

# Use Data to Advance Institutional Performance

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# Facing Increasing Demands for Accountability

Today's institutions of higher education are under great pressure as they strive to achieve their goals while facing serious resource constraints, rising expectations, and rapidly increasing external demands for accountability and transparency from multiple directions.

Government, other funding agencies, and taxpayers want to see a measurable return on their investment. They are increasingly attaching specific performance requirements to funding for higher education and allocating funding based on performance-based models. Millions of dollars are at stake, and the threat of losing significant funding is real. Institutions, and the leaders who are accountable for the institution's results, must meet those requirements or lose the essential funding that enables them to extend and differentiate their educational services.

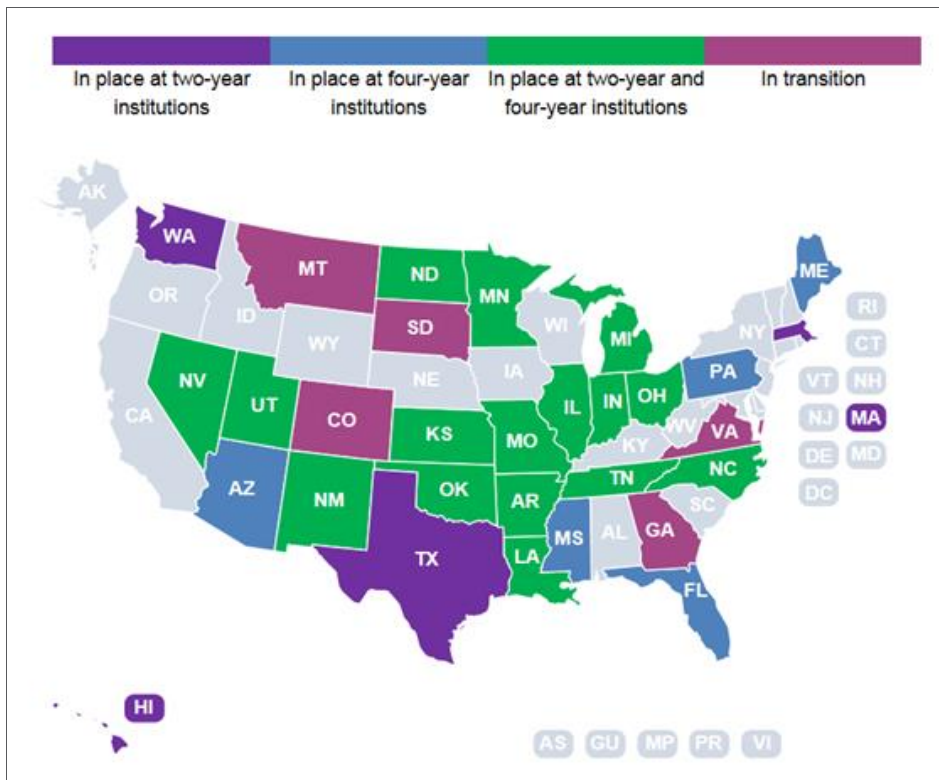
In the U.S., for example, Arizona allocated \$5 million each year for fiscal years 2013 and 2014 based on performance criteria, but beginning in 2014, **all allocation** above the base funding amount will be allocated according to the performance-based funding formula developed by the Board of Regents. Beginning in fiscal year 2017, Georgia will allocate **all new appropriations based on institutional performance**.<sup>1</sup>

Currently, 25 U.S. states tie funding for colleges and institutions to performance-based metrics such as course completion, time to degree, transfer rates, number of degrees awarded, and number of low income and minority graduates.<sup>2</sup> Five more states are in transition, meaning that performance-based funding is being worked out by the state legislature or governing boards.

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<sup>1</sup> The National Conference of State Legislatures, [www.ncsl.org/research/education/performance-funding.aspx](http://www.ncsl.org/research/education/performance-funding.aspx)

<sup>2</sup> Ibid.



*A majority of states are tying funding to performance.*

Institutional performance is also being scrutinized by students and parents, who want to know that they are getting value for their investment. As tuition costs have skyrocketed (by nearly 80% over the last decade, far outpacing the cost of housing, food, and medical care),<sup>3</sup> students and parents are increasingly concerned about getting the best value for their money, and they want information that documents the worth of institutions and programs. Institutions are being asked to provide quantitative information that helps parents and students compare programs and institutions.

## Developing a Performance-Driven Culture

Institutions typically collect a broad range of data, but collecting data is just the start. Too often data is held in departmental or functional silos, preventing it from being available for meaningful analysis by users across the institution. Gaining understanding of how departments across the institution are performing is time-consuming and difficult. Data must be pulled from multiple sources (silos), and this may even involve manual processes.

<sup>3</sup> [U.S. News & World Report, October 2013.](#)

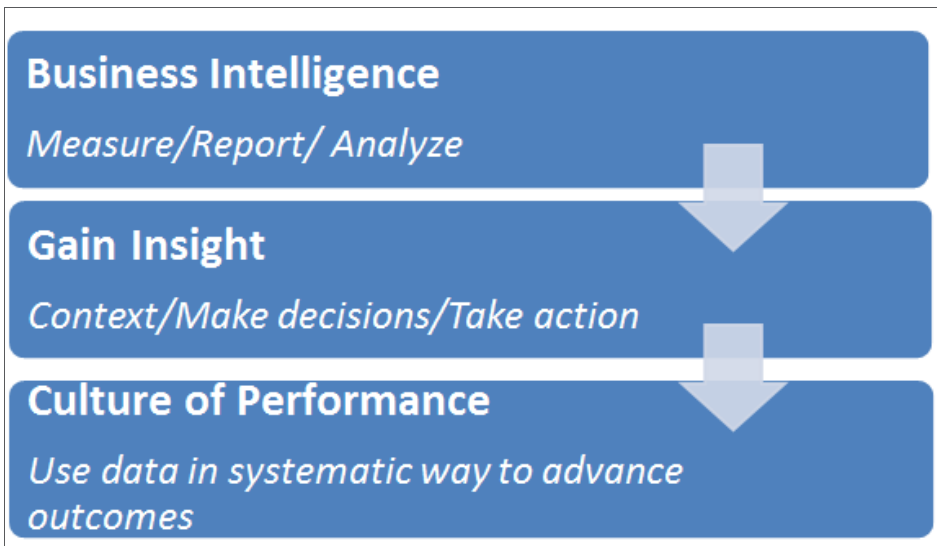
It is difficult to see patterns or trends, or to gain insight, without access to current and comprehensive data as well as the tools that can easily manage and analyze the data. Without such access and tools, there may be endless debate over what is the “right” data to measure, analyze, or retain. In addition, strategic plans may span several years, and remembering why or even what was decided at certain points along the way can be difficult or impossible. Valuable institutional memory is lost.

*Institutions that have good data that's not used have no advantage over institutions that have no data.*

Without insight that comes from data analysis, it is difficult for institution leaders, faculty, and staff to make sound strategic decisions. Without an integrated solution that ties all of the institution's data together, it is difficult or even impossible for stakeholders to answer these fundamental questions of performance-based management:

- How do we know we're achieving (or missing) our goals?
- How can we measure performance against strategic plans?
- How can we demonstrate improvement?
- How do we meet external demands for accountability and transparency?

A performance-driven culture requires three things: A way to collect, report, and analyze data; a way to develop data-based insight that drives decisions and actions; and a way to use data systematically to advance outcomes that align with the institution's objectives.



*Collecting, measuring, analyzing, developing insight, and acting are key components of a performance-based culture.*

## Using Business Intelligence

Business intelligence (BI) is the infrastructure (aggregation, storage, analysis, and reporting) that provides the essential information decision makers need to make insightful, data-informed decisions. Business intelligence:

- Delivers analytic efficiency and insight.
- Enables institution leaders, faculty, and staff to take thoughtful, informed action by providing the information they need to make decisions based on comprehensive, accurate, and current data.
- Can help focus action on the highest-ranked performance goals.
- Can support accountability and transparency.

For example, BI can help institution leaders, faculty, and staff:

- **Meet enrollment goals** by analyzing recruiting and retention data, grade and graduation trends, various tuition programs, and more.
- **Maximize funding** by more quickly and confidently responding to governmental and other funding agency requests, complying with accreditation requirements, and tracking key donors.
- **Increase student performance** by providing clear information about student performance (for individuals and groups) that faculty can use in quickly adjusting their instruction in ways that can help students succeed.

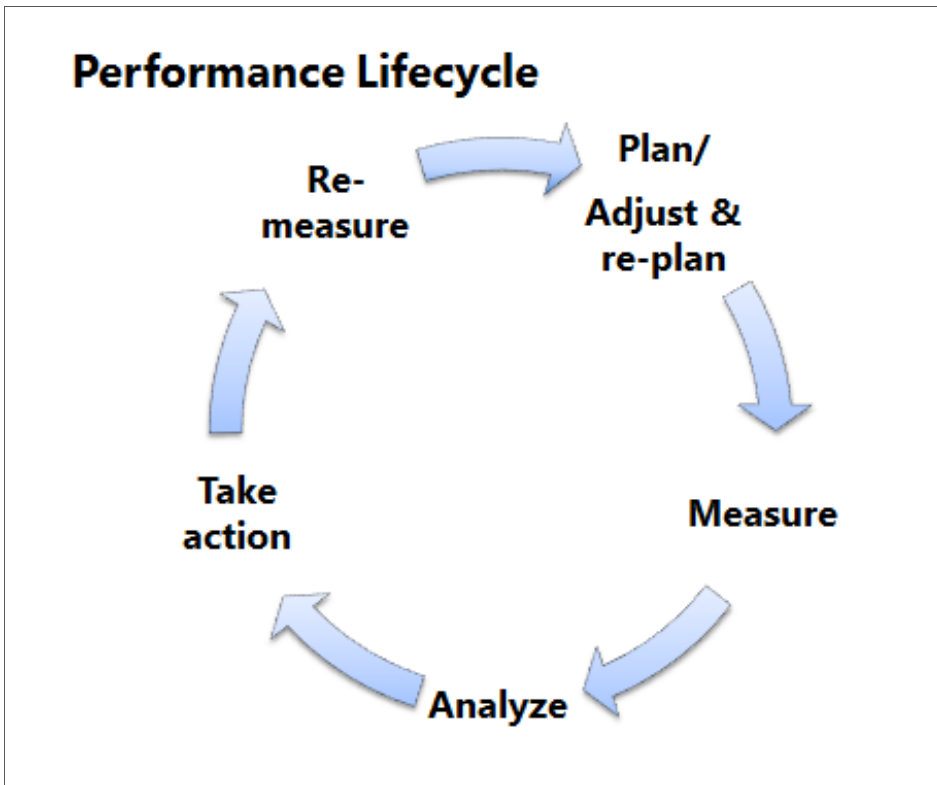
## Gaining Insight

Given the pressures and challenges and the growing emphasis on performance-based funding and accountability, it is crucial that institution leaders have a way to gain visibility into all major areas of institutional data that show the efforts, activities, and results that support the institution's strategic plans.

Insight is gained by analyzing key data, reflecting, making decisions, and acting. With data, people at every level can see the impact of their actions measured against strategic objectives and desired outcomes. Key performance indicators (KPIs) that measure current and ongoing performance enable everyone to align their day-to-day activities with strategic objectives and make decisions based on data-based insight.

## An Ongoing Culture of Performance

A performance-driven culture develops when performance management is seen as a dynamic ongoing process rather than as an annual administrative exercise. This requires alignment on similar language and goals, and real collaboration at every level. Often, people do not know how to contribute in effective ways, and this hinders performance. When individuals can see the impact of their actions, they can contribute in meaningful ways that can be measured and shown to be effective. Transparency and accountability can lead to valuable results as institution leaders, faculty, and staff collect and analyze data, derive insights, and act. They can measure their actions against objectives, and then adjust or change their actions and re-measure. The cycle of improvement is iterative and ongoing.



*The performance lifecycle is iterative and ongoing.*

## Improving Performance and Competitiveness

To support performance-based accountability, institution leaders need:

- An enterprise-class data infrastructure that connects the many silos of information that exist across the institution.
- Tools that enable transparency and accountability, and that help stakeholders at every level gain insight.
- An integrated solution that supports data-driven decision making.

### **Microsoft Business Intelligence for Higher Education**

Microsoft business intelligence for higher education tools put powerful BI into the hands of administrators, faculty, and staff across the institution. Using already familiar tools from Microsoft—Office 365, SharePoint, SQL Server, and more—institutions gain self-service BI that enables stakeholders at all levels to make data-driven decisions that can improve performance and competitiveness, and that helps document improvement for funding and accreditation sources.

Many of these business intelligence tools are based on already familiar Microsoft Excel, helping institutions avoid the time and expense of using specialized data reporting or analysis tools that require special training to understand.

For example, **Power BI for Office 365** provides self-service data analysis, enabling users to find, connect to, explore, compile, and analyze data from public and private sources, preview data, input it into Excel, create data and visual models, and more. **Microsoft Power Query for Excel** helps users discover, combine, and refine data from a wide variety of sources, including public data from sources such as Wikipedia tables, a subset of Microsoft Azure Marketplace, and a subset of Data.gov, and they can search and share and manage queries at multiple organizational levels. Users can merge and shape data sources to match their data analysis requirements or prepare data for further analysis and modeling with tools such as **Power Pivot**, which helps users access and analyze data from virtually any source, including big data, and **Power View**, an interactive browser-based data exploration, visualization, and presentation experience. **Microsoft Azure HDInsight** helps users create visualizations of big data.

To view the powerful visualization and analysis capabilities of Power Pivot, Power Query, Power View, and Microsoft Azure HDInsight, review these demonstrations:

[Power BI: Pivot](#)

[Power BI: Query](#)

[Power BI: View](#)

These are some of the many data sources that work with **Power Query for Excel**:

Web pages	Microsoft Azure Table Storage	Sybase databases
Excel or CSV files	Active Directory	Teradata databases
XML files	Microsoft Exchange	SharePoint List
Text files	Oracle databases	OData feed
SQL Server databases	Facebook	Microsoft Azure Marketplace
Microsoft Azure SQL databases	IBM DB2 databases	Hadoop File (HDFS)
Microsoft Access databases	MySQL databases	
Microsoft Azure HDInsight	PostgreSQL databases	

**Microsoft SQL Server Business Intelligence** delivers a comprehensive platform that enables institutions to build and display secure, scalable, manageable BI solutions, and to create visualizations with **Power View** and **Power Pivot**. **SQL Server Business Intelligence** starts with core database features and adds high-performance analytics, high availability, and powerful data management, plus employs user-defined role-based access that keeps data secure.

**Microsoft SharePoint Server 2013**, as the platform for BI, provides powerful unified capabilities that help stakeholders align their efforts to achieve the goals set forth in the institution's strategic plan. **Excel Services for SharePoint** enable always up-to-date dashboards, scorecards, and reporting across teams, departments, or the institution as a whole. **Visio Services for SharePoint** present Visio diagrams that can be viewed in a browser window (without Visio installed) and that can be refreshed to ensure that the diagram is using up-to-date data. **SharePoint** also provides BI governance, establishing guidelines for architecture, procedures, and best practices to ensure that data integrity is maintained. **SharePoint Status Indicators**, using simple reports that show performance information, showcase whether performance is on or off target for a particular performance metric. And **SharePoint applications** can be optimized for viewing on mobile devices while keeping data refreshed and up to date.



## Ellucian Institutional Performance Management

Ellucian, the world's largest provider of student information systems (working with 2400+ institutions globally) has partnered with Nuventive (provider of solutions for strategic planning, academic and administrative assessment, program review, accreditation, and student success) and worked closely with Microsoft to develop **Ellucian Institutional Performance Management (IPM)**. Built on the SharePoint platform, Ellucian IPM is a new, first-to-the-higher-education-market integrated solution that provides comprehensive business intelligence to institution stakeholders. It also provides better visibility into the goals that have been set, the actions taken, and the outcomes that have resulted in support of a performance-based culture across the institution.

IPM allows multiple BI solutions to be accessed in the same interface, helping institutions make use of their existing BI investments, leverage additional Microsoft tools, and make use of Ellucian business intelligence. Ellucian also provides an extensive library of key performance indicators (KPIs), linked to their existing Banner and Colleague systems, an essential part of IPM. Using KPIs from the automated library eliminates the need to create new KPIs and easily aligns with internal strategies and established external accountability requirements.

### Sample Ellucian IPM Out-of-the-Box KPIs

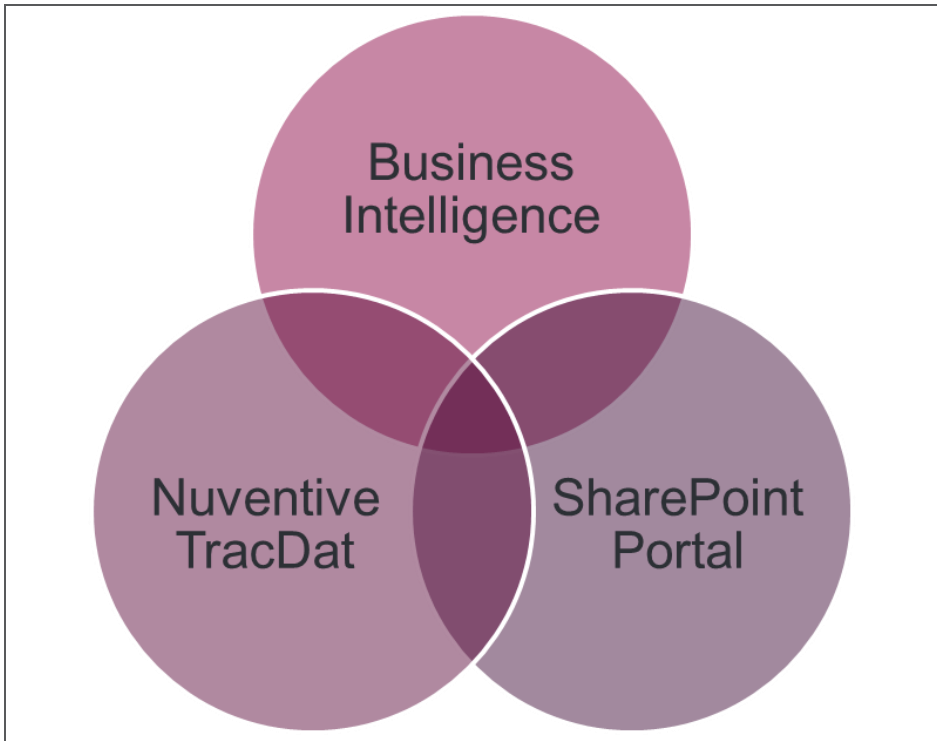
<b>Recruiting/Admissions</b>	Number of applicants Number of students accepted Diversity statistics
<b>Enrollment</b>	Number of full-time students Number of part-time students
<b>Academics</b>	Student retention rate Graduation rates Faculty retention rates
<b>Student Services</b>	Financial aid statistics
<b>Advancement &amp; Alumni</b>	Endowment information Alumni donations
<b>Finance &amp; Administration</b>	Budget Budget to actuals
<b>Workforce Management</b>	Number of employees

The Ellucian IPM solution:

- Treats performance management as a dynamic, ongoing process.
- Builds an internal competency for performance management that can outlast individual performance improvement initiatives.
- Connects business intelligence with action, bringing structure to the full lifecycle of planning, measuring, analyzing, acting, and re-measuring.
- Supports a wide variety of processes that can benefit from data-driven change, from academic outcomes to operational performance improvements to implementing sustainability plans.
- Reaches across departments and campus-wide.

Performance management solutions link measurement to strategic objectives, enabling stakeholders to reflect on those measurements and take action to improve performance. TracDat, the Nuventive planning and outcomes

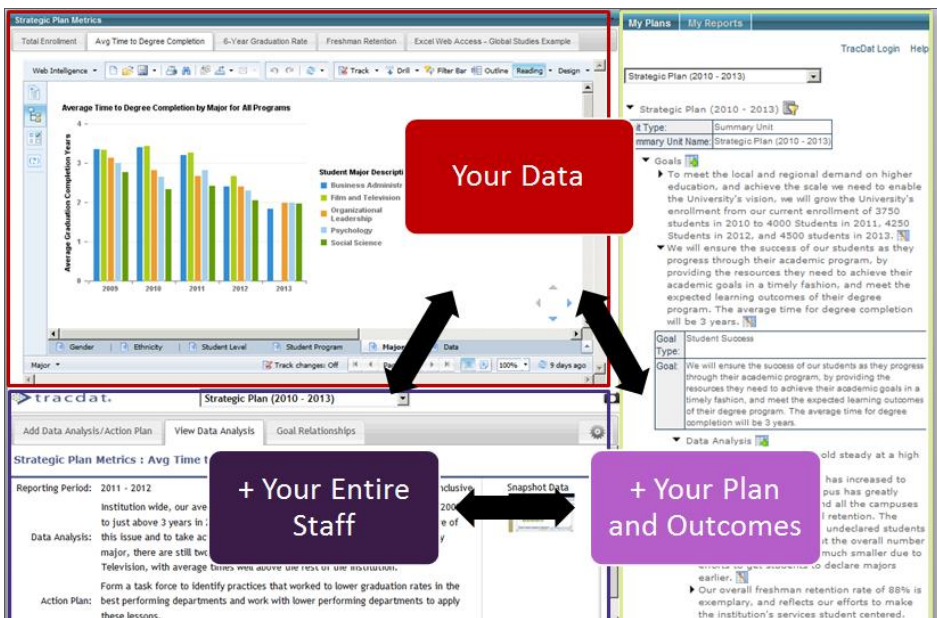
assessment engine integrated in the Ellucian IPM solution, makes it possible to model plans and gain feedback about performance at all levels. The flexible architecture responds to how the institution is structured and integrates with the SharePoint platform.



*The Ellucian IPM solution is an easy-to-use, integrated system for managing performance management.*

Ellucian IPM also helps institutions preserve their institutional memory. For example, in year 3 of a 5-year plan, it's hard to remember what decisions were made in year 1 or who made certain decisions and why. The system saves screenshots or visual snapshots, and users can revisit this information at any time. Crucial historical data is preserved and available as needed.

The solution also streamlines accessing and analyzing data. In a non-unified system, users sometimes have to log in to three or four systems (or more) to access the data they need to view and analyze. Ellucian IPM logically organizes data from multiple sources and presents the data on tabs in an easy-to-use dashboard view, as the following figure illustrates.



*IPM shows current data in one place and connected to planning.*

Privacy and security are always important concerns, and the Ellucian IPM integrated system protects data as well as tightly controlling access by role so that users can see only the data they have permission to see. The system determines what choices the individual has and what data appears in the data view.

## Conclusion

Institutions face increasing demands for accountability and transparency from government, funding agencies, and students and parents, who all want to see a measurable return on their investment. Although institutions are often awash in data, data is not knowledge or insight. What is needed is an overall data-driven performance-management system that connects the many silos of information across the institution and that pairs data with familiar tools to enable institution leaders, faculty, and staff to gain insight and make data-driven decisions and adjust their actions as needed to deliver ongoing improvement.

Microsoft business intelligence tools provide powerful self-service business intelligence to stakeholders at all levels. The Ellucian Institutional Performance Management solution, developed on the SharePoint platform and integrated with the Nuventive TracDat planning and outcomes assessment engine, provides a powerful solution that links measurement to strategic objectives and enables stakeholders to model plans and gain performance data at a glance using a comprehensive dashboard.

# Resources

[Office 365](#)

[Power BI for Office 365](#)

[Microsoft Excel 2013](#)

[Microsoft Power Query for Excel](#)

[Microsoft Power Pivot for Excel](#)

[Microsoft Power View for Excel](#)

[Microsoft SharePoint](#)

[Microsoft SQL Server](#)

[Microsoft Azure HDInsight](#)

[Power BI: Pivot Demo](#)

[Power BI: Query Demo](#)

[Power BI: View Demo](#)

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