eBook

Effective Data Management in Higher Ed: Obstacles and Solutions

HelioCAMPUS

Introduction

As colleges and universities increasingly turn to data and, more and more, artificial intelligence, to make key decisions around retention, recruitment, and spending, greater awareness is being paid to data management and governance.

In the industry, "there is a real struggle to connect data sets—across institutions—in meaningful ways," says Pennie Turgeon, VP for IT and CIO at the New York Institute of Technology and former VP of IT and CIO for Clark University. Turgeon champions a more comprehensive approach to data management — one that matters even more now that institutions are layering predictive and generative AI on top of these same systems, which have little tolerance for the data problems that were once merely inconvenient. We sat down with her to learn more about institutional challenges to data management, and best practices for making it all work — the same foundation that now determines whether AI can be trusted to help make those decisions too.

4 Challenges to Effective Institutional Data Management

According to Turgeon, there are four primary challenges holding institutions back from leveraging data as effectively as they should be.

1. **Lag time to gather and "cleanse" data**
2. **Siloed data**
3. **Inconsistent definitions**
4. **Ad hoc data solutions**

1 Lag time to gather and “cleanse” data

In order to make informed decisions and stay agile, institutional leadership needs real-time access to key data points.

“If the university president asks, ‘Where are we with net tuition revenue on the incoming class?’ and it takes three weeks to get the answer,” says Turgeon, “then they’re not able to respond to the situation effectively. Lag time can really hamper institutional decision-making.”

2 Siloed data

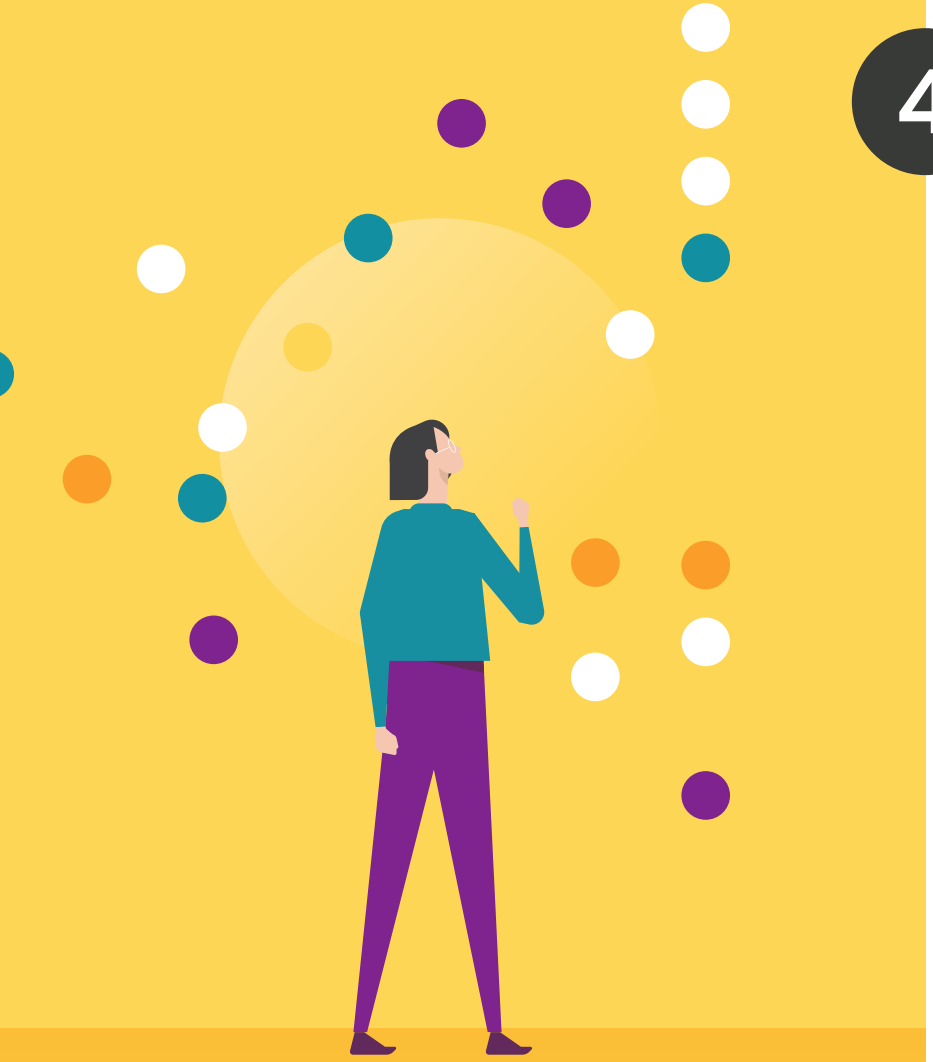
"It's crucial that business units not work in isolation," Turgeon says. "They should think about that data's full life cycle—including where it came from and where it may go next."

While it's natural for individual users and departments to use data to solve their own immediate problems, they need to consider its wider use and the implications across the entire institution. Failure to do so can result in missed opportunities. Worse, business units acting on only on their own siloed data may make decisions that either fail to meet expectations or create poor outcomes.

3 Inconsistent definitions

According to Turgeon, an institution cannot establish good data governance without first having shared definitions and a common language. Too often, those definitions are based solely on an individual business unit's specific goal or objective.

"For example," says Turgeon, "if you try to determine how many active, full-time students you have, you may get many different answers, depending on who you ask, because 'active, full-time student' means different things to different people with different objectives."



4 Ad hoc data solutions

Many institutions fall into the trap of building a data solution—the creation of which consumes a myriad resources and staff hours—to solve a single problem. The problem is that these solutions, while they may be effective for addressing a single issue, are typically not able to address the next issue that comes along without significant effort and work.

For this reason, "your data infrastructure and integrations must be flexible, integrated and built-to-scale from the start," says Turgeon, "rather than built on an as-needed basis, to solve a single problem." Processes, interfaces, extracts, and reporting must be adaptable across the entire institution.

Leveraging Data in Recruiting and Retention

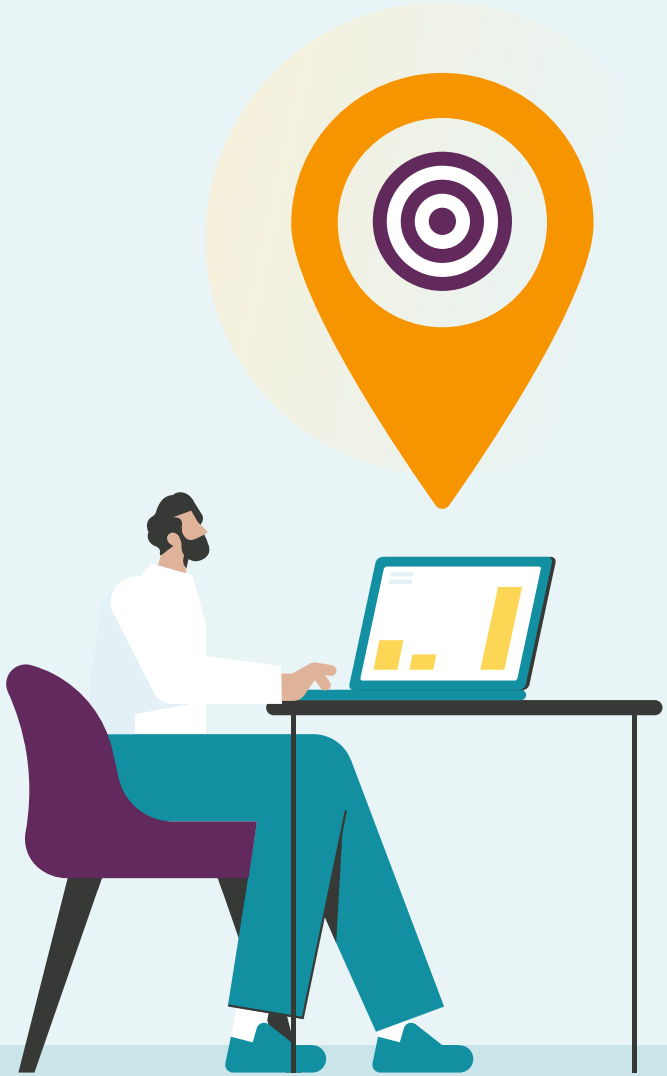
For Turgeon, deploying a unified data platform to serve the institution, with dashboards allowing every decision-maker to instantly access and filter university data, was the answer to the challenges listed above. Why? A single, enterprise-level, data analytics platform that aggregates key data sources from various business units equips university leaders with the tools they need—in real time—to focus recruitment and retention efforts on strategies that lead to successful outcomes. Here are three best practices for leveraging such a platform:

1 Look beyond traditional data points

In order to spend recruitment budgets wisely, institutions need as much information about their ideal prospective student as they can get. "Really, you need to look at the likelihood to yield and retain students before you admit them," says Turgeon. Many universities continue to rely solely on traditional data points such as test scores and GPAs to make admission and aid decisions. While additional "hard" data on prospective students might be hard to come by, institutions will have "softer" data points, and these can prove useful.

"Analyze softer criteria, like how engaged the applicant is with the university, or if they visited the campus prior to being admitted," she suggests. "Even ask questions like, 'Is a campus visit a contributing factor to the student choosing the school? Is it causation or just correlation?"

By examining variables like whether or not students reached out to the institution before they were admitted, or the number of activities a student actively participated in while in high school, it's possible to build out a visualization that includes soft prospecting data to predict what it might mean for yield and retention.



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Start with the end in mind

It's important to understand which data sets are useful and when to look elsewhere for actionable insights. This is particularly true when you're looking at small numbers, Turgeon says, offering an example:

"If you have a small annual class size of 600 students, and you want to understand the even smaller number of those students that don't persist, it's hard to draw meaningful conclusions from such a small sample size." She suggests, instead, looking at the larger number—the 85 or 90 percent that you are retaining. "Once you have current and prospecting data sets tied together, you'll have a more comprehensive picture of what a 'successful student' looks like prior to admission."

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Focus on Actionable Data

Data is only valuable if it's actionable. In other words, the above best practices will not have an impact unless your institution acts on them. For Turgeon, this is where the rubber hits the road. Universities must have confidence in the data they have so they can develop action plans that directly impact retention and drive student success.

"Once the students are on campus, universities must focus limited resources on those programs and initiatives that help all students thrive, including proactive intervention," she says. "When university leadership is confident in their data, they can make better programmatic decisions that help all students succeed."

Lessons Learned

When asked what advice she would share with institutions looking to implement an analytics solution, Turgeon says, "Implement good change-management practices. You need to democratize the data; make sure it's accessible, but still secure; and empower people to understand and use their own data." This also includes retraining staff to think in new ways. "There is definitely a data fluency component—you can't just build all this and put it in their hands without providing guidance and training."

To make all of this happen, Turgeon says, it's key to find an external partner you can trust.

"The right partner can be a real catalyst to accelerate your work with data governance and data fluency," she says.

This is crucial to getting your entire institution on the same page, with a single version of the truth and a shared vision of the importance of data-driven decision making.

The Stakes Are Higher in the Age of AI

Everything described — real-time access, breaking down silos, shared definitions, scalable infrastructure — was true before generative AI arrived on campus. It is essential now. AI-powered decision support is only as reliable as the data foundation underneath it: a governed model where a term like "active, full-time student" means one thing, not five. Institutions racing to adopt AI without first solving for lag time, siloed data, inconsistent definitions, and ad hoc solutions risk building fast, confident-sounding answers on an unstable foundation — the kind of wrong answer that is harder to catch precisely because it arrives with the authority of AI behind it.

The institutions that get the most out of AI won't be the ones that adopt it first. They'll be the ones that treat data governance as a prerequisite, not an afterthought — bridging admissions, enrollment, student success, academic, and financial data into a single, trusted view that both people and AI can reason over.

Turgeon's advice holds, and it matters more now than ever: Find the right partner, build a data foundation that can scale, and get your institution speaking the same data language before you ask AI to speak for you.

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