

## CHALLENGES

- Existing processes, structures, and supportive information technology were not adequately aligned or scalable to support desired growth.
- Many shadow systems caused inconsistent data, redundant work, errors, and out-of-sync conditions.
- The technology silos severely impacted business systems.
- The legacy reporting system architecture and software component functionality were unable to answer key questions about the University as an enterprise.

## SOLUTIONS

- Deploying enterprise-wide systems to effectively support the University and integrate related processes.
- Eliminating shadow systems, paper, and duplicate data entry.
- Removing information silos in response to an increased need for transparency.
- Launching an enterprise data warehouse and best-of-breed business intelligence software suite to create a single, organized, accessible data repository to foster a data-driven decision-making culture.

## RESULTS

- The increased efficiencies have spawned many business process improvements.
- The University is beginning to retire the "shadow" systems.
- There is increased collaboration throughout the University.
- The University has established a single source of reliable data.



## Enhancing Business Intelligence at Portland State University

Portland State University (PSU) is a dynamic, growing institution within the Oregon University System (OUS). PSU's mission is to enhance the intellectual, social, cultural, and economic qualities of urban life by providing access to a quality education for undergraduates and an appropriate array of professional and graduate programs especially relevant to metropolitan areas.

### Profile

Located in the heart of downtown Portland, PSU serves a population of approximately 28,000 students. The University employs approximately 3,500 full- and part-time staff and faculty. Over 50 separate departments and academic offices work together to provide comprehensive services to students.

With more than 220 degree options that include renowned programs in urban planning, social work, business, sustainability, and undergraduate studies, PSU meets the needs of Oregon's largest and most diverse student body. Through engaged teaching and research, PSU makes a difference in Oregon and around the world.

### Challenges

The PSU legacy reporting environment was a disconnected collection of data and reports from multiple disparate sources, which caused inefficiencies and frequently generated inconsistent results. Daily enterprise resource planning (ERP) snapshots were provided in a data store, but data models had not been fully developed. Faculty and staff had locally installed client software used to develop and store custom queries and reports. Data extracts were also loaded into numerous spreadsheets and other data manipulation tools, which often led to multiple versions of the information. Further, if the information did not feel right, it might be ignored in favor of anecdotal analysis or "gut feeling." Additionally, the required data either just didn't exist in a reportable format or a local department convention or business process prevented data sharing. The University's goal

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was to improve its reporting environment in a manner that would address and correct all reporting issues.

There were many “shadow systems” (for example, MS Excel spreadsheets, FileMaker Pro databases, MS SQL) that resulted in redundant work, errors, and out-of-sync conditions.

Additionally, existing processes, structures, and supportive information technology were not adequately aligned or scalable to support PSU’s desired growth.

To succeed, the PSU community had to engage in a large-scale solution deployment and significant business process change. An increased need for transparency demanded that information silos be removed and a culture of data stewardship replace a culture of data ownership. Ensuring a single version of the information required standardized reporting environments.

The University’s objectives for an improved reporting environment included:

- Deploying enterprise-wide systems that effectively support PSU
- Improving and integrating related processes
- Eliminating shadow systems, paper, and duplicate data entry
- Clarifying roles and providing expanded training
- Simplifying and standardizing processes

### Where to Start?

PSU found itself at a crossroads where data-driven decision-making is essential to remain competitive and financially sound in an environment with increasing costs and decreasing state funding. The legacy reporting was cumbersome and often did not provide the needed combinations of data sets (for example, student and finance, or student and human resources).

In an effort to meet business intelligence needs, PSU launched the DataMASTER Project to implement Management and Analytics for Strategic, Timely, Education Reporting. DataMASTER would create a single, organized, accessible data repository that would facilitate the development of a strong, systemic culture of decisions driven by data.

The basic vision of DataMASTER was to make information at PSU more accessible and easier to use. However, there were two issues that PSU had to confront to move the DataMASTER project forward and realize the goal of becoming a data-driven university. The first issue concerned the need to identify and fully implement tools that would allow for the extraction, organization, and

analysis of data from PSU enterprise data sources. The second concerned the institutional commitment to change business practices so that data could be collected and reported in a coherent, consistent and logical fashion.

*SIG offered a unique combination of deep Banner® knowledge and significant Business Intelligence experience.*

*—Dr. Sharon Blanton  
(former CIO – Portland State University)*

Addressing these issues would require constant monitoring and collaboration among stakeholders. Inconsistent implementations, lack of executive sponsorship, lack of cooperation, and resistance to business process change can cause slow adoption and abandonment of such projects. To help ensure against such an outcome, PSU decided to bring in a consultant to help alleviate these issues and

recommend opportunities for improvement. After careful consideration, PSU selected Strata Information Group (SIG) to assist in this critical effort.

### Getting Underway

SIG brought in a team of highly seasoned consultants to work with PSU as follows:

- Provide general project management for PSU’s Business Intelligence Initiative
- Provide a Banner® Operational Data Store consultant for on-site work
- Provide a Banner® Finance functional consultant
- Assist with the discovery of shadow systems
- Help streamline operations
- Help implement best practices
- Help resolve any technical issues that might arise
- Help drive the generation of prioritized reporting solutions
- Collaborate with users so their reporting solutions are robust and reliable
- Examine business processes to identify issues and pursue opportunities for improvement

### Results

SIG consultants spent long hours working with University staff in all departments, including Payroll, Financial Aid, Human Resources, Finance, and Student Services and Enrollment to achieve these goals. Working together, SIG consultants and University staff and administrators moved the project forward to make DataMASTER a reality.

DataMASTER provides a comprehensive solution to examine historical, benchmark, and forecast information to create a foundation for strategic revenue and expense management strategies. The solution also provides a platform for developing bidirectional data feeds with other key enterprise systems, such as student housing manager, customer relationship manager, and facilities manager.

This project affected all areas of the institution and continues to be a work in progress. There have been many achievements along the way and real change is evident:

- There is increased collaboration throughout the University system.
- Reports are now developed in a matter of days rather than weeks.
- Increased efficiencies have spawned business process improvements.
- Plans are being made to retire “shadow” systems.
- The legacy system has a firm decommission date.

*This case study is based on an article by Dr. Sharon E. Blanton, “DataMASTER: Success and Failure on a Journey to Business Intelligence.” Educause Review, July 18, 2012. <http://www.educause.edu/ero/article/datamaster-success-and-failure-journey-business-intelligence>.*