Business Intelligence
Mining Data To Find Gold

By Linda Briggs

At Coppin State University in Baltimore, MD, colorful screen displays can tell a dean or provost at a glance and a click of the mouse what a faculty member's course load is, how heavily a classroom is being utilized, and even how many students from a specific high school have applied and been accepted to date.

Because it's all done using business intelligence (BI) software that is specifically tailored for academia, the system can be up and running in a record amount of time--a big plus for a BI and data warehousing solution, which is typically a long, complex project.

The BI solution at Coppin State, from iStrategy Solutions, can be purchased with a variety of built-in data models specific to higher education. "That's the beauty of it," according to Ahmed El-Haggan, CIO and VP for IT at Coppin State. "Out of the box, [within] three days, you can start getting lots of reports and analytics, metrics, key performance indicators, and different dimensions.... That's unprecedented in the world of business intelligence."

As an example, El-Haggan cites student enrollment statistics. "A key performance indicator for us is where we are in enrolling students. That's a number we track closely." Using an iStrategy "dashboard," Coppin State administrators can constantly track that number, using a friendly screen display that makes it easy to peer directly into the accompanying data warehouse and view the numbers stored there from a variety of aspects. It's all done through a user-friendly, web-based front end that frees users from anything much more complicated than knowing what data is available, then clicking to display it.

"With one glance, you can see exactly where you are," El-Haggan said. So-called key performance indicators (KPIs) in iStrategy can trace information, such as how many students have applied, how many have enrolled, faculty loads, classroom utilization--virtually any view of collected data that an institution chooses to track. Dozens are delivered as part of the generic data model that iStrategy delivers; colleges and universities can create additional custom "hooks" into the data model as desired according to the specific business rules and processes of the institution.

The cost? El-Haggan said he estimates that Coppin State spent perhaps a tenth what it would have on licensing costs alone had it purchased a conventional BI product. If he adds the time and consulting fees saved, savings would be even greater: "It was a huge difference in cost."

Another cost savings with iStrategy: Because the data models are already created, institutions can avoid hiring full-time data warehousing or BI experts. "We empower users to get data on their own without [IS] getting involved," El-Haggan explains.

A key feature of iStrategy is that the company focuses on higher education. That's important because a big challenge with implementing business intelligence tools in higher ed is the lack of data models available.

It's not an insignificant problem; without data models that describe how data is stored in the backend data warehouse, and how it can be used, colleges and universities are faced with many hours of expensive consulting time to create them. Generic data models offered with BI products are usually intended for specific industries, not education (the financial sector, say, or insurance firms), and thus need extensive tailoring, if they can be used at all.

iStrategy takes a different approach. Rather than selling a specific BI or data warehousing product, it calls itself a data modeling company specializing in higher education. iStrategy recommends ProClarity, a Microsoft subsidiary, as its BI tool of choice, but the company will work with many leading BI products, including Hyperion, Cognos, and Crystal Reports. On the back end, where Executive Resource Planning (ERP) systems store an institution's data in warehouses, iStrategy works with PeopleSoft, Datatel, and, shortly, Banner. iStrategy also has a partnership with Datatel, which sells iStrategy to its customers.

El-Haggan and Prasad Doddanna, director of the Office of Information Systems at Coppin State, both have previous experience with other BI products, and were drawn to the low cost and rapid implementation iStrategy offers, they said.

Coppin State uses ProClarity as its BI tool, which it selected at the same time as iStrategy, and PeopleSoft as its ERP system. With nearly 5,000 undergraduate and graduate students and more than 600 faculty and staff members, the university has an IS department of just 9.5 full-time equivalent staff that is responsible for information services. Ease of use was important, therefore, and the iStrategy and ProClarity combo has proved to be a good solution. "It's very easy to use," El-Haggan said. "If you know how to use a browser, you're ready to go."

Despite their complexity, ERP systems often don't supply the sort of analytic reports and slice-and-dice-the-data abilities that a business intelligence solution can offer. At Coppin State, the difference between the sorts of reports the PeopleSoft system produced, and those from iStrategy, is "day and night" El-Haggan said with a laugh.

According to Doddanna, PeopleSoft's complexity in creating reports left users frustrated. "The reporting capability was very minimal out of the box," Doddanna said. "Therefore, hardly anybody used it [for reports]." Creating more complex queries required extensive training. "You have to go back and write queries because the report doesn't give you what you need.... You need to understand tables and queries and relationships," Doddanna said. And adding tools from PeopleSoft or a third party to access the PeopleSoft data warehouse more easily would have been expensive.

In iStrategy, all that work is already done, and detailed reports can be created quickly and easily from preset choices. For example, a dean or VP looking at a report on faculty workloads can tell immediately how many classes each faculty member is teaching, and what they are. Simply clicking on a line in the report "drills down" to the record level, to reveal a particular instructor's workload.

"You can de-construct the data down to the components that make it up," El-Haggan said. That, in turn, helps administrators understand what factors are influencing the data, "so they can make an intelligent decisions."

More than 100 users at Coppin State currently use iStrategy; each module, which is purchased separately, has specific users. Using a module developed specifically with iStrategy, the university is now examining help desk calls to see who is calling, with what problems, and what sort of service they are receiving. "We know we get a lot of calls," Doddanna said, "but what does that mean? This is a way to quantify those calls" to evaluate just how much the support service is costing, for example. Entering call data into an iStrategy module allows the IT group to analyze calls. "We can slice and dice data," Doddanna explained, "to see which department we are servicing, how many calls we're getting" and other factors.

That indicates whether the IT department is meeting its service level agreements, as well as the level of satisfaction among customers--Coppin State's students. "If I notice [a potential] problem area in a report," Doddanna said, "I can click down on that area and see who the technician is and what happened."

In terms of return on investment, El-Haggan cited the university's efforts to meet the complex requirements of the National Council for Accreditation of Teacher Education (NCATE). "Schools much bigger than us have either failed the assessment part of the standard or had to postpone the NCATE visit," El-Haggan said proudly. Using iStrategy coupled with Peoplesoft, the university was able to create a special module for assessing the many rubrics and standards in NCATE. "We got accredited with flying colors," El-Haggan said, "and with a high commendation," unusual for a school of their size.