AI, Digital Transformation and Online Learning: What Campus Tech Leaders Think

Inside Higher Ed’s 2023 Survey of Campus CTOs/CIOs

An Inside Higher Ed webcast
Nov. 8, 2023, 2 p.m. Eastern
Presenters

Doug Lederman
Editor and co-founder
*Inside Higher Ed*

David Ho
VP, Content Strategy & Innovation + Senior Editor
*Inside Higher Ed*
Methodology

• Questions prepared by *Inside Higher Ed*, in collaboration with Hanover Research.
• Polling conducted in August & September 2023.
• 140 CTOs/CIOs responded.
• Complete anonymity for respondents, but answers coded to allow for breakdown by sector, geography, etc.
Here’s the plan

- Artificial Intelligence
- Cybersecurity
- Online Learning & Infrastructure
- Staffing
- Budgets
- Digital Transformation
Only 16% said investing in AI is a “high” or “essential” priority. More than two-thirds of respondents (69%) called it a “low to medium” priority.
Nearly 4 in 10 CIOs indicate that their institution is in the beginning stages of using generative AI technology for instructional purposes (38%) and simple administrative tasks (37%).

<table>
<thead>
<tr>
<th>Use Case</th>
<th>Does Not Use AI</th>
<th>Considering AI</th>
<th>Using AI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research assistance</td>
<td>26%</td>
<td>34%</td>
<td>38% and 2%</td>
</tr>
<tr>
<td>Instructional purposes (e.g., tutoring)</td>
<td>26%</td>
<td>34%</td>
<td>38% and 2%</td>
</tr>
<tr>
<td>Advanced administrative tasks</td>
<td>25%</td>
<td>46%</td>
<td>28% and 2%</td>
</tr>
<tr>
<td>Simple administrative tasks</td>
<td>21%</td>
<td>41%</td>
<td>37% and 1%</td>
</tr>
</tbody>
</table>

Which of the following best describes your institution’s utilization of large language models and generative AI, such as ChatGPT and Bard, across the following use cases? My institution... (n=123)

- ...does not use any generative AI technology in this area, and is not currently considering using it.
- ...is in the beginning stages of using generative AI in this area.
- ...is in the advanced stages of using generative AI in this area.

Artificial Intelligence
About a third of CIOs and CTOs (36%) say they are very or extremely concerned about AI. Public institutions had slightly more concerns than private institutions—83 percent of CIOs at public institutions had “moderate” to “extreme” concerns. Three-quarters of tech leaders at private institutions said they were moderately, very or extremely concerned.
Artificial Intelligence

• More than 4 of 5 (83%) said they had cybersecurity insurance to help address AI-driven security concerns.

• But few said their institution has teams (10%) or policies (7%) overseeing AI security and ethics.

Which of the following measures has your institution taken to address potential security risks and ethical concerns associated with the use of AI models? Please select all that apply. My institution... (n=122)

- 83% ...has cybersecurity insurance.
- 23% ...requires vendors who provide AI technology and services to have their cybersecurity risk assessed.
- 18% ...requires vendors who provide AI technology and services to have adequate cyber insurance.
- 10% ...has a dedicated team overseeing AI security and ethics.
- 7% ...has a comprehensive policy or policies overseeing AI security and ethics.
- 12% ...has other measures in place to address potential security risks
- 11% None of the above
Cybersecurity

Most CIOs (82%) are moderately to very confident that their institution’s practices can prevent ransomware attacks. This is up from 73% last year.

In fact, fewer than a quarter report being less than “moderately confident.”
Cybersecurity

Within the last 12 months, which of the following has your institution undertaken to improve its cybersecurity practices? Please select all that apply. (n=122)

- Required multi-factor authentication for all employee accounts: 93%
- Updated its software: 92%
- Required cybersecurity training of full-time administrative staff: 83%
- Updated its hardware: 82%
- Required staff members to use a VPN for private connections: 80%
- Required cybersecurity training of full-time faculty members: 77%
- Sent out phishing and spam tests: 69%
- Used a secure file-sharing platform for data encryption: 68%
- Used clustering and load balancing: 57%
- Used RAID (redundant array of independent disks) on its servers: 56%
- Archived all data: 34%
- Employed a "White Hat" hacker: 25%
- Other: 12%

• The most used cybersecurity offerings are multifactor authentication, updating software within the last year and required cybersecurity training for full-time administrative staff.

• Only 34 percent said they had archived all data in the last 12 months and just a quarter of respondents (25%) had employed a “white-hat” hacker to flag vulnerabilities.
More than two-thirds (69%) of CIOs said they had a chief or senior technology officer primarily responsible for overseeing cybersecurity.
Online Learning & Infrastructure

• 83 percent of CIOs said their ability to offer high-quality hybrid courses has increased since the pandemic, with 71 percent agreeing their online offerings have significantly improved.

• That same number (71%) said their institutions will sustain the ability to offer high-quality online courses.
84 percent of CIOs say their institution provides the technical support needed for creating and teaching online courses.
But fewer than half of the institutions (49%) provide additional compensation for the development of online courses.

When it comes to tenure and promotion decisions, only 42 percent of institutions consider experience teaching with technology.

And only four in 10 CIOs (37%) say institutions reward faculty and staff for contributions made to digital pedagogy.
Most CIOs are satisfied with their technology infrastructure.

Nearly every respondent (92%) rated their Wi-Fi and wireless networks as “good” or “excellent.”

Nearly as many (89%) said their learning management system was also “good” or “excellent.”

Much more detail on infrastructure in the full report.
Most CIOs (77%) agree that their institution is struggling to hire new technology employees while fewer (47%) agree that it is struggling to retain its current technology employees.

CIOs in the South (89%) are more likely than those in the Midwest (69%) to agree that their institution is struggling to hire new technology employees, and more respondents in the South (61%) than in the West (33 %) agree that their institution is struggling to retain employees.
Staffing

Which of the following factors do you believe are responsible for your institution’s difficulties retaining or hiring technology employees? 
Please select all that apply. (n=94)

- Better salaries at other organizations: 91%
- More flexible remote work policies at other organizations: 55%
- Limited remote work options at my institution: 45%
- Better benefits at other organizations: 31%
- Lack of recognition/appreciation for the work: 16%
- Lack of work/life balance at my institution: 15%
- Lack of meaningful impact of the work: 3%
- Employees no longer believe my institution is pursuing its mission: 2%
- Other: 13%

Note: Only CIOs who at least “somewhat agree” that their institution is struggling to hire or retain technology employees saw the bottom question.

- Salary is the top concern when it comes to hiring, with 91 percent of CIOs stating it is the No. 1 issue when it comes to recruiting, and keeping, employees.

- More flexible remote work policies at other organizations also make it harder to compete, according to 55 percent of CIOs.
Budgets

- Most CIOs (62%) report their institutions did not cut back on the central IT budget during the 2022–23 year.

- And 47 percent of respondents had a budget between $1 million and $5 million.
About half (49 percent) of respondents said their 2023–24 central IT budget should stay the same as the prior academic year.

23 percent expected their budget to be somewhat higher.

The remaining 23 percent expected it to be somewhat lower.

More on specific investments in the full report.
Digital Transformation

What exactly is Digital Transformation?

• Means many different things to different people and organizations

• **Educause:** “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.”

• **Science and Information Organization:** “Organizational change realized by means of digital technologies and business models with the aim to improve.”
73 percent said they personally believe digital transformation is a “high priority” or “essential” for their institution.
Digital Transformation

• But …
Nearly four in five of respondents (78%) said their institutions are focusing on using digital transformation efforts for student success, citing it as a “high” or “essential” priority.
Digital Transformation

Has your institution set specific goals for digital transformation? (n=127)

- Yes: 40%
- No: 60%

How long will it take to make progress on the most pressing goals? (n=51)

- Less than a year: 8%
- 1 year: 16%
- 2 years: 37%
- 3 years: 24%
- 4 years: 10%
- 5 or more years: 6%

**We know it’s important but …**

- 60 percent CIOs said their institution has not set specific digital transformation goals.

- Of those with goals, most indicate it will take one to three years to make progress on the most pressing ones.
Digital Transformation

- The biggest challenges are resistance among staff and faculty and insufficient financial investment.

What are your institution’s biggest challenges when it comes to achieving its digital goals? Please select all that apply. (n=51)

- Resistance among staff and faculty: 59%
- Insufficient financial investment: 55%
- Lack of centralized coordination: 27%
- Goals that are incomplete or ineffective: 24%
- Lack of senior administrative support: 12%
- Senior administration resistance: 8%
- Other: 14%
- My institution does not face any challenges in completing our digital goals: 2%

Note: Only CIOs whose institution set specific goals for digital transformation saw this question.
Other Findings

• Nearly half (48%) of CIOs agree that senior administrators at their institution treat the central technology unit more like a utility than a strategic partner, a slight decrease from the 52 percent that somewhat or strongly agreed with that sentiment in 2022.

• Nearly two-thirds of CIOs are in the president’s cabinet, similar to 2022, and 94 percent said they expect to remain in the cabinet. Of the CIOs in those positions, 71 percent were added to the cabinet before 2020.

• More CIOs from public institutions (35%) than those from private institutions (12%) indicate that more than 100 employees are managed by their institution’s central IT department.
More on the Survey

• *Inside Higher Ed* [article on the survey](#)

• **Download** the survey report.

• **Contact us:**
  - doug.lederman@insidehighered.com
  - david.ho@insidehighered.com
Thanks to the Sponsors