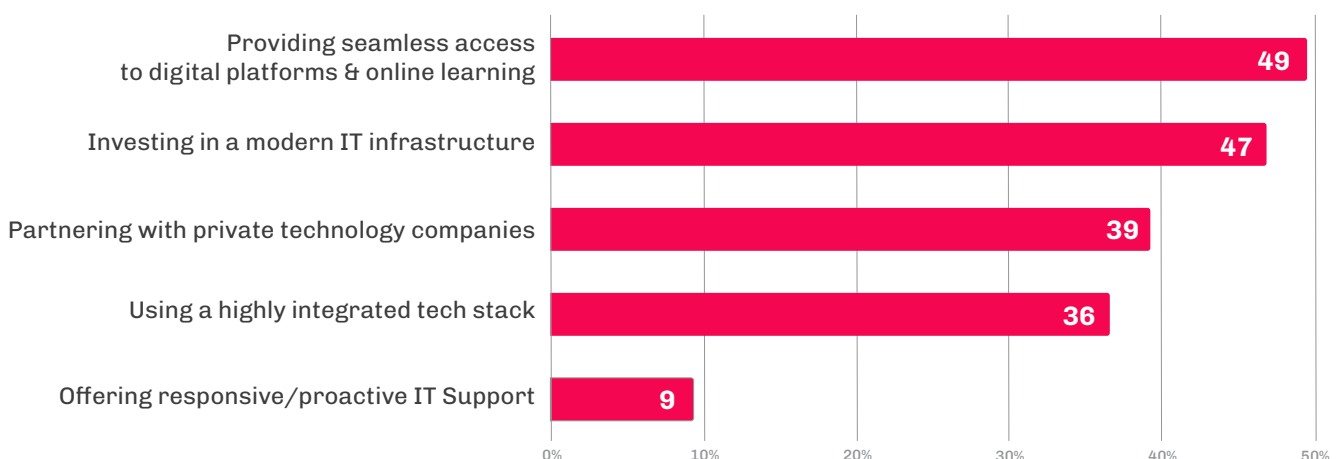
With 64% of colleges and universities experiencing moderate to high financial pressure, it’s absolutely critical to focus on how IT can drive greater operational efficiencies throughout the organization — and that efficiency begins with IT operations.

When we look at IT ops maturity, just 12% of institutions we surveyed have reached the highest level — “quantitative/optimized” (i.e., IT practices are measured, controlled, and part of a continuous improvement process).

A top priority for many institutions (47%) is investing in a modern IT infrastructure, which begins with a thorough technical debt assessment and detailed remediation plan.

Institutions should also consider whether partnering with third-party technology companies can offer additional resources and expertise at a critical moment. 51% of IT professionals we surveyed say that partnering with private tech companies is very important to drive digital innovation in higher education, but just 39% prioritize that today.

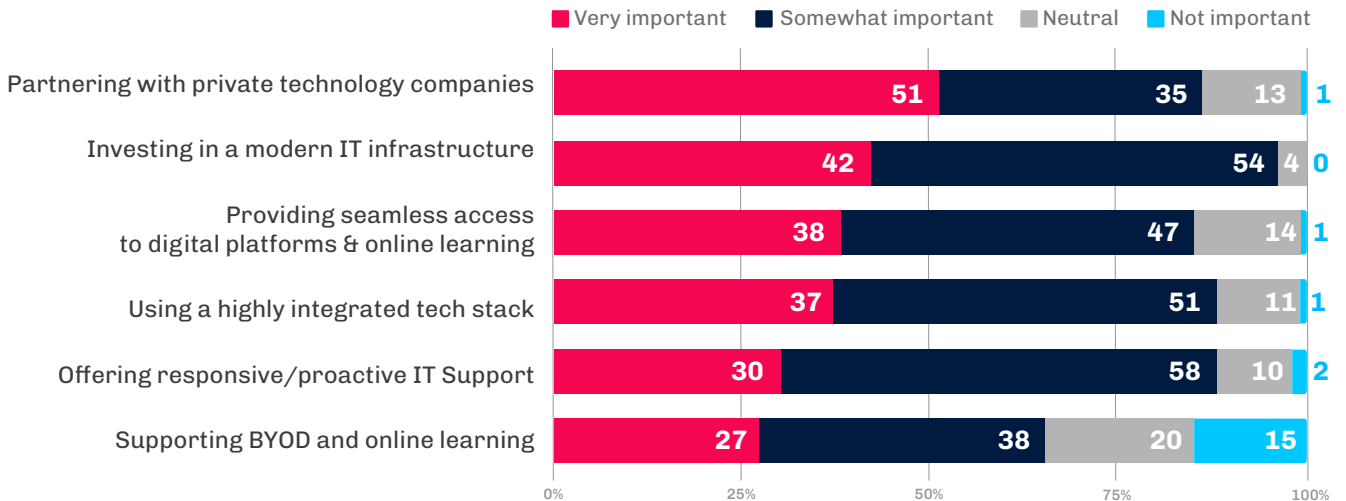
**FIGURE 10: Today’s IT priorities in higher education**



Q: Which of these is a high priority at your college/university? (Shown as %.)

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**FIGURE 11: What drives digital innovation in higher education?**



Q: How important are each of these to digital innovation/transformation in higher education in general? (Shown as %.)

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## 2 | Seek buy-in from influential stakeholders.

Technology is set to disrupt student experience on campus, yet many leaders still don't view IT as a strategic partner in the undertaking.

- 69% of IT professionals say IT is a critical part of student success, but they doubt their institution's leadership sees the issue the same way.
- Just 31% say their university leadership believes IT is critical for student success.

Closing this gap requires a closer working relationship with campus leadership and the ability to prove ROI for highly consequential technology investments. And given the number and significance of IT-driven innovations anticipated in the years ahead, IT leaders must become comfortable in their new roles as change leaders and evangelists.

“ Tech debt is a common problem within higher education institution IT departments, where resources are stretched thin, infrastructure investment is often deprioritized, and patchwork, ad hoc solutions are the norm rather than the exception. The ultimate goal is to continuously monitor and measure the institution's systems and processes to ensure any new technical debt accrues only at a rate that the institution can sustainably manage with its existing staff, budget, infrastructure, and external partners.”

— David Hinson, Campus Chief Information Officer, Higher Education, Boldyn Networks

### 3 | **Make intentional choices about staffing.**

#### **IT professionals who say:**

IT is a critical part of student success



My university leadership believes IT is critical for student success



IT teams must revisit their workforce plans, given the pressing demands on their time. Many universities have survived so far with homegrown IT solutions and bootstrapped budgets, but tech-driven changes in the years ahead won't allow these to continue.

Workforce planning efforts should look at whether hiring external IT services can improve service delivery while freeing up IT staff time to focus on high-value improvements.

- Currently 51% of institutions surveyed hire third-party partners to manage IT functions and/or services, but an additional 24% are considering doing so.

When institutions shift some services to external partners, they can more readily devote time to activities with higher strategic value. IT leaders must ask:

- Does current staffing align with the college/university's strategic priorities?
- Which areas are currently understaffed? What are the consequences of understaffing in terms of service quality, employee satisfaction/retention, security, etc.?
- If we were to outsource any IT activities, what would they be? And how would we redeploy existing staff to more impactful roles?

#### ■ **HOW DOES YOUR IT TEAM DRIVE EDUCATIONAL AND IT INNOVATION?**

“ We provide a wide range of technical training and support programs to help educators make the most of new technologies. These trainings cover a variety of skill levels and topics, from basic IT skills to advanced data analysis and programming.”

“ Making sure our students have the best technology to be set up for academic success AND making sure our faculty have the tools they need to teach and get the best from our students.”



# About the research

Boldyn Networks surveyed 234 IT professionals working in US institutions of higher education in May and June of 2024. Detailed demographic information is shown below.

## SCHOOL TYPE

Public	32%
Private	68%

## ACADEMIC LEVEL

4 or more years	92%
Less than 4 years	8%

## NUMBER OF STUDENTS

Fewer than 1,500	4%
1,500 – 5,000	66%
More than 5,000	30%

## RESIDENTIAL OR COMMUTER

Highly residential	45%
Somewhat residential	50%
Primarily non-residential	4%
No residence halls	0%
Unsure	1%

## ROLE

CIO/CISO/CTO	14%
IT Director	37%
IT Manager	41%
Security Administrator/ Security Operations	2%
System/Network/Security/ IT Engineer	5%
Other	1%

## YEARS OF EXPERIENCE

Less than 5 years	10%
5 – 9 years	51%
10 – 14	27%
15 years or more	12%

## NOTES:

<sup>1</sup> Larkin, M. (2024, January 16). College enrollment could take a big hit in 2025 — here's why. [The Hill](#).

<sup>2</sup> Western Interstate Commission for Higher Education. (2024, February). [Navigating Learning Loss and Changing Demographics in Education](#).

<sup>3</sup> Schwartz, N. (2023, August 1). [Data breaches cost higher education \\$3.7M on average in 2023](#). [Higher Ed Dive](#).

<sup>4</sup> Sophos. (2024). [The State of Ransomware in Education 2024](#).

<sup>5</sup> Reddit. (2019, May 9). [Anyone work in IT in Academia as a Career? r/ITCareerQuestions](#).

<sup>6</sup> Fine, S. (2024, January 31). [Facing the Future: The Urgent Need for Innovation in Higher Education](#). [Harvard Advanced Leadership Initiative](#).

<sup>7</sup> Binkley, C. (2024, February 13). [How AI Has Begun Changing University Roles, Responsibilities](#).

<sup>8</sup> Picciano, A. (2024, July 3). [AI Reshapes Higher Ed and Society at Large by 2035](#). [Inside Higher Ed](#).

<sup>9</sup> Pratt, M. K. (2024, January 2). [The 15 most in-demand tech jobs for 2024 — and how to hire for them](#). [CIO](#).

<sup>10</sup> Reddit. (2019, May 9). [Anyone work in IT in Academia as a Career? r/ITCareerQuestions](#).