

Operational BI Comes of Age

Companies are now starting to use business intelligence in non-traditional and unexpected ways.



Business intelligence has traditionally looked backward. At the end of the week, a business analyst would crunch numbers and produce a report that, for example, told a detergent maker how many more sales it would have made if products had been diverted to other stores in its Midwest region.

That backward-looking focus is becoming a thing of the past. Companies now are placing BI into operational applications, and it has expanded from a

mere strategic analytical tool to the front lines in business operations. Because of this expansion, front-line workers have the insights they need while they are making decisions about a product, customer, partner or supplier, instead of two or three days after the fact when the opportunity is gone.

For instance, operational BI informs store managers how products sell on an hourly basis. That information, combined with weather forecasting and predictive models, guides the managers on what



Suzuki Rates With Hyperion

The American Suzuki Motor Corporation (ASMC) manages 1,700 dealerships in 49 states. Four years ago, the Automotive Service Division sought to measure dealer warranty and service performance. Today, using its Hyperion Business Intelligence Platform, decision makers scattered across the U.S. receive easy-to-use dashboards highlighting warranty claim and external customer satisfaction.

ASMC employees are now equipped work with their local dealers to improve performance. In addition to making visible differences to customers, the claim submission process is improved so that paperwork is more accurate and claims are paid more efficiently, saving time and money for both dealers and ASMC.

"With our Hyperion solution, we have the flexibility to rate dealer performance on a number of different objective criteria," said Claire Ashby, data warehouse specialist. "We even grant dealers warranty claim self-authorization status based on scores presented in dealer performance reports."

<http://www.hyperion.com/customers/>

products to mark down the following week.

When embedded into call centers, BI routes data through analytic applications so call-center agents can treat different customers differently. A customer with a high customer-lifetime-value who complains of a defective product would get an apology and have a replacement shipped out for free. A customer with a low lifetime value would get the same apology but be told, "We'll get that replacement part to you right away. How do you want to pay for the overnight shipment?"

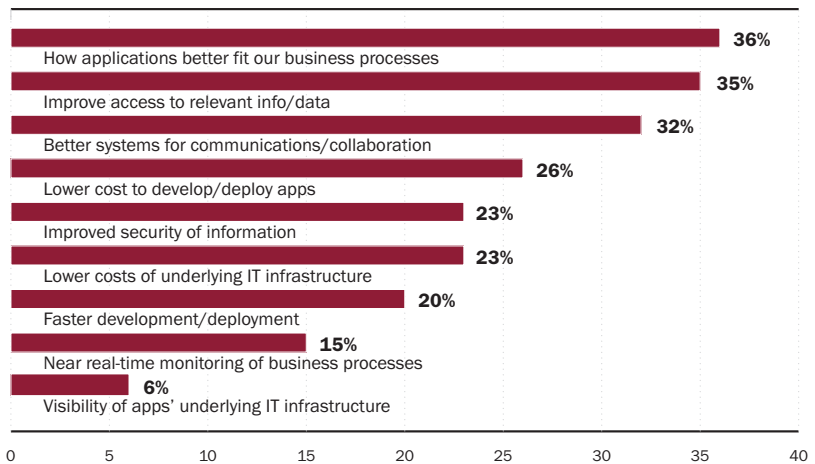
technology. And leading vendors say that implementations in the tens of thousands are not uncommon.

Rich Clayton, vice president of product marketing for Hyperion Solutions, offers as an example a huge defense contractor client with more than 159,000 employees. For this large aerospace concern, "every manager, which is one out of every seven employees, is on a BI system," he says.

With that many people using the system, it's critical that data is made as homogenous as possible, so that an answer

For IT, It's a Process

What are the most urgent improvements your IT organization needs to make to support your business?



Source: IDC survey of 204 IT executives

In a few years, some experts expect, call-center applications will be embedded with intelligent agents that will read the anger level of callers going through voice-response prompting systems. Such capabilities are already trickling into large enterprises. In the future, the systems will play subliminal messages to calm the caller while alerting call-center workers what to expect before they pick up the telephone.

Small Deployments

Operational BI now largely focuses on small (fewer than 25 users) deployments, according to a recent study by Ventana Research. The study suggests, however, that large-scale deployments of 1,000 or more users will grow rapidly as companies recognize the value of and gain trust in the

from accounting is an apples-to-apples comparison with a similar number from manufacturing. "There is a significant standardization effort to provide information in a consumable format for every manager in a company," Clayton says.

As companies expand their use of operational BI, they will need a new mindset as much as new technology. Companies need to become process, rather than data, centric and understand how data flows throughout the extended value chain. "The BI world has done it backward," says Henry Morris, an analyst with International Data Corp. (IDC). "People just put all this data in the data warehouse and then see what they can do with it."

The real questions are: What kind of process would a company build if it had a

more intelligent way to make decisions on credits and other operational matters? What kind of data would it need?

Operational BI starts by asking what outcome company officials want, rather than seeing what data is lying around and then generating a report. It truly works when managers forget it exists and the technology becomes a seamless and invisible part of the business process.

Asking New Questions

In the past, BI has been used for strategic decisions that were broad in scope but made infrequently, such as Do we acquire company X or company Y? Is it time to discontinue a product line and start a new one? Operational BI, on the other hand, focuses on more restricted but more common questions: Are these transactions evidence of fraud? Do we extend credit to this customer?

“Organizations constructed glorious BI systems and data warehouses that went unused until they built that analytic output into some operational context,” says Doug Laney, co-founder of Evalubase Research.

The operational use of BI is expanding quickly beyond executive dashboards, the Web-based information systems that track company performance. Performance management is aligning organizational resources with business operations and goals. It is also the “feedback loop” used to refine strategy based on achieving set objectives. Analytics defines, measures and tracks the information about

those business goals and results.

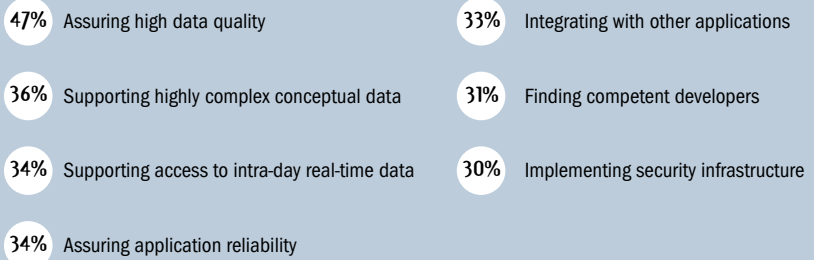
This type of data ripples throughout the organization in powerful and unexpected ways. Take a sales rep who just closed a big deal. While he is popping open champagne, “someone in the finance department may be pulling out his hair because the customer who is buying a lot never pays on time,” says Roman Bukary, vice president of analytics applications at SAP.

line workers. The sales rep may act in a different way depending on whether the corporate objectives are, say, improving top-line growth or profitability.

Start With an Easy Win

Operational BI often can provide several benefits at once. Take an automobile manufacturer that is required by law to identify the early warning signs of defective tires.

7 Biggest Development Challenges



Source: Ventana Research survey of 102 executives

By providing the right information to the sales rep at the right time, Bukary says, the salesman can negotiate with the customer on new payment terms, connecting the sales activity to the financial requirements in a single, seamlessly integrated business process. By putting analytics in the context of the sale—such as a customer credit score or the profitability margin of the customer—the sales rep can alter his decisions at the point of interaction, where it has the most impact.

In this manner, operational BI helps tie corporate objectives to the actions of front-

“If you have better early warning of product defects, you might be able to give guidance to service technicians about what they need to do when they see certain symptoms, thus improving customer satisfaction,” says IDC’s Morris.

Given the wide-ranging impact of operational BI, it’s no wonder the technology becomes so important so quickly. According to the Ventana Research study, 48 percent of the people who used operational BI applications access them on a daily basis. Only 15 percent access these applications monthly or less. This frequency shows that BI is a key tool for managing daily and even hourly operations.

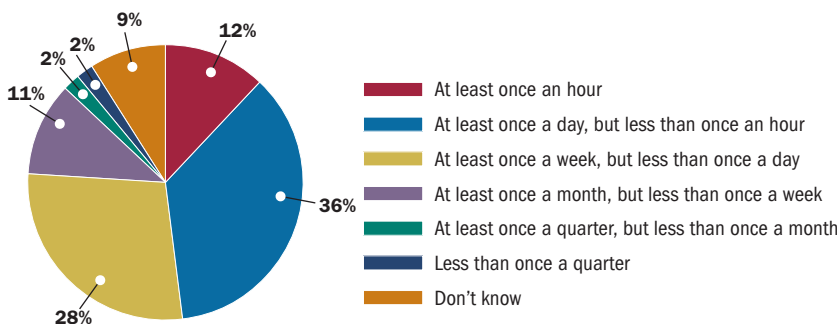
The easiest place to launch an operational BI initiative is often at the departmental or workgroup level, allowing those organizations to turn to their own IT departments. “The best practice is to start with a single issue or process and work your way up,” says Karen Williams, vice president of BI marketing at Cognos. “You can’t cover the entire company with the first implementation.”

Departmental implementations can often establish a clear relationship between the BI project and the results the company wants to achieve. A manufac-

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Once They Get It, They Use It

How frequently are business intelligence applications used for operations?



Source: Ventana Research survey of 403 middle and senior managers worldwide

Who Do You Trust?



etting front-line workers to trust operational business intelligence isn't always easy. Many workers are reluctant to give over intuitive decision-making, especially when there are occasional glitches in the data.

That's one reason strong executive sponsorship is important for operational BI initiatives. Henry Morris, an analyst at International Data Corp. (IDC), recalls a bank that had customer segment managers who decided what promotions to do and then sent those recommendations to front-line people in the call center. "There was a problem getting front-line people to use those recommendations," he says. "These people felt they knew their customers and wanted to use their own gut sense."

"Often, people don't trust the data in a new analytic application because it is different than what they are used to seeing," says Wayne Eckerson, director of research at The Data Warehousing Institute. "The technical team needs to reconcile the data in the new application with existing applications to prove the data is reliable and trustworthy."

Using Metadata

One way to help build trust in operational BI is through metadata, which shows where the data was created and where it was calculated. Metadata is the data that describes the data.

Metadata becomes much more important in operational BI because deci-

sions are being made on data that is *more granular* than the data that is used in traditional BI, says Doug Laney, co-founder of Evalubase Research. In many BI projects, though, metadata "is put on the back burner," he says. "And that comes back to burn you."

"You need to deliver data in the right level of detail and structure to be consumed."

—Doug Laney, Evalubase

The reason for the lack of emphasis is that many stakeholders and executives don't understand the need for metadata up front. They just want the data, and the metadata is seen as a "nice to have." However, when the data arrives, those same executives suddenly discover an intense interest in knowing its origins.

"Both a good project manager and architect know these questions are going to come up, and they build the metadata development into the project," Laney says. "People want to have continuous knowledge of where this data is coming from, how it got there, and why they should trust it."

At the same time, companies must be careful about the kind of metadata they provide. "A metadata zealot can really suck a project dry getting overzealous about what kind of meta-

data is delivered," Laney says. Such things as taxonomy—a classification scheme that is interesting in a theoretical or academic sense—aren't necessarily of use to business users.

"Casual users want to be spoon-fed results," he says. "The more textual the presentation, the better. Power users might want more detail so they can drill down into the data. They want a sound bite in their head, not a whole pie chart in their head."

Some of the most successful projects, Laney notes, have addressed the metadata issue by putting up a Web site that explains what the fields in a report mean, where the information comes from, and how frequently it's updated.

The People Factor

Still, even the best operational BI has limits. Human beings can compensate for some data quality and cleanliness with the fudge factor. "That's why humans have to be involved in the process," Laney says. "You need to deliver data in the right level of detail and structure to be consumed."

Even something as apparently simple as inventory is trickier than it might seem. For instance, a sudden spike in sales might cause a demand-planning application to issue a purchase order to suppliers for more raw materials. However, the application must be fine-tuned to appreciate that one monthly fluctuation doesn't necessarily represent a trend that will continue. ■

Continued from page 5

turer that monitors quality and thus reduces the scrap rate of raw material so more finished goods are produced can instantly see the benefits of operational BI. In this way, operational BI gets around the criticism that has bogged traditional BI in the past—how can it be measured?

Wayne Eckerson, director of research at The Data Warehousing Institute, notes that departmental implementation can create the potential problem of analytic silos. Still, many companies have difficulty turning a departmental BI application into an enterprise-wide deployment. “The business isn’t sure how to turn over an analytical application to a centralized IT group that they distrust and see as fixated on standards as opposed to business value.”

One-off projects, in a sense, can become victims of their own success. Experts say there will be increasing pressure on IT to think about BI at the inception of any new application, whether it’s homegrown or off-the-shelf. Companies need a centralized strategy so they don’t end up with five different tools in five different departments.

“It’s hard for CFOs to sign off on a \$2-million systems reengineering project,” Hyperion’s Clayton says. So companies that focus on departmental BI implementations still “need some master data plan for the company,” he says.

BI Resources

Business Objects SA

<http://www.businessobjects.com>

Cognos Inc.

<http://www.cognos.com>

Deltek Systems Inc.

<http://www.deltek.com>

Hyperion Solutions Corp.

<http://www.hyperion.com>

IDC Business Intelligence and Business Process Forum East

<http://www.idc.com/BIeast05>

SAP AG

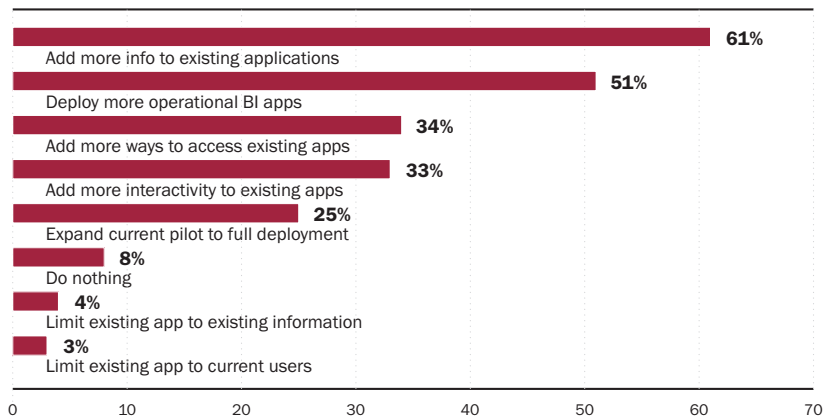
<http://www.sap.com>

The Data Warehousing Institute

<http://www.tdwi.org>

Sharing the Intelligence

Users intend to expand their operational BI deployments.



Source: Ventana Research survey of 395 middle and senior managers worldwide

“To be successful,” says Rick Lowrey, executive vice president of Deltek Systems, “companies must mine key information, understand the business processes and match them to the strategy of the business.”

People and Data Issues

According to the Ventana Research study, the biggest development challenges to operational BI are data-related issues such as assuring data quality (47 percent), supporting highly complex conceptual data models (36 percent) and supporting access to intra-day real-time data (34 percent).

Operational BI applications can have rigid demands, combining structured and unstructured data in a single view. “There is a trend to standardize processes across the whole organization to achieve a single version of the truth,” says Cognos’ Williams. But because data is coming from multiple systems, in batch and real-time mode, analysts say that companies need a robust, highly scalable and extensible platform.

“Most processes are cross-functional, but a lot of data is collected functionally,” Williams says. “It is important to get a picture across different functions to look at the whole process.”

However, people and cultural issues are at least as important as business process or technical stumbling blocks. IDC’s Morris notes that “organizational issues trump technical ones.” Data doesn’t become integrated because people won’t share their

data or because companies haven’t decided who is responsible for maintaining the data. Partly because of this, IT shouldn’t discuss interactivity or data needs before understanding the business challenges in a solid way.

Properly integrating BI with operational applications remains a challenge as well. “You have to understand the environment everyone works in,” says Lance Walter, global vice president of product marketing at Business Objects.

In the past, BI implementations often assumed that browsers and portals were the key to presenting information. “But most people don’t spend all day in a portal,” Walter says. “You need to understand the different ways people work and fit into office applications and e-mail.”

Indeed, in the Ventana Research study, e-mail was the most important means of information redistribution, cited by 74 percent of those surveyed. Operational BI applications must be integrated with e-mail to facilitate joint management of goals, forecasts and plans.

The most important ad hoc capability, cited by 81 percent of those surveyed, was the ability to export to Excel. Excel should not be “viewed as a demon to be excised but as an asset to be embraced and managed,” Ventana notes. One way to achieve this: deliver reports already in Excel formats to assure consistency of use and re-use.

How is operational BI being used? The

SPECIAL ADVERTISING SECTION

most common form of analysis, cited by 83 percent of respondents in the Ventana Research study, was comparison of actual to plan, forecast or variance. Also important were key performance indicators (KPIs), the ability to uncover threats and opportunities, root-cause analysis and a complete customer view.

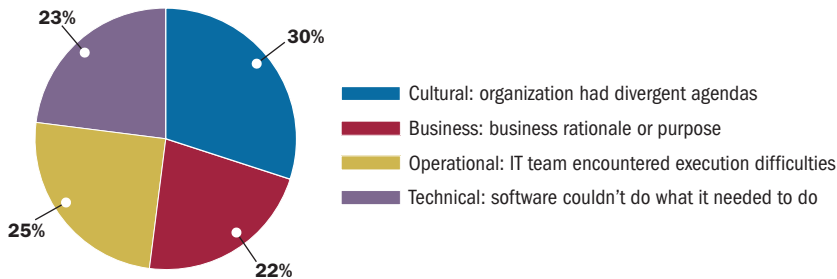
Cultural Changes Required

Rolling out BI to non-power users also brings up unexpected cultural issues. Business Objects' Walter recalls a company

implications of data they couldn't see before. "People may need to get accustomed to reviewing and understanding the scorecard," says Deltek's Lowrey. Workers may also need to learn how to interpret the information on the screen and acquire a better sense of how the business measures itself.

This corresponds to "a broader recognition that employees have to react on a daily basis to high-end strategies," Lowrey says. "Companies have migrated away from rigid planning processes to be more real time in navigating their businesses."

Where Are the Operational BI Stumbling Blocks?



Source: Ventana Research survey of 101 middle and senior managers worldwide

that adopted a BI tool that allowed managers to track key metrics of groups on a daily basis to see how they were doing. From a BI vendor perspective, that sounded like a panacea. However, one manager at the company said, "If you can do that, you can give my boss the same level of direct access to information about me." Which was true. But accepting that was a large cultural change in a company where managers were used to preparing their data on spreadsheets and presenting that to their bosses.

The largest challenge of training isn't so much about how to use the BI tools, but in helping non-power users understand the

Not surprisingly, 58 percent of the respondents in the Ventana Research study said executive mandates were the reason for deployment. About 50 percent cited using business cases as well as some form of user involvement and total cost of ownership (TCO) calculation. The perceived application success, Ventana found, was significantly higher for organizations that involved users in gathering the applications' requirements.

"The technology is finally helping to make BI more democratic," says SAP's Bukary. "Business users have always wanted and needed access to this kind of information, and now they have it." ■

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