



Higher Ed Enters a New Phase of AI Adoption

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Introduction

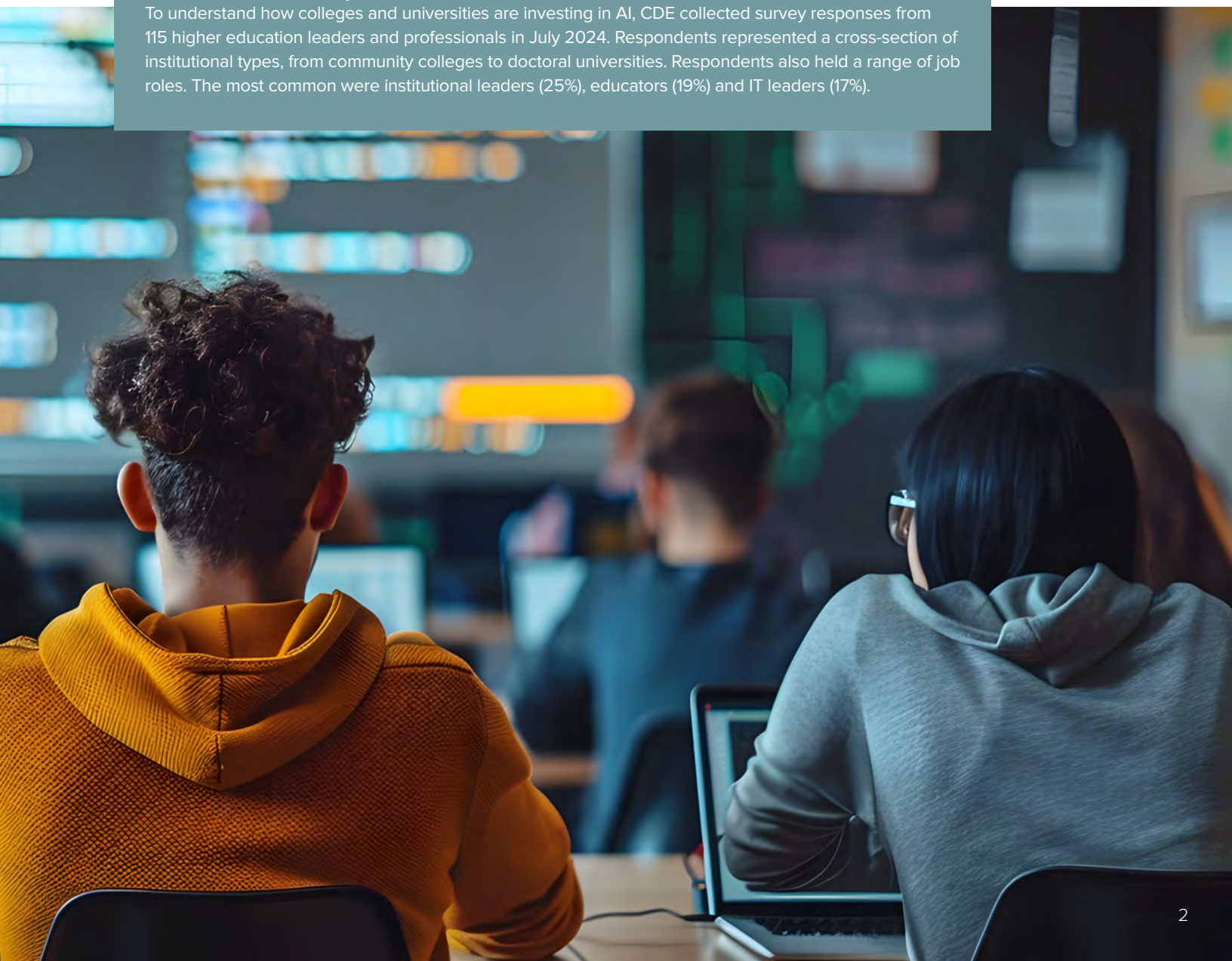
As tools powered by generative artificial intelligence (GenAI) proliferate across higher education, more college and university leaders are thinking systematically about how their institutions will use AI technologies.

Findings from a newly released Center for Digital Education (CDE) survey conducted with Internet2 point to growing maturity around AI adoption in higher education. At the same time, the survey also reveals the need for institutions to build AI capacity among faculty and staff, develop stronger models for strategic planning and budgeting, and strengthen their ability to assess AI tools.

“AI, like the Internet and mobile technology, should not be viewed as a feature or capability,” says CDE Vice President Brian Cohen. “It’s a foundational technology that will transform higher education for many years to come.”

About the Survey

To understand how colleges and universities are investing in AI, CDE collected survey responses from 115 higher education leaders and professionals in July 2024. Respondents represented a cross-section of institutional types, from community colleges to doctoral universities. Respondents also held a range of job roles. The most common were institutional leaders (25%), educators (19%) and IT leaders (17%).

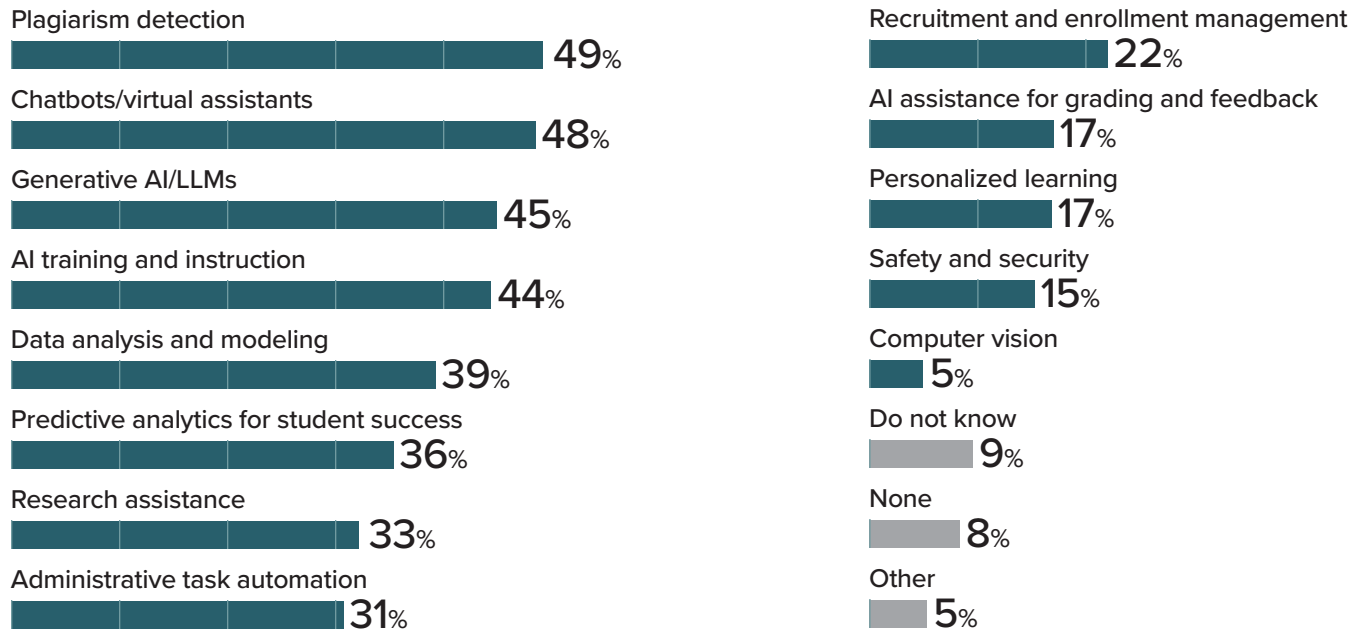


A Growing Divide in Use Cases

Interest in GenAI tools and services is nearly universal in higher education. Only 8% of CDE survey respondents said they have no plans to use the technology over the next year.

Colleges and universities said they already use AI in a variety of ways, with plagiarism detection tools and chatbots/virtual assistants topping the list of most popular applications. Many survey respondents also said they use large language models (LLMs), data analysis and modeling tools, predictive analytics for student success, research assistance tools, and administrative task automation.

AI tools and services institutions have adopted or plan to adopt in the next 12 months



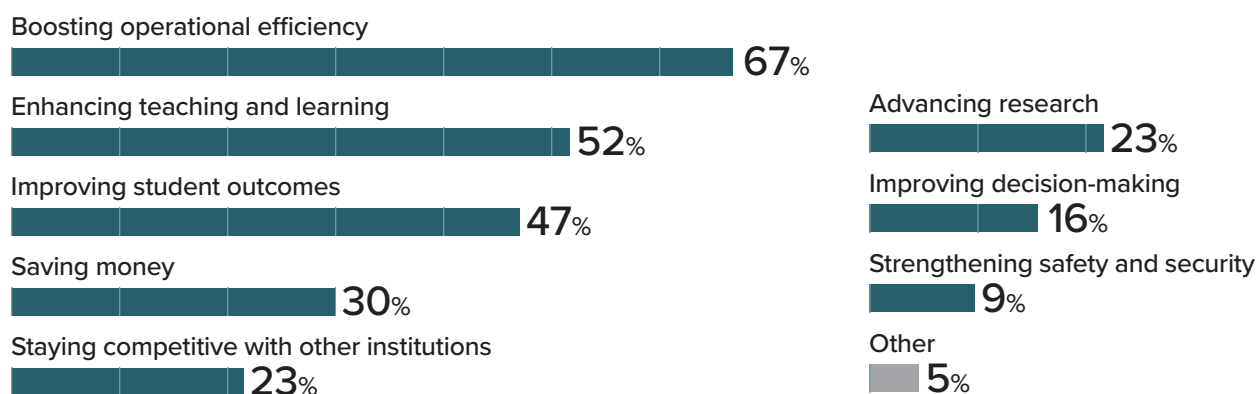
Respondents selected all answers that apply.



Respondents from doctoral institutions were significantly more likely to use GenAI tools and LLMs, as well as data analysis and modeling applications. More than half of respondents from doctoral institutions (57%) said they had adopted those technologies. By contrast, only 37% of respondents from other institutions said they used LLMs, and 27% used data analysis and modeling tools. Doctoral institutions were also nearly three times more likely to say they were interested in using AI to support advanced research.

More than two-thirds (67%) of all respondents cited operational efficiency as a key motivator for adopting AI tools and services. About half of respondents said enhanced teaching and learning and improved student outcomes were key adoption drivers. Significantly fewer respondents were focused on using AI to save money, compete with other institutions, advance research or improve decision-making.

Key drivers for AI adoption at higher education institutions



Respondents selected all answers that apply.

The survey results suggest interest in using AI to improve operational efficiency has grown significantly this year. In an earlier CDE/Internet2 survey of higher education institutions, conducted in March 2024, only about a quarter of respondents (26%) said administrative and operational efficiencies were driving interest in AI. It's also important to recognize that colleges and universities are using AI to improve operational efficiencies within academic and student-facing services, such as chatbots that help students navigate advising services.

Scaling the use of AI chatbots to streamline student services holds great potential, but institutions must first build the capacity to evaluate data sources to avoid errors and hallucinations. "Chatbots are the most common AI early adopter example," Cohen says, "but they rely greatly on the quality of the data the bot will use."

Professional development for faculty is another critical factor as institutions seek to expand their use of AI to support teaching and learning.

"Faculty are still identifying how to best utilize AI in an enhanced manner," says Mike Erickson, Internet2 associate vice president for community engagement. "Although the pandemic accelerated the adoption of hybrid and HyFlex learning technologies, there has historically been a lag in the incorporation of new technologies into that space."

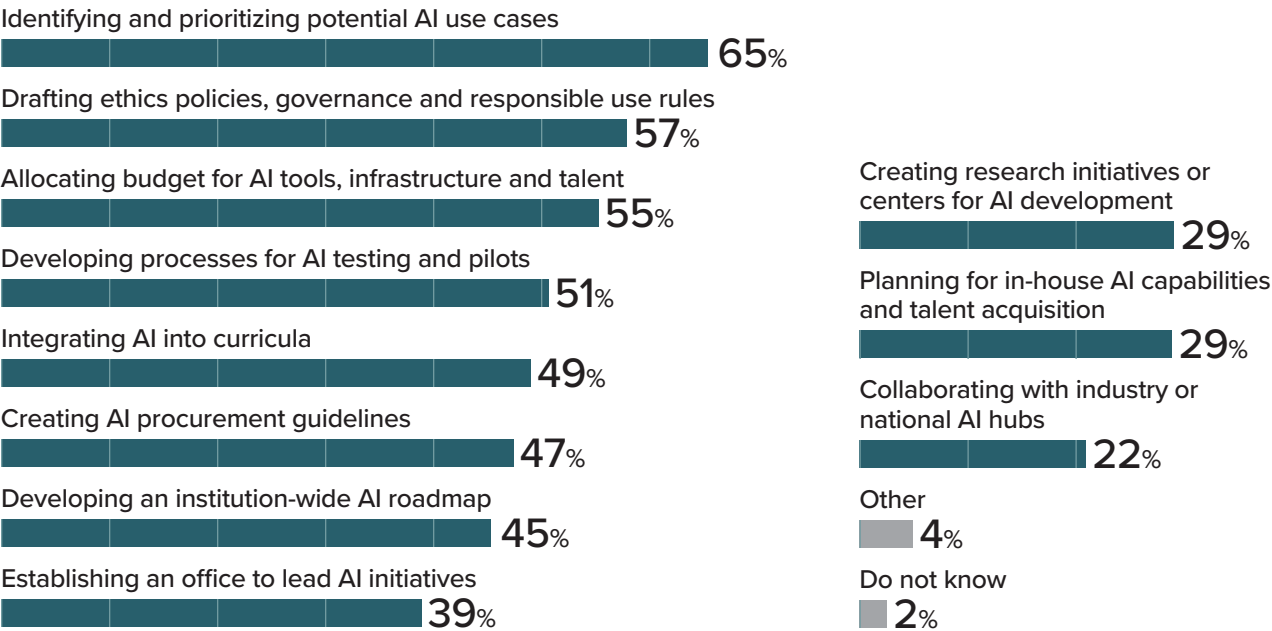
Strategic Planning

Higher education leaders clearly recognize the importance of AI, and the survey shows they're thinking more deliberately about how their institutions will use these tools. More than half of survey respondents in leadership roles (52%) said they consider AI tools and services during strategic planning and budgeting.

Specifically, nearly two-thirds of respondents said identifying and prioritizing potential AI use cases are part of strategic planning and budgeting discussions. More than half said these processes include conversations about AI ethics and governance; budgeting for necessary tools, infrastructure and talent; and developing rules for safely testing and piloting AI projects.

On the other hand, fewer than half of respondents said their institutions are having strategic discussions around integrating AI into curricula, creating AI procurement guidelines and developing institution-wide AI roadmaps — indicating that many institutions may need help building capacity to tackle these key issues.

How institutions are considering AI in strategic planning and budgeting discussions



Respondents selected all answers that apply.

Keys to Capacity Building

These components are essential to building AI capacity among higher education leadership, IT, faculty, researchers and staff:

- A culture that embraces new technologies
- Education and awareness programs on the power and potential of AI
- Professional development and AI training developed in partnership with industry experts
- Policy and guidelines that promote innovation
- Cybersecurity and privacy policies that educate users on how to adopt AI safely and appropriately.

Dollars and Sense

Almost all respondents said their institution had earmarked money for AI technologies. But these dollars often go toward pilots or limited deployments, Cohen says, rather than large-scale implementations.

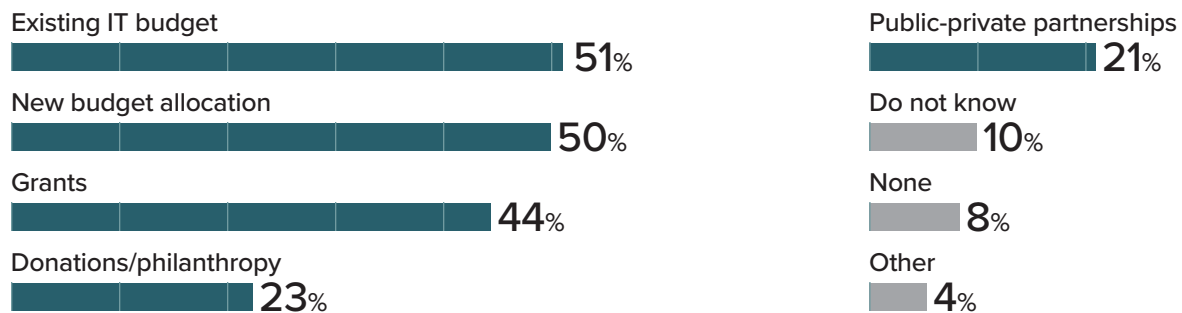
“CIOs and technology leaders are willing to make investments, but the investments will be in the form of proofs of concept and seed funding while the technology develops over the next few years,” Cohen says.

Funding sources for investments in AI mirror those for other emerging technologies. Respondents said a mix of budget areas will fund AI expenditures, including central IT (48%), administration (38%) and individual departments (32%). Public universities are more likely to draw from departmental (44%) and administrative (41%) budgets.

Institutions are also finding ways to fund AI investments outside of their existing IT budgets. Half of respondents say AI adoption will be supported by new budget allocations. Respondents also cited grants, donations and philanthropy, and public-private partnerships as significant funding sources.

Respondents from doctoral institutions were more likely to report grants as a significant funding source at 51%, compared to 38% for other institutions.

Funding sources for AI tools and services

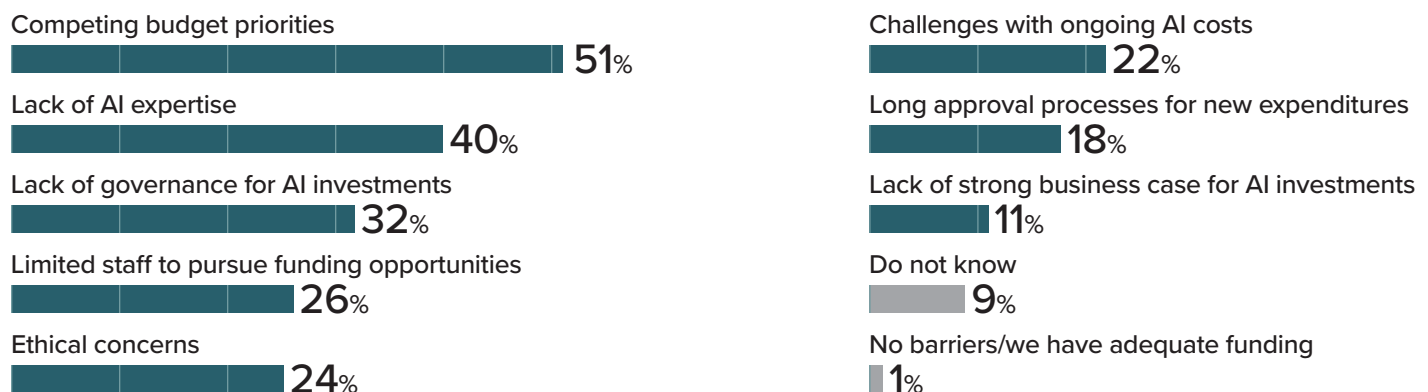


Respondents selected all answers that apply.

Although institutions are directing investments toward AI technologies, they face a range of AI funding challenges. Survey respondents pointed to competing budget priorities and lack of AI expertise as the biggest hurdles. On the other hand, the research indicates it's relatively easy to build a business case for AI investment — only 11% of respondents reported challenges in this area.

Notably, IT leaders were nearly twice as likely as their peers to cite lack of AI governance policies as a barrier to AI investments (47% versus 24%). Institutions will need to raise awareness around this issue to scale and sustain investments in AI.

Biggest barriers for AI funding



Respondents selected all answers that apply.

A Call for Guidance

Higher education is making strides toward adopting AI tools and services across a range of use cases. Equally important, more institutional leaders are integrating AI into high-level strategic planning and budgeting processes, a sign that they recognize the technology's potential to transform teaching, learning, research and operations.

However, the survey findings also reveal capacity-building needs in key areas like faculty training, strategic planning and the creation of governance structures to guide AI investments. Technology partners and AI developers have critical roles to play in providing thought leadership, guidance and collaboration opportunities.

"These partners need to help educate university leaders in the capabilities and AI possibilities their institutions should consider over time," Cohen says. "They are also critical in professional development."

"Institutions need guidance on AI that is specific to higher ed," adds Amber Walters, Internet2's program manager for industry engagement. "By understanding higher education priorities on an institutional level, industry partners can engage with institutions to support specific opportunities for their AI use cases."

Deeper industry partnerships and collaboration will also help institutions focus on the transformational impact AI will have on society.

"The industry is a critical partner in the future of workforce development," says Cohen. "Universities will need help to create AI programs, degrees and curriculum for future generations of learners and workers."



This piece was written and produced by the Center for Digital Education Content Studio, with information and input from Internet2.



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