

# UNIVERSITY OF MINNESOTA



**“TO SAY WE HAVE BEEN SHOCKED BY THE RESULTS OF THE BUSINESS INTELLIGENCE SOFTWARE WOULD BE AN UNDERSTATEMENT.”**

– SUSAN GROTEVANT, DIRECTOR, INFORMATION MANAGEMENT SYSTEMS, UNIVERSITY OF MINNESOTA

## INTRODUCTION

With higher education funding from states and municipalities hitting record lows, public colleges and universities are looking internally to identify new revenue models and improve efficiencies.

The need for academic “belt-tightening” calls for easy-to-use IT solutions that provide accurate analysis and forecasting, enabling more strategic decision-making to ensure schools and students continue to make the grade.

## THE ORGANIZATION

The University of Minnesota (U of MN) has a long history as a top academic research institution, receiving

international acclaim for invention, from the heart pacemaker to the aircraft flight recorder (“black box”) and the retractable automotive seat belt. Since its inception in 1851, Minneapolis-based U of MN, has grown to encompass four campuses, a collaborative center in Rochester, extension offices, research, and outreach centers throughout the state.

As Minnesota’s only research university, U of MN is home to world-renowned professors and researchers, and more than 60,000 students. The school ranks among the top 25 public and private research university campuses. It has in the past five years alone received in excess of 230 patents for its innovative work, in addition to being credited for establishing more than 30 area start-up companies.

## THE CHALLENGE

- Funding cutbacks
- Increasing administrative inefficiencies
- Need for data accessibility, integration, and analysis

State funding for higher education in Minnesota has been declining for nearly three decades, dropping from sixth to 26th among the states for its percentage of state budget support received. Consequently, one of the greatest financial challenges U of MN faces is developing new and sustainable revenue streams to ensure its future during a period of unprecedented change.

### *Industry*

- Higher Education

### *Geography*

- Minnesota; satellite locations state wide

### *Information needs*

- Data integration across multiple platforms
- Self-service data availability for multiple users/skill levels, in distributed locales
- Powerful analysis and reporting capabilities

### *Solution*

- Cognos PowerPlay

### *Benefits*

- Identification of new revenue potential, estimated at \$187 million
- \$5 million cost recovery
- Information-rich decision-making environment
- Higher quality student experience

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Recognizing that long term structural changes in the public financing of higher education would place more reliance on tuition and other revenue to offset changes in state appropriations, U of MN implemented a budgetary and management model designed to provide financial incentives to enhance revenues and control costs beginning July 1, 1997.

U of MN's Susan Grotevant oversees the school's Information Management System department, which is responsible for academic, financial, and human resources data across the school's four campuses "In 1997," she recalls, we implemented PeopleSoft as our Enterprise Resource Planning platform to assist with a new management focus — known internally as "Incentives for Managed Growth (IMG)."

IMG called for a more equitable reorganization of responsibilities for day-to-day decisions across campuses, colleges, and departments. The objective was to reduce resource and programmatic redundancies, achieve cost savings, and streamline administrative operations.

This management model placed responsibilities for day-to-day decisions affecting revenue and expenditures at the collegiate and departmental level and represented a significant change from the previous budgeting model where revenues and costs were not directly linked. This change, along with steadily increasing demands for accountability and productivity and improved academic and student outcomes, drove a dramatic increase in the need to transform data into business intelligence and to improve U of MN's strategic decision-making capabilities.

According to Grotevant, "the implementation of IMG and the financial incentives it offered to colleges was the first and perhaps single greatest driver for encouraging interest in issues related to: developing better models for understanding the supply and demand for courses; recognizing the complex financial cross subsidies and dependencies that exist within colleges and campuses; and understanding and managing the factors influencing instructional costs."

These objectives demanded the creation of an information-rich decision-making environment that could also reach all levels of the organization.

In order to make sense of the full breadth of its data stores and realize a return on investment from its existing enterprise resource planning investments, while lowering total cost of ownership for these systems, the University decided to invest in a business intelligence solution from Cognos.

Grotevant selected the Cognos BI solution because of its robustness. The ability to handle large amounts of complex data, enterprise scalability, powerful analytic capabilities, the ease of use of its graphical user interface, and attractive return on investment made it a winning choice.

Cognos PowerPlay specifically has proved to be a cost-effective tool for delivering the enterprise-level analytical information required to support the increasingly entrepreneurial, competitive, and privatized financial environment faced by U of MN. Coupled with U of MN's PeopleSoft-based Student Records and Student Financial solution, PowerPlay helps administrators understand the supply and demand for courses: providing information on how tuition is generated, the corresponding costs of instruction, and understanding the complex cross-subsidies that exist among and within colleges and professional schools.

"Cognos PowerPlay is one of the most powerful and cost-effective solutions to deliver enterprise-level analytical information throughout the organization," said Grotevant.

PowerPlay has also helped make evident to academic administrators the large differences in revenue contributions made by different programs based on academic disciplines, levels of instruction (for example, graduate versus undergraduate models for the delivery of instruction), and the cost of faculty and instructors.

According to Grotevant, "PowerPlay will be an important asset in integrating data from the PeopleSoft Admissions and Student Records systems in order to gain a clearer picture of student performance."

PowerPlay is also expected to play a key role in analyzing data from U of MN advisement and academic progress system to reduce the cost of instruction and time to graduation by more accurately forecasting course demand. It will also improve student retention rates through the identification of early warning indicators of academic difficulty, and support timely and effective advising interventions.

This multidimensional analysis made possible through U of MN's Cognos-based BI solutions allows colleges to see that even where credit hours are equal, tuition outcomes can vary widely depending on the student's college of enrollment, tuition discounting, and differences in tuition rates due to residency or other factors. Using this information, colleges now have a wider range of alternatives for increasing tuition revenue other than just admitting more students. Some of these options include adjusting recruitment strategies to change the mix of students paying different rates, or calculating the net return on investment to discount tuition through the use of scholarships to attract highly qualified students who would otherwise not attend the University.

## **BENEFITS**

- Identification of new revenue potential, estimated at \$187 million
- \$5 million cost recovery
- Information-rich decision-making environment
- Higher quality student experience

The return on investment in the purchase of Cognos Business Intelligence tools has been both immediate and long term. ERP systems provide information one person and one transaction at a time. Business intelligence tools such as PowerPlay can quickly aggregate and organize information from multiple sources to facilitate analysis, permitting the University to identify approximately \$5 million in unbilled tuition during the initial implementation of the new student financial system.

Since implementing Cognos, the University has identified several additional opportunities to increase revenue, including: strategic tuition funding and discounting; student progress tracking (and flagging potential issues areas); minimum course loads increases; and more manageable class-size-to-instructor ratios.

“To say we have been shocked by the results of the business intelligence software would be an understatement,” said Grotevant.

Today, using its tuition cube to analyze patterns and behaviors within the student population and historic and current course enrollment activities, U of MN has been able to identify new revenue generators that have already accounted for an increase in operational income totaling more than \$187 million; a 76 percent, largely organic, increase over earnings in 2000.

Other cubes have yielded similarly remarkable results, for example: the course enrollment cube offers colleges the opportunity to tailor course offerings to meet changing student demand. With increased data accuracy and a more complete view of operations, colleges and individual departments can also eliminate courses with declining interest, helping to reduce administrative and resource costs.

In the forecasting realm, the University is continuing to improve its ability to plan the type and timing of courses offered and using its advisement and academic progress cube to streamline operations and improve efficiencies.

The continuing return on investment to the University is measured by the dramatic increase in the availability of operational and management information and analytic capacity made available by tools like PowerPlay during a period of significant change in both the financial support for higher education and the expectations of students and stakeholders.

The magnitude of that change is reflected by the significant increases in tuition rates and revenues — totalling \$187 million — and the dramatic expansion in the demand for information reflected by the growth of the enterprise reporting customer base to more than 10,000 employees and 2 million reports annually.

## **FOCUS ON THE FUTURE**

“Today, I don’t see my job as providing reports, but instead providing people with the information they need to make informed decisions,” said Grotevant.

In addition to expanding its use of PowerPlay to all types of administrative data, the University plans to implement Cognos’ most recent release of ReportNet to provide greater reporting functionality and graphical capabilities to both report users and the data warehouse user community.

The University also plans to use Cognos PowerPlay, NoticeCast, and ReportNet to take advantage of the near real-time data available in its data warehouse to support an even broader range of operational reporting needs.

Finally, ReportNet is also expected to play a role in responding to heightened interest in the development of performance-based management and scorecarding initiatives brought about by a major strategic positioning initiative currently underway.

The University also plans to expand its enterprise-level performance-based management and scorecarding initiatives by deploying Cognos Visualizer along with ReportNet, and Cognos NoticeCast.

“Funding will always be a challenge within higher education. By having a grasp on our data, we have been able to make the most out of a potentially discouraging financial situation,” said Grotevant.

## **ABOUT COGNOS**

Cognos is the world leader in business intelligence and enterprise planning software. Our solutions for corporate performance management let organizations drive performance with planning, budgeting and consolidation, monitor it with scorecarding, and understand it with business intelligence reporting and analysis. Cognos is the only vendor to support all of these key management activities in a complete, integrated solution. Founded in 1969, Cognos now serves more than 23,000 customers in over 135 countries.



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