

DASHBOARDS FOR HIGHER EDUCATION LEADERS CAN OPTIMIZE DECISION SUPPORT

By Gregory Bedell

Transforming an institution's data repository into an integrated, holistic dashboard unites a campus and advances opportunities for change.

The need for rapid decision making in higher education has increased in urgency. An evolving pandemic landscape thrust institutional leaders into making strategic, real-time decisions that have affected every corner of the campus. It has become abundantly clear how siloed data sources can hinder an institution's ability to respond nimbly, much less model how changes in one area could lead to ripple effects across the institution.

For many college and university leaders, having access to data is not necessarily the issue. Rather, the persistent challenge is turning that data into useful information and making strategic sense. Current analytics capability at many colleges and universities was not typically designed to provide the operational and strategic viewpoints needed; rather, capabilities tend to be more limited in scope and offer a narrow view of a slice of the university. This causes leaders to lack centralized access to the holistic data needed to support decision making. University and college executives could instead benefit from an integrated dashboard to enable them to monitor key performance indicators, thus affording comprehensive views of institutional health to make informed decisions.

The Case for an Integrated Data Dashboard

Specific university functions and departments often utilize their own specialized systems or series of spreadsheets for managing information and reporting important perspectives about operational performance. Admissions may use a customer relationship management (CRM) solution for measuring student engagement and enrollments. Faculty and information technology (IT) may use a learning management system (LMS) to follow student persistence and student progress within coursework. And administrative departments may use a human capital management (HCM) solution to track staff information such as payroll, training and compensation.

Although these solutions deliver valuable analytics relevant to their specific function, they do not roll up into a master source, such as a data lake (a repository of raw data), that would enable administrators to leverage data in the aggregate. Data points alone do not reveal critical relationships and/or how decisions may ripple across the organization. Viewed in isolation, a decision in one department may offer immediate cost savings but result in longer-term adverse impacts to another. For example, a shift in an institution's research portfolio may affect where

admissions counselors recruit their “best-fit” students, the composition of the academic portfolio, and the skill set required of its faculty. Thus, containing operational costs quickly while preserving the institution’s strategic mission requires both micro and macro views of the campus.

Siloes have made it challenging for institutional leaders and boards to model near- and long-term scenarios in response to uncertainties such as COVID-19. Metrics of past performance may or may not be relevant to projecting how the university should respond to unprecedented circumstances, such as completely empty dorms, fully online programs or social distancing mandates. Even before COVID-19, financial resources were increasingly scarce in most university environments and now will be even further constrained. Data-driven insights about operations are critical to strong performance and only heighten in their importance within a financially constrained environment.

When it comes to modeling forward-looking scenarios beyond near-term revenue impacts (driven by tuition dollars), most universities tend to focus on historical data and trending: period over period, year over year. These lagging indicators, which we might call “taillight” data, can certainly be instructive at the department level. Integrating multiple discrete pieces of the campus mosaic into a top-level view of the institution, however, can be time-consuming. Producing timely, aggregated reports to governing bodies, such as boards or legislatures, can consume inordinate amounts of effort yet still may fall short of providing the comprehensive insights needed.

Similarly, institutions often struggle with getting the right data to the right people for day-to-day decisions as well. Challenges abound with providing faculty, department chairs, deans and administrative units with useful information that could inform ways to maximize academic quality and enrollments: Which programs are most cost-effective? How many students does the program need to break even? Which ones generate the most return on investment? It is especially helpful to be able to break down such data in order to achieve timely decisions.

The Hierarchy of Data

Having a framework for understanding the hierarchy of data can help institutions work toward developing an integrated dashboard. At the base of figure 1 are transactional systems, such as financial, procurement, grants management, human capital management, customer relationship management, research administration and others. These systems are often rolled up into process layers and grouped by domains such as operations, students and research. The primary purpose of analytics at these levels is to drive operational efficiency and effectiveness. While valuable for near-term decision making within a given department, these vertical siloes do not offer the transparency required to identify critical cause-and-effect relationships horizontally across the institution.



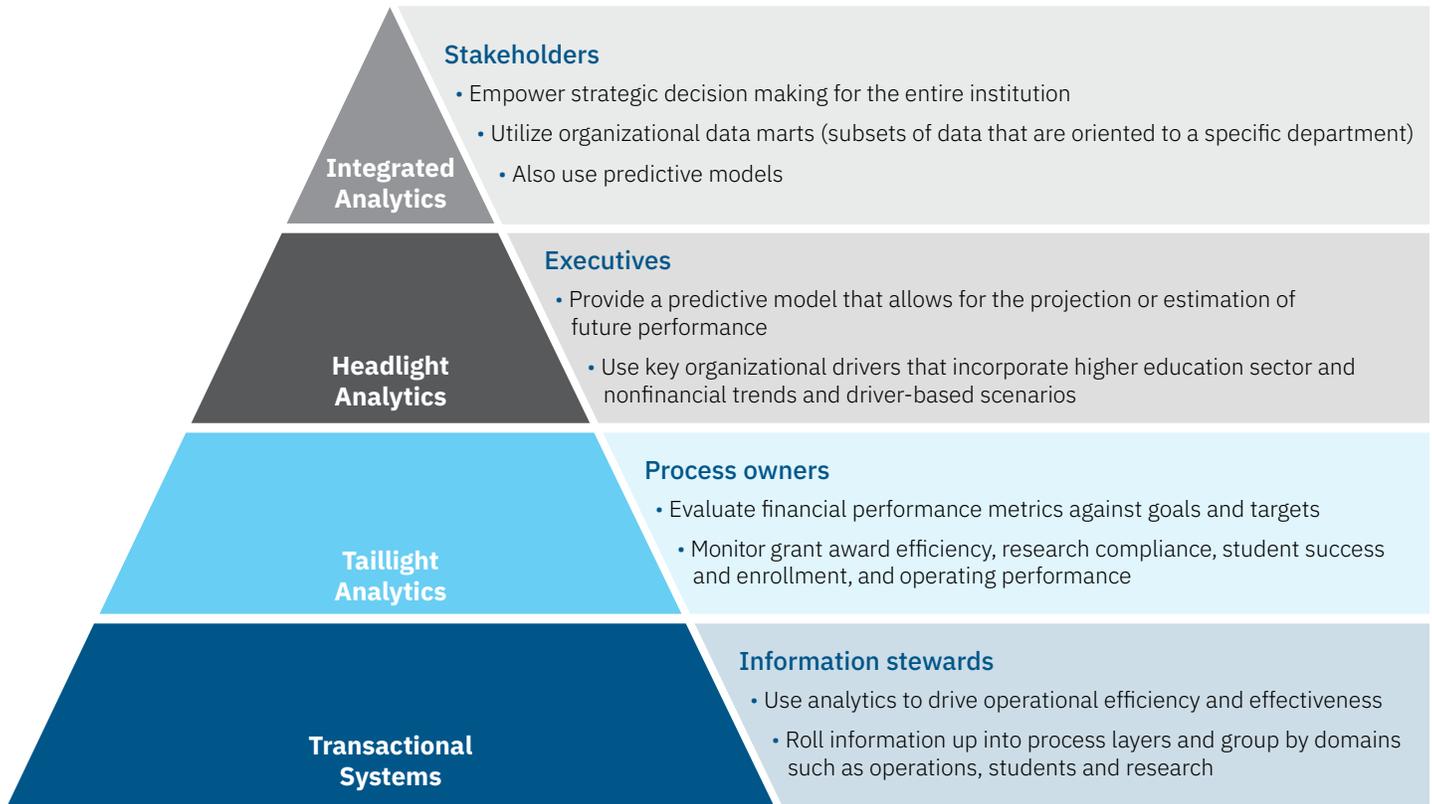


Figure 1. Hierarchy of data framework

Within the middle layers lie “taillight analytics” and “headlight analytics.” Taillight analytics enable leaders to evaluate financial performance metrics against goals and targets. These metrics might include grant award efficiency, research compliance, operating performance and student success. “Headlight analytics” provide a predictive model that allows for the projection or estimation of future performance based on key organizational drivers. These analytics include higher education sector and nonfinancial trends and driver-based scenarios.

Finally, at the top is integrated analytics. This level utilizes organizational data marts (subsets of data that are oriented to a specific department) and predictive models to empower strategic decision making for the institution as a whole. Using the pandemic as an example, leaders with an integrated view of their institutions would have

been able to more quickly and accurately model COVID-19-related scenarios such as the long-term effects that cutting certain academic resources or courses might have down the road on other areas of the campus.

Benefits of an Integrated Dashboard for Specific Stakeholders

An integrated dashboard would enable leaders to track performance not just at snapshots in time but on an ongoing basis. It can provide them with a critical tool for keeping governing boards informed. A holistic view also enables data-driven insights that benefit stakeholders across the institution:

- **Presidents** gain predictive insights into mission priorities, creating much-needed clarity for strategic partnering, funding opportunities and cross-institutional collaboration.
- **Provosts** obtain operational insights related to budgeting, research awards and expenditures, faculty productivity, at-risk students, academic portfolio mix analysis and associated costs/capacity.
- **Chief financial officers** navigate costs with myriad data to guide real-time and future financial decisions.
- **Deans** view insights into the academic mix, faculty effort/capacity and potential cost savings within departments.
- **Vice presidents of research administration** access research funding dashboards and grant revenue forecasting, leading to strategic and operational benefits and a more tightly managed research organization.

With this integrated pyramid approach to dashboard analytics, stakeholders are able to “zoom in” on data specific to their department, and institutional leaders can “zoom out” to assess data overall. It also enables them to overlay other outside data points such as demographic data, higher education trends and more. This macro view can shape mission-critical strategies such as where to focus recruitment efforts, opportunities for research growth, future academic offerings, etc.

While there is no crystal ball, an integrated dashboard of analytics does offer administrators significantly improved access to how their institution is performing holistically. It also enables them to model future scenarios that factor in long-term, campuswide impacts. While the first wave of COVID-19-related effects on higher education is in the rearview mirror, colleges and universities are by no means out of the woods, and other challenges will be on the horizon. Therefore, leaders should begin laying the groundwork today for organizing and leveraging data in a way that helps them govern more strategically.

Key Takeaways

To capitalize on data repositories at colleges and universities, leaders must:

Think differently.

The first step toward integrating data and cultivating insights is to get a feel for how you can use the data to build better solutions that impact the entire institution. How do changes to one area of an institution affect another? An integrated data dashboard can help leaders see how decisions can impact areas they might not have realized are interactively affected.

Plan differently.

When deciding how to create a comprehensive dashboard, consider the myriad uses of data and how they can empower and drive decisions. What data will academic leaders need access to as relevant information for decision making? What data will the board have access to? These questions can help align data to strategic decision making by giving groups access to the information that will serve them best.

Act differently.

Even with existing dashboards that highlight specific insights, a wealth of uncategorized data at an institution is often overlooked. Effective deployment of data is a critical tool for leaders, and the capacity to gather institutional data requires a nimble structure to meet future needs. Decision makers also need to focus on qualitative and external measures when evaluating different options for institutional impacts. Monitoring a full range of key performance indicators and making decisions based on a holistic view can contribute to institutional health.



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