

Managing the Business of Education

A COGNOS WHITE PAPER

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WITH THE MISSION OF THE
MARKETPLACE



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Introduction

Big universities are a lot like big businesses. After all, some universities employ tens of thousands of people and have a total economic impact of billions of dollars annually. And just as businesses face increased competition, so do big universities. As a result, many are scrambling to balance the demands of the marketplace with the values of knowledge and education.

Increased competition in all aspects of higher education—fundraising effectiveness, recruiting top students and faculty, and better managing financial and operational performance—has underscored the need for universities to transform the data they collect into valuable information that can drive better decisions.

“In the banking world, decisions are always based on what the data says,” says Howard Woodard, professor of Information Systems at Georgia College & State University and currently on assignment as Chief Information Officer with the Georgia Department of Education. “But that is not always the case in education. We are finally learning to deal with the facts, just as businesses do. It is crucial for educational institutions to get out of the habit of dealing with all problems in an emotional state, without drawing on data.”

Using the data is key. By leveraging it into a more sophisticated view of their performance, universities can gain new insights into the most effective fundraising programs; where to find the best students and professors; and the exact costs of curriculum. They also gain the ability to measure individual student performance across courses and disciplines.

Acting more like a business

The University of Texas at Austin knew it had to act more like a business when it realized that its traditional sources of money, particularly state dollars, were drying up. Because of state budget limitations leading to funding reductions, the university now receives less money from the state of Texas in real dollars than it did 20 years ago. Moreover, until quite recently, proposed tuition and fee adjustments also had to be approved by the Texas legislature. These funding challenges, coupled with the state mandate to accept all Texas high school students who graduate in the top 10 percent of their class, further inhibits flexibility in optimizing out-of-state student enrollment and revenues.

These constraints made the university’s primary revenue streams predictably low. That’s when administrators decided to invest in Cognos business intelligence software to not only better manage the university’s financial resources, but also discover new and better ways of conducting business.

“The key to our future success was having better information so we could make the right decisions,” says Fred Friedrich, Associate Vice President and Controller of Financial Affairs at the University of Texas.

The vast majority of the school’s data resides in homegrown transactional systems, which made it difficult for faculty and employees to access it. Also, information was not integrated in any cohesive way, making it difficult for anyone to create a clear picture and find answers and make sense of the data.

More often than not, it took people several weeks of sifting through spreadsheets and reports to find what they wanted—whether it was the dean of liberal arts trying to figure out how many teaching assistants he needed, or the financial dean of the law school figuring out how much free balance she had available in multiple investment accounts. With Cognos, the ultimate goal is to provide a single version of the truth that enables quicker, more efficient and more accurate decision-making.

Boosting financial performance with better, quicker decision-making

First on the university's "Information Quest" agenda was improving its financial reporting. Using Cognos, the university was able to save 700 person hours in compiling its 2005 annual report. And in the place of thousands of spreadsheets, administrators now have instant access to their data through a simple mouse click.

"This was just an unbelievable accomplishment, especially since it was done with a staff that had almost completely turned over in the previous six months and was dealing with our very first Sarbanes-Oxley audit," says Friedrich.

The school is also making better decisions more quickly: for example, when dealing with purchases of scientific equipment. For the first time, the school uses analysis to see how much business it has conducted with a particular vendor, and whether those amounts are trending up or down over the years. This allows the school to negotiate better prices. Similarly, Cognos business intelligence lets the financial department investigate a particular category, such as postage costs, across all the colleges and track expenses. This knowledge has led to an overall reduction in printing and postage costs.

Taking the right actions at the right time

Mary Catherine Gaisbauer, Associate Vice President and University Controller at the University of Colorado, describes her school as a large, decentralized, complex organization—not unlike a commercial enterprise with many small subsidiaries. She says it's often difficult to keep abreast of the financial performance of every college and every department. "When you are a \$2 billion institution and you have one department that falls into a \$300,000 deficit, you might not notice that right away."

The University of Colorado invested in business intelligence from Cognos to avoid such issues. It created seven core financial reports based on revenue/expense statements, balance sheets, journal entries, procurement

costs, and other financial processes. Using Cognos, the school can now bring critical data to the surface more quickly, helping administrators spot potential shortcomings and deficits. The system not only ensures that data gets into the hands of high-level decision-makers, but that they take immediate, corrective actions.

"We now have a better way to see financial information and a better way to deliver it to our business managers," says Gaisbauer. "If a particular college or department is struggling, we can quickly identify the problem and drill through to see what the real causes are. In the past, there was no guarantee we could easily spot trouble."

Leveraging data to improve education

Before implementing Cognos, the Georgia Department of Education was struggling to leverage its data. It could meet minimum state reporting requirements such as student assessment reports. But it was time-consuming and laborious.

Woodard believes that educational institutions need an information strategy similar to that of leading commercial organizations. “The amount of money spent on public education across this country has doubled over the last 30 years; however, the National Assessment of Educational Progress (NAEP) test results have pretty much stayed the same. We have an elected school superintendent whose vision is to make Georgia the national leader in improving student achievement,” he says. “Her vision is my mission. To accomplish that mission I have to build the infrastructure to deliver information to key decision-makers in the organization.”

Woodard says Cognos gives him that capability by enabling administrators to slice and dice data like never before and gain sophisticated views into educational performance.

Using Cognos, Woodard’s team built data cubes that allow scenario planning around educational expenses. Before Cognos, this kind of “what-if” planning was difficult to do in spreadsheets.

Delivering knowledge

Prior to going live with Cognos, The University of Colorado spent five years figuring out how to extract and integrate information from its various systems. For instance, if someone wanted to run a report related to tuition, he would have to manually pull information from the finance system as well as from the student system—and then determine the best way to connect the data to find the relationships. But with Cognos, all the school’s core financial and financial subsystem for procurement has been integrated, which means there is much greater confidence that people can make the right decisions based on the most accurate information available. Over time, the plan is to integrate all of the university’s financial data.

In the past, Gaisbauer couldn’t be sure if officers within the school’s many departments and colleges were even seeing core financial data. That’s because reports were

delivered in hard copy to a single person in each department with the hope that they would then be photocopied and delivered to key decision-makers. But an internal audit couldn’t adequately determine if the information was even reaching those people.

Now, however, all information from the Cognos content store is being delivered automatically through an interface to uPortal, the sharable portal developed by the higher education community. The improved delivery and availability of information means the departments are now better able to gauge their overall performance, conduct comparative analysis and even do ad-hoc reporting and querying. “Despite the complexity of our organization, we now have a tool that allows us to get information to our decision-makers in a timely and robust fashion,” says Gaisbauer. “That boils down to improved accountability and stronger financial performance.”

Managing the student lifecycle

Several years ago, a leading U.K. university realized it needed a better way to manage student lifecycle data. Seven faculties and multiple departments each held different types of student information, including admissions, fee payments, registration, progress, and exam results. There was no way to pull up a student profile containing all information for that student.

The university was also accountable to government agencies. The Higher Education Statistics Agency (HESA) audited operations at all universities. And a new national program called Lifelong Learning was requesting data for its database of individuals' career-long education and qualifications records.

At that point in time, reporting came from an Oracle-based data store, which drew from at least four different data systems using only the most basic links between data areas. Sophisticated analysis was impossible and the simplest report onerous.

Cognos provided a robust performance management solution to gather data into one place. Built on a single architecture, Cognos software helped the university meet the widespread need for accurate, comprehensive data. Now the school gathers all of its far-flung data into a single metadata layer that provides real-time, online, easy-to-use student and financial information. Centralized and streamlined reporting has cut the reports needed by half. Staff spends far less time generating and distributing reports. Now the admissions department can track trends to ensure services meet student needs.

In the end, HESA praised the university for its superior reporting. An institution of higher education that went above and beyond compliance expectations certainly earned that praise.

Using data to create a better, more cost-effective curriculum

On the academic side, data-driven decision-making is helping the University of Texas better manage its curriculum offerings. It can track trends in course enrollment and analyze the relationship between curriculum and revenue, as well as define the classroom factors that lead to improved performance. Before implementing Cognos, for instance, the university relied on unwieldy stacks of papers to conduct course planning for some 10,000 class sections per semester. It was a massive, labor-intensive exercise to compare courses or investigate enrollment trends across years.

"Today it's simply a matter of click, click, click," says Cathy Lester, Director of the Information Quest Project at University of Texas. "Now we can see enrollment and semester credit hour trends graphically, by individual course or by faculty. This allows us to understand which programs are producing the most hours and how faculty members are faring."

Cognos is helping to provide faculty workload and performance information to campus leaders. That data has always existed somewhere, but it was very time-consuming to gather, and not easily available for trend analysis and for cross-college or departmental comparisons. The university is confident that its ability to make course offering decisions is monumentally better than ever before.

The school has even been able to dispel myths that previously haunted administrators. For example, it was widely believed that professors who gave the best grades were given the most popular evaluations by students. However, using Cognos, preliminary analysis indicates there is no correlation between these factors. "Thanks to Cognos, some of the political hot potatoes our deans were once occupied with are now easier to deal with," says Friedrich. "The data is so clean and good, it makes decision-making much simpler. This has had a real cultural impact on our school."

Taking the emotion out of decision-making

In the past, decisions were more a result of discussion based on assumption and persuasion as much as fact. Today, decisions are based on real data and real intelligence. In one example, a dean of a large college wanted to dynamically compare two of his biggest departments, which were both vying for more teaching assistants (TAs). With Cognos, he was quickly able to build a series of reports that compared and contrasted enrollment trends, staffing trends and course offerings in those two departments.

He expected the results to be about the same, but to his surprise he saw that semester credit hours, total sections, and total students enrolled were increasing for one department while its number of TAs was flattening. By contrast, the overall numbers for the other department were declining, even though it had more TAs from the dean for several years. “Before, a negotiation would have ensued between the two departments and the dean would have to decide who got what,” says Friedrich. “But with the data right at his fingertips, it turned out to be a very clear decision for the dean, and not the result he expected.”

Maximizing revenue through improved understanding of data

When it comes to understanding its sources of revenue—including gifts, pledges, endowments and research grants—the University of Texas has never been more effective. In fact, the university was able to analyze a long-standing reporting anomaly and increase its research mission by an eye-popping 20 percent last year simply based on better data-driven decision-making and analysis.

Using Cognos, the school’s vice president of research can manipulate data based on the parameters set by the National Science Foundation. The school can now look at data trends over multiple years to see which infrastructure investments would pay the highest dividends by enabling more research to happen. By making better business decisions, the university has dramatically grown its research presence.

Similarly, the university is better able to spot and analyze trends emerging from its capital campaigns. For example, the university can now drill down into the gifting and endowment habits of a particular corporation. It can then link that data back to research funding to see what research programs that same corporation is funding. “We are really starting to see important interrelationships that we never knew existed,” says Lester.

“Life is about knowing who you are, why you are here, and where you are going,” concludes Friedrich. “If you don’t know these things, you will not be able to make good decisions. By improving the quality of our data, and the understanding of that data, we are able to make more meaningful decisions that will serve us well not just today or tomorrow, but 20 years from now.”

About Cognos

Cognos is committed to improving higher education, with over 1,300 institutions using our solution throughout the world. Cognos performance management software enables all of the key steps in the education management cycle, including tuition planning, resource budgeting, academic performance monitoring, public funding reporting, and institutional performance analysis. Founded in 1969, Cognos employs over 3,500 people and serves more than 23,000 customers in over 135 countries.

For more information on Cognos solutions for higher education, please visit www.cognos.com/highered.

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