

STRIKING DATA GOLD

The call for intelligent information grows louder as companies collect more and more data. We've drilled down to give you the latest strategies on using valuable business data that may already be sitting in storage.

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Defining the Business Advantage

You've "captured" the data. But what exactly is it that you're looking for? **BY NIEL NICKOLAISEN**

WE INFORMATION technology types have been very successful at automating transactions and gathering loads of transactional data. We spend the bulk of our time running, revising, monitoring and, in general, supporting transactional systems and the data they generate.

With all of this data available, it makes sense that someone (usually one of those pesky business users) wants us to make the data more usable. But what constitutes usable? In my opinion, data is useful if it can be turned into knowledge, and that knowledge is useful if we can use it to make better decisions. Knowledge that does not improve decision making is trivia.

Over the years I have tried different approaches for working with the business functions to pin down what it is exactly that helps people make better decisions. I have tried report libraries, self-service reporting, dashboards, consultants and mind reading. Then, one day, it occurred to me. I could unlock the door if I asked (and got answers to) two simple questions:

- "What would you like to know?"
- "Knowing this, what decisions can we make?"

In practice, it is not quite this simple, but these questions start a great conversation that not only provides direction to my business intelligence designs, but also strengthens IT's relationship with the business.

For example, I recently helped a specialty retailer sort out what it wanted to know. This company had replaced its legacy business systems and was now swimming in transactional data. It had built an entire suite of custom reports but still did not have a better grasp on information. I customized my questions as follows:

- What do you want to know about your customers?
- Your products?
- Your markets?
- Your operations?
- Your competitors?
- If you had really good information about your customers, products, markets, etc., how would that improve your decision making?

We started from this somewhat idealized point and defined some decisions the company would like to make. For example, as a retailer, it wanted to make more targeted marketing decisions. It wanted its

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print, radio, television and Internet ads to be more effective in getting customers to make buying decisions. We then worked backwards to sort through what the company needed

What transactions did we have or did we need to identify to which segment a customer belonged?

to know in order to make such decisions (in other words, what did it want to know about its customers).

As a group, we decided that the company needed to know what triggered a buying decision. That led us to brainstorm a customer segmentation survey. After surveying several thousand customers, we identified four segments, each of which responded to a different sales pitch. Some customers bought what was

new; others bought what was on sale.

With these segments in place, we then figured out ways we could capture the data that would identify these four customer types. This, in turn, back flushed, finally, into the transaction systems. What transactions did we have or did we need to identify to which segment a specific customer belonged?

We started to gather the information. The company turned the information into knowledge. This knowledge led to improved decisions about ads, store layouts, customer loyalty programs and product selection. In short, we got a more intelligent business. In parallel with that, IT looked like it was thinking beyond data. The marketing dorks and IT nerds actually found a common language and purpose. ■

Niel Nickolaisen is CIO and vice president of strategic planning at Headwaters Inc. in South Jordan, Utah. Write to him at editor@searchcio-midmarket.com

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Rectifying Data Quality Issues First

A refined business intelligence strategy has big payback for one midmarket organization: more accurate data, shorter lead times and improved visibility into the order-ship-billing cycle.

BY ELIZABETH HORWITT

JEFF KUCKENBAKER BECAME vice president of IS and technology at Star Trac at a watershed time for the treadmill manufacturer. In fewer than five years, the treadmill manufacturer's revenues had ballooned from \$70 million to \$200 million. With 3 million customers in more than 70 countries, Star Trac has been growing fast—too fast, in fact, for its information decision systems to keep up.

Like many midmarket companies, Irvine, Calif.-based Star Trac had data quality issues. Inconsistent and out-of-date versions of data resided in various applications and information silos. Almost 80% of reports were created manually and distributed via email, Kuckenbaker reports. Not surprisingly, Star Trac's president, a former engineer who's very detail-oriented, mistrusted the data he needed to make key decisions.

The former director of IS at The Black & Decker Corp., Kuckenbaker recognized that an effective business intelligence (BI) system was crucial in order for any firm to move forward with its growth strategy. However, he soon learned that a midmarket com-

pany like Star Trac poses very different BI challenges from a Fortune 500 enterprise.

Star Trac business groups, accustomed to owning their own data, needed to be trained and reoriented in order to take advantage of the

With 3 million customers in more than 70 countries, Star Trac has been growing fast—too fast.

cross-functional, high-level information a BI system would provide. Furthermore, the treadmill manufacturer did not have the budget to go with a full-throttle BI deployment.

Star Trac chose BusinessObjects (now part of SAP AG) Edge Series, a BI suite that provides reporting and ad hoc data querying across different information silos without the need to deploy a data warehouse up front. Kuckenbaker hired a BI analyst to do data modeling and data definitions to ensure that the data is reliable, cleansed and consistent. Some hun-

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dred reports have been defined. The whole company, including European sites, uses Business Objects to generate reports and queries across multiple data sources.

The paybacks are already coming in. Accurate, up-to-date supplier information has enabled purchasing to save tens of thousands of dollars per month, “by shortening time to receive supplies, holding suppliers accountable and keeping the chain tight so we don’t have to pay extra freight,” Kuckenbaker says.

Less quantifiable but equally important has been improved visibility into the order-ship-billing cycle, which has shortened time to payment and improved customer satisfaction.

Going with Business Objects allowed Star Trac to buy what it needed while keeping within budget and maintaining a good TCO, Kuckenbaker says.

MIDMARKET OPTIONS

Other types of BI products geared to the midmarket include the following:

- **Scaled-down versions of major enterprise BI platforms**, which typically provide wizards, prepackaged reports and dashboards, and support services. Such products help midmarket firms get up and running within weeks. Vendors include IBM, SAP, Oracle Corp. and SAS Institute Inc.

- **BI appliances**, which typically provide a basic data warehouse and

prepackaged applications on top of a customized hardware platform. While a 10 or 100 terabyte (TB) enterprise BI platform typically runs to millions of dollars, BI appliances generally support at least 100 TB, and run between \$100,000 and \$700,000,

For Star Trac, the paybacks are already coming in: Accurate, up-to-date supplier information has enabled purchasing to save tens of thousands of dollars per month.

according to Claudia Imhoff, president of Intelligent Solutions Inc., a BI consulting firm in Boulder, Colo. Vendors include Vertica Systems Inc., Infobright Inc. and Netezza Corp.

- **Open source BI.** Imhoff cautions it isn’t always free, however—customers end up paying the vendor or consulting services to help them set up and design the system. Vendors include JasperSoft Corp., Pentaho Corp. and Actuate Corp.

- **BI on-demand service providers**, which take over the work of extracting, transforming and loading customer data into a hosted data warehouse. End users can then access and analyze data using prebuilt, downloaded applications.

The service provider should offer

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some kind of audit trail to track what happens to data when it leaves the customer's domain, Imhoff warns. Otherwise, the customer has no way of resolving data inconsistencies, and can run into regulatory compliance issues as well. Service providers include LucidEra Inc., Xactly Corp. and Oco Inc.

■ **Microsoft Excel**, which remains the BI tool of choice for many firms. Combined with SQL Server and a growing body of BI tools that Microsoft is integrating into Office, it can fill midmarket BI needs quite adequately, Imhoff notes. However, it's crucial that someone is put in charge of auditing and enforcing data-entry policies. "Unfettered use of Excel results in a spreadsheet hell of untrustworthy data," Imhoff warns.

MOVING TO A HIGHER LEVEL

According to a recent IDC survey, many, if not most, midmarket companies see themselves moving to a data warehouse-based BI system in the next few years.

Star Trac is entering that phase now. "My initial goal was to provide reliable, on-demand, enterprise-level operational reporting, to regain confi-

dence in our data," Kuckenbaker says. "In this next phase, we'll be moving to higher levels of complexity with drill-down analysis. Our president under-

"Unfettered use of Excel results in a spreadsheet hell of untrustworthy data."

—CLAUDIA IMHOFF, PRESIDENT
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stands the promise now: He wants that multisource, multidimensional viewpoint."

Whichever path a midmarket company takes to BI, the paybacks are well worth the effort, according to Imhoff. They include more effective and efficient management of business processes, growth and acquisitions; better responsiveness to customer needs; and the ability to compete with larger enterprises. Imhoff adds: "The better you understand your customers, products and channels, the better you'll do in this economically stressful time." ■

Elizabeth Horwitt is a contributing writer based in Waban, Mass. Write to her at editor@searchcio-midmarket.com.

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Valuable Data Bubbles Up at Korbel

Twenty-first-century IT has helped the 19th-century company fix an errant ERP project and BI system.

BY MICHAEL YBARRA

WHEN THE 2002 Bioterrorism Act became law, it meant that any maker of food or beverages must now be able to trace all the ingredients in a product within 24 hours. At Korbel Champagne Cellars in Sonoma County, Calif., the law sparked a data treasure hunt.

The goal was clear and CIO Robert Barnes has been preparing for the worst-case scenario. Korbel had all the data in an aging Wine Production System (WiPS). It included information on such aspects of winemaking as where the glass, cork and grapes came from, what casks the wine had been stored in and the kind of yeast that had been used.

The problem was pulling all of that information together. It took well over 24 hours and it took a lot of personnel off other jobs. "The industry is highly regulated," Barnes says. "We have to monitor everything in that bottle. We had all the data, but it would take us a couple of days."

Across the sector, wineries struggle with the same compliance problems.

"It's a terrible headache for the industry," notes Mack Schwing, a for-

mer consultant at Deloitte & Touche and now director of the Wine Business Program at Sonoma State University. "The FDA says a winery has to have that information available within hours. The wine industry has never had to deal with the FDA before."

Besides complying with the 2002

"Our goal is to get the information faster and faster."

—ROBERT BARNES, CIO,
KORBEL CHAMPAGNE CELLARS

Bioterrorism Act, Barnes also had his hands full trying to revamp the company's core technology. Korbel was struggling with a troublesome enterprise resource planning (ERP) deployment and an error-prone business intelligence (BI) system.

To meet the new federal requirements, which took effect this year, Barnes realized that the winery needed to upgrade its WiPS, made by Indianapolis-based eSkye Solutions Inc.

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Once the new WiPS system, which included software designed to make collecting and reporting compliance data easier, was in place, the bottle-tracking fire drills became dramatically faster, making compliance a snap.

"Now we can do it in hours," Barnes says. "Our goal is to get the information faster and faster. Making sure we're totally compliant is a big challenge. The problem with compliance is that an edict comes out and there isn't really anything that tells you what you have to do to be compliant. It's a work in process. It takes up an awful lot of my time."

A VINTAGE BUSINESS

Vintage wine is good; vintage technology isn't. Winemaking may start with farming, but, increasingly, IT is there every step of the journey, from planting grapes to decanting the finished elixir.

The business is fiercely competitive. In a Nielsen study, a major supermarket averaged 588 different wines on its shelves, the biggest category in the store. Some 5,000 wineries in the U.S. fight for that space. While a handful of large holding companies have enterprise-class IT systems in the industry, such as Constellation Brands, owner of the Robert Mondavi Winery, most wineries remain small, family-run businesses where *information technology* is harder to pronounce than *Gewurztraminer*.

"The wine industry is a relatively immature industry in the IT world,"

Schwing says. "Capital expenditures haven't been a high priority. I used to see the same thing in the manufacturing/financial world 20 years ago. It's very difficult to communicate among the packages; there's a lot of Band-Aids and baling wire tying all

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these things together."

Barnes has been wrestling with these issues since becoming Korbels' first CIO four years ago. He has presided over a major overhaul of the company's technology, replacing legacy systems, beefing up infrastructure and putting down a foundation for the winery to finally leverage its IT investments as a competitive advantage. Over the years, Korbels had invested in technology, but it wasn't well integrated or managed.

"Our previous data center was basically a converted office," Barnes says.

For the new data center, Korbels upgraded to a new redundant uninterruptible power supply (UPS), enhanced the electrical systems to provide better circuit loads for the servers, and implemented a new air conditioning system designed to provide stabilized cooling temperatures and improved environmental conditions. The new data center provides

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33% more capacity than the old facility and is designed to meet the company's needs for several years.

"The industry as a whole has been

"Korbel is a midsized winery but feels very strongly about technology."

—ROBERT BARNES

behind the curve, but I've seen that change a lot since I've been here," Barnes says. "Korbel is a midsized winery but feels very strongly about technology."

Four years ago, Barnes drove through the redwood forest lining the Russian River and pulled into the driveway of Korbel, where a 19th-century brick building covered with ivy sat in the center of a sprawling estate of terraced vineyards stretching into the nearby hills. "When I drove into the main gate and took a look at the place," he recalls, "I fell in love and said, 'I want to work here.'"

In the 19th century, a refugee from Bohemia named Frantissek (Francis) Korbel and his brothers founded a building-materials business in San Francisco. Eventually F. Korbel & Bros. Inc. moved into the lumber business, buying a sawmill in the Russian River town of Guerneville a couple of hours north of the city. The brothers also tried their hands at farming, cultivating the Pinot Noir grape used to make

Champagne. Before long, winemaking was the family's main business.

In 1954 the family sold the winery to Adolf Heck, a third-generation winemaker. Heck invented a riddling machine, which turned fermenting bottles automatically; previously, this was done by hand. His son, Gary Heck, took over as president in 1982. That decade, the company enjoyed double-digit growth, acquiring other properties such as Kenwood Vineyards and Valley of the Moon Winery. Today, Korbel sells more than 1.3 million cases a year and posts about \$150 million in revenue.

"Champagne pays the bills," Barnes says.

BARNES TO THE ERP RESCUE

It was 2002 when Korbel decided to hire its first CIO; it found Barnes through a search firm. Barnes had an MBA in finance and a background at IBM, where he rose from computer operator to project manager.

When Korbel called, he was CIO at a New York equipment distribution company, which had recently gone through a JD Edwards rollout. (JD Edwards has since been acquired by Oracle.) Korbel, too, was deploying a JD Edwards ERP system—but not without trouble. It was trying to replace its unsupported, legacy Pansophic ERP system, and the project was a mess. Barnes was hired to fix things.

"The JD Edwards implementation was not going well," Barnes says.

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“We were behind budget and timeline. They were trying to implement too many modules. I said, ‘Let’s take a step back and see what needs to be done.’ My philosophy is take it off-the-shelf, tweak it but don’t

“We had reconciliation issues. The numbers didn’t match. Our legacy BI system was an outdated reporting system that had been modified and updated considerably by previous internal staff.”

—ROBERT BARNES

enhance it because when you upgrade you have a potential nightmare. I like a phased approach, not a big bang.”

Barnes found that the financial and HR modules were working well, but order entry and pricing needed work. Distribution and manufacturing apps were still on the drawing board.

Korbel had hired a consulting firm to handle the deployment, but Barnes realized he needed more control of the project, so he took it in-house.

“The biggest challenge was taking control of the project back from the consulting firm and being responsible for running it ourselves,” he says. “I had full management support. It just required a little direction, a lot of support and putting a plan in place. We

had a situation where we had outside consultants running part of the project and internal staff handling other tasks.

“Since we were ultimately going to be responsible for this software, we felt it made a lot more sense to take responsibility for the project as a whole. We changed some internal staff responsibilities, sent internal staff for training, and people quickly embraced the fact that this was ‘their’ system. Since then, we have never looked back or had any problems supporting or upgrading our JDE ERP system.”

BI ON THE VINE

While Barnes was straightening out the ERP mess, Korbel president Gary Heck handed him another problem. The company’s business intelligence system didn’t seem all that, well, intelligent. Heck would sign on daily to the Cognos BI system and often the number of cases of wine that were bottled was different than the number being stored in the warehouse. “How’d I lose 500 cases in 50 feet?” Heck would ask.

“We had reconciliation issues,” Barnes says. “The numbers didn’t match. Our legacy BI system was an outdated reporting system that had been modified and updated considerably by previous internal staff.” Fortunately, the new JDE system and a BI upgrade (to Cognos 8i), which went live in August, solved that problem, Barnes says.

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Now reconciliation problems are a thing of the past and the winery has a powerful tool for evaluating how the business is going. “We still bring in grapes [and] process and blend and bottle them,” says Korbel’s wine quality manager, Lisa Russell, who has

“I see us getting into a lot more analysis of what we sell and who we sell to, what’s profitable, who’s buying what, making projections and accurate forecasting.”

—ROBERT BARNES

been at the company for 20 years. “But tracking has gotten a whole lot more detailed. I have a bigger picture of how the business runs, how costs flow through the company from grape contracts to finished goods.”

Indeed, IT is seeping into every corner of the winery, including the barrels used to age various kinds of wine (different oak imparts different flavors and needs to be periodically retreated). These days, Korbel uses eSkye’s barrel-tracking system, which automates the process of charting a barrel’s working life. The winemaker can see what kinds of oak barrels are available, what wine is being stored where, how many times a barrel has been refilled and when it’s due for retirement. “Barrel tracking has proved to be an enormous success,”

says Barnes, “allowing us to better manage our wine aging process and track barrel costs while improving the overall quality of our product.”

Even the fermenting of grape juice into wine can be monitored on the Web; Korbel uses Acrolon Technologies Inc.’s TankNET system to precisely track what’s going on in storage tanks.

The telecom infrastructure also needed beefing up. The Russian River area may be scenic, but winter storms are hard on phone lines, which fail annually, cutting off email and Internet access at the winery. So Barnes built a wireless satellite network to link its headquarters with its warehouse at the nearby Santa Rosa airport and other facilities.

“It’s reduced our cost and improved bandwidth,” Barnes says. “We implemented new redundant broadband wireless data circuits to connect a number of our facilities in Sonoma County. This reduced data circuit ‘connect’ costs considerably from our previous copper connection costs. Since a healthy amount of the data circuits in this part of the county required upgrades, our reliability increased as well.”

After two years at Korbel, Barnes found that he had pretty much revamped the company’s entire technology platform.

“Things weren’t totally desperate,” he says. “I inherited a good group. What we really needed was some good training. I just helped them turn the corner.”

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C-LEVEL LUNCHES

Most business days, Korbel's executives gather at the estate's pool house for a catered lunch—one of the perks of the winery, but also a valuable forum for communication about the business. "At large corporations, if you have an IT idea, you have to write it up in triplicate and send it up to God-knows-how-many levels, and by the time it gets back to you it's out of date," says Barnes. "Here I can talk to Gary and tell him something and get an answer right away."

Still, Barnes has tried to introduce more formal governance processes. One of his first initiatives was to start an IT project steering committee. And every quarter Barnes publishes an IT update, telling the rest of the company what his department is doing.

Nothing, he says, was more important than building credibility within the organization—first by smoothing out the ERP deployment, then by reconciling the BI discrepancies. "All you really need is a couple of successes and that opens the door," he says. "Now we can't do enough. A little of that goes a long way. We've stabilized a lot of the operations and allowed

them to have an integrated system to do their job a lot more effectively."

Korbel is now upgrading its ERP (JD Edwards release 8.12) and BI systems, deploying dashboards and looking to share sales information with distributors and retailers to better understand what is selling, at what price and where. Bar codes allow individual wines to be tracked with optical scanners from the bottling line to the checkout line, providing real-time sales data.

"The first two years were just 'Solve the problems and get things right,' " Barnes says. "Now it's about being a more efficient and productive organization. I see us getting into a lot more analysis of what we sell and who we sell to, what's profitable, who's buying what, making projections and accurate forecasting.

"It's a fascinating business," he says. "You put a plant in the ground and have to figure out what kind of grapes will be selling in several years." ■

Michael Ybarra is a contributing writer for SearchCIO-Midmarket.com. Write to him at editor@searchcio-midmarket.com

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Data Mining Helps Solve Departmental Problems

Operational BI goes way beyond basic analysis: It now supports the day-to-day operations to generate revenue and increase profits. BY MICHAEL YBARRA

THINGS WERE A bit blurry at 1-800 Contacts Inc. Managers at the online contact lens retailer didn't have a very clear vision of how well customer service reps were doing their jobs until well after the fact, when they ran manual reports on weekly numbers and posted the spreadsheets on the wall.

"We didn't have a real comprehensive view of the call center," says Jim Hill, the data warehouse manager at the Draper, Utah-based company. "An agent wouldn't know there was an issue until the following week."

Contacts needed a better view of the business, so the company deployed a new business intelligence (BI) product that allowed call center agents to see their performance metrics—closing ratios, average order size, calls in queue—in real time.

"Each call center agent has the ability to see how they're performing," Hill says.

Business intelligence is nothing new for many mid-sized companies, but what's changing is the way firms are integrating the tools into their daily, minute-by-minute activities. This

newest flavor is operational BI—as opposed to strategic or tactical, such as launching a new product line or opening a new store.

"Operational business intelligence supports the day-to-day operations to generate revenue and increase profits," says Wayne Eckerson, research director at The Data Warehousing Institute (TDWI) in Hingham, Mass., who has surveyed companies on how they use BI. "Historically, that's not been the province of business intelligence; traditionally, BI has been used by analysts to do after-the-fact analysis. Operational BI opens up a whole new landscape and drives greater value from the investment."

A survey by TDWI found that 53% of 423 companies are deploying BI in an operational capacity. Of those, 35% say they are still exploring the concept; 27% are under development and 11% have recently deployed.

Another company having some success with operational BI is Eastern Mountain Sports Inc., an outdoor retailer based in Peterborough, N.H. A couple of years ago, the company deployed WebFocus, a BI product

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from Information Builders Inc., to create dashboards layered atop its mid-tier AS/400 platform in order to better manage inventory.

Then last year the company added a payroll dashboard that allows managers at its 80 stores to track staffing and sales in almost real time and make adjustments to put more workers on the floor at peak hours.

“We put up a set of graphics and management can see very quickly where staffing may be out of whack,” CIO Jeff Neville says. “You can see hour by hour. We could have updated every 15 minutes. We chose a 24-hour cycle. We wanted floor managers on the floor, not slaving over reports. I didn’t want them playing a video game. As part of their daily routine, they can review trends and make plans.” Leveraging its earlier BI deployment, EMS was able to go live in six weeks with the new dashboard.

“With that information in place we could add different dashboards for very small money,” Neville says. “For a very small investment, we’re getting a very big payoff.”

There are technical challenges. Operational BI requires a fundamentally different design and architecture, more frequent, intraday updating and low-latency data.

Operational BI also requires a new way of doing business for some IT managers. The data warehouse can no longer be updated in a batch process during off hours. That means new architecture for data acquisition and delivery mechanisms and high-

availability processes.

Queries must return in real time and reports must update dynamically, which requires capturing large volumes of data without degrading the

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—JEFF NEVILLE, CIO
EASTERN MOUNTAIN SPORTS INC.

performance of existing processes. That puts a premium on building resilient systems with good backup and recovery.

“When we created our data warehouse we processed records early in the day,” Hill says. “We had to layer on an additional intraday load every 15 minutes. We had to write two sets of ETL [extract, transform, Load] processes and another layer of monitoring for SLAs [service-level agreements]. For the most part, the tool set is working well. It’s a matter of taking the concepts and building a smaller version to refresh.”

Nevertheless, Hill says the biggest challenge wasn’t technical but training: keeping the high-turnover workers up to date on the business logic used for incentives.

“The ultimate objective is to make the presentation of information so clear that it doesn’t take a lot of understanding,” Hill says. “It was a challenge because of the complexity of the incentives. We compare everyone

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Zach Church
News Writer

Jacqueline Biscobing
Managing Editor

FOR SALES INQUIRIES:
please contact
Stephanie Corby
Director of Product Management
scorby@techtargt.com
(781) 657-1589

working the same minutes, compute their scores so it's fair across the busy and quiet times of the day. We've achieved a good level of understanding of how they're performing today, but that link of how they're performing to earn their score isn't there. We're trying to fix that. All of the performance measures will stay the same—closing ratio, average order size—but we're looking at how to make the accumulation of scores much easier."

The results have been dramatic.

"We saw a lift of \$50,000 a month in revenue; average order and closing size improved, while maintaining quality scores," Hill says. "We were able to increase closing ratio and average order size without sacrificing the customer experience."

Still, it's also possible to oversell BI and Hill says CIOs need to partner with the business to determine the system's optimal requirements.

"Do they really need the data real time, and what is the business benefit?" Hill says. "I don't think all data needs to be real time; there's a cost to it. You need the systems, the bandwidth. It will require an investment in hardware to hand the volume. You don't want to provide the data faster than the business will consume the data.

"Fifteen minutes is plenty fast. We don't want the agents to spend all their time checking their numbers." ■

Michael Ybarra is a contributing writer for SearchCIO-Midmarket.com. Write to him at editor@searchcio-midmarket.com

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