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How to Scale AI in Higher Education Amid Shrinking Budgets

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Higher education is caught in a resource crunch. Student AI usage has exploded in the last year — putting a strain on campus IT infrastructure — yet the federal government has proposed significant budget cuts for colleges and universities. Institutions must now figure out how to support massive AI demand while working with fewer resources.

The AI challenge has become a central concern for higher education IT leaders, according to Neal Tilley, education advisor for the U.S. public sector at Cisco. Through Cisco's Higher Education Advisory Council, which includes 45 CIOs and technology leaders from major institutions nationwide, Tilley has witnessed the struggle to balance innovation with financial realities.

"We're seeing AI growth interwoven across research, academic and campus areas, which is going to put a significant load on infrastructure," Tilley says. "With many university IT budgets likely decreasing, the challenge becomes clear."

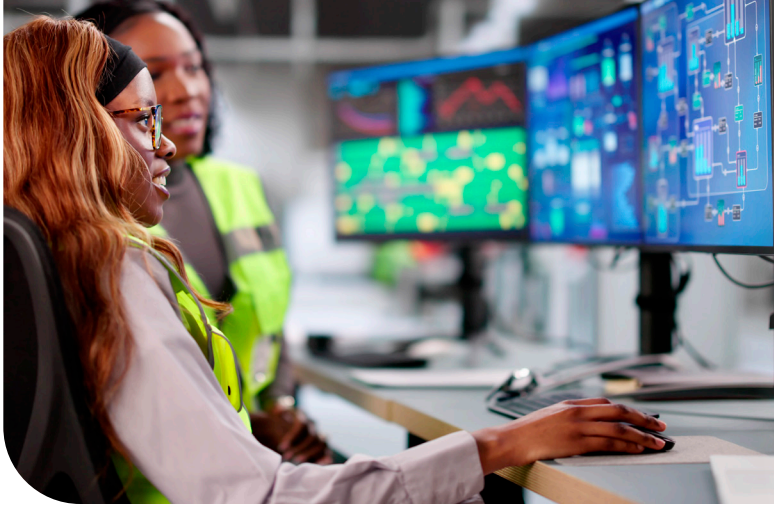
AI's Exponential Growth

The numbers tell a stark story. According to the latest Higher Education Policy Institute survey, 92% of students now use AI tools in some form, a dramatic jump from 66% in 2024.[1]

"The students have no problem using generative AI," Tilley says. "Universities initially tried to control which tools students could use, but that approach failed. So they shifted to providing guidance rather than restrictions."

Students have moved faster than the systems designed to support them. Rapid AI adoption has created what experts call a "new digital divide" between students and institutions that can effectively leverage AI tools and those that cannot.

In this new AI-driven climate, institutional infrastructure, support systems and strategic planning are the differentiators, so budgets have a huge impact.



The Federal Funding Hurdle

While student demand surges, universities face funding challenges. For example, the White House has proposed a 56% budget cut for the National Science Foundation for 2026.[2] This reduction would severely impact research operations nationwide.

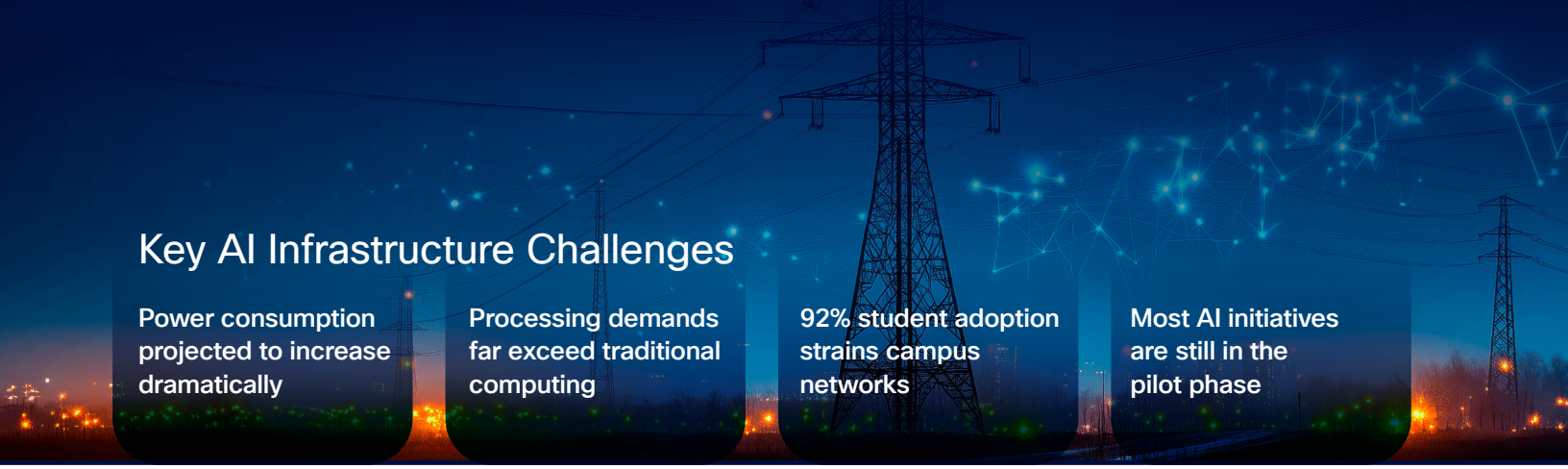
Meanwhile, cuts to biomedical research grants from the National Institutes of Health will significantly impact prestigious research universities as well as other higher education institutions.[3] This money typically supports campus infrastructure, including IT systems. The funding constraints are already affecting how universities approach AI investments.

Without clear federal support, institutions are making fragmented decisions about AI adoption. According to Inside Higher Ed research, only 27% of universities have invested in institution-wide AI licenses.[4] The remaining institutions are taking ad-hoc approaches. This piecemeal strategy prevents strategic planning and makes cost management nearly impossible as AI demands rapidly increase.

The timing couldn't be more difficult. Institutions need strategic investments in infrastructure and planning for AI when resources are most limited. Those who can navigate this challenge will emerge stronger.

A New Infrastructure Approach

AI infrastructure demands far exceed traditional computing requirements. Power consumption grows exponentially as AI usage expands across campus operations. Processing demands are dramatically different, too.



Key AI Infrastructure Challenges

Power consumption projected to increase dramatically

Processing demands far exceed traditional computing

92% student adoption strains campus networks

Most AI initiatives are still in the pilot phase

"A simple Google search returns a list of results," Tilley says. "Generative AI creates comprehensive documents, analyzes multiple data sources and generates detailed responses. This level of processing requires significantly more resources than conventional computing."

With almost all students now using AI tools, campus networks face unprecedented strain. The challenge multiplies when you consider growing faculty adoption and research applications.

Institutions need a new approach to AI infrastructure. Traditional centralized data centers won't work for AI applications. Instead of housing all computing power in a single location, universities must distribute AI systems across multiple locations closer to where students and faculty actually use them.

This distributed approach reduces delays and improves performance while managing costs more effectively. But it requires institutions to rethink how they plan and deploy infrastructure.

Best Practices

Assess current readiness. Conduct comprehensive AI readiness surveys before making investments. AI needs high-quality data to be successful. "We've created AI readiness surveys that look at strategy, infrastructure and data – and then the governance of that data," Tilley says. Understanding your baseline prevents costly missteps.

Prioritize user experience in system design. For instance, one large U.S. university developed an AI mentor system that assists students in planning courses, understanding costs and mapping career paths. Early on, the university recognized that students wouldn't tolerate interface delays when using the platform, so it focused on building systems capable of real-time responses.

Build strategic partnerships. Develop industry collaborations for alternative funding and expertise. Universities are increasingly turning to private sector partnerships that provide both innovation opportunities and funding sources when federal support is limited.

Plan for distributed infrastructure. Design systems that place compute power closer to users rather than centralizing everything. Distributed approaches reduce delays and improve performance while managing costs more effectively.

Preparing for the AI Future

The most forward-thinking institutions view AI as a solution to their resource constraints. AI can automate routine tasks, improve student services and help universities operate more efficiently. "Every interaction matters," Tilley says. "You can't personally answer every phone call, email or chat. But you can now with AI."

Universities must also embrace their role as supply chains for AI-related skills. Students entering the workforce expect AI integration, and employers increasingly demand AI literacy. The situation creates both pressure and opportunity for institutions willing to lead.

For universities committed to investing strategically, the payoff extends far beyond operational efficiency. They're positioning themselves to remain relevant in an AI-transformed higher education landscape. The institutions that act now will be the ones that thrive when resources become available again.

1. https://www.hepi.ac.uk/2025/02/26/student-generative-ai-survey-2025/
2. https://www.insidehighered.com/news/government/science-research-policy/2025/05/05/nsf-halts-new-funding-and-caps-indirect-rate
3. https://undark.org/2025/03/10/nih-funding-cuts-universities/
4. https://www.insidehighered.com/news/tech-innovation/artificial-intelligence/2025/04/21/half-colleges-dont-grant-students-access

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