



GET on BOARD

by Yvonne Carts-Powell

Operational business intelligence lets you make the right moves to give your company the competitive edge.

Only a few years ago, business intelligence (BI) was the sole province of analysts, and then of analysts and executives. Business intelligence was based on historical data stored in the batch-loaded data warehouse. The ability to query hundreds of thousands of records in the data warehouse in order to answer strategic questions regarding long-term goals was a huge advantage over the previous state of affairs, but it was almost entirely irrelevant to enterprise operations.

In operations, many people process multiple short queries (for production, order entry, billing and transaction-processing systems) that need answers quickly. The frontline decision makers used systems isolated from the rest of the enterprise, designed to manage the day-to-day or even minute-to-minute workings of the company. Useful data might exist in the data warehouse, but it seldom came into the hands of the frontline managers, and even more seldom would it arrive in a timely way.

Part of the problem was that, until recently, one environment could not gracefully support both the massive analytical queries typical of

strategic BI and the quick transaction queries typical of operations.

Companies that embed BI into operational processes—those that add data and straightforward tools for accessing that data—provide managers with information about potential problems and possible ways to optimize the process. If operational BI, which is sometimes called enterprise BI, is implemented thoughtfully, then line-of-business (LOB) managers and frontline workers are given the tools and data to do their jobs better. These forward-thinking companies are rewarded with increased efficiency, a competitive advantage and the ability to strengthen customer relationships.

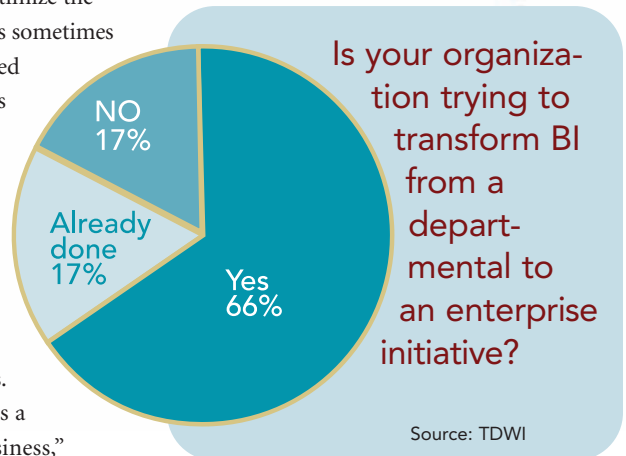
“Operational BI is emerging as a powerful new dimension for business,” says Wayne Eckerson, director of research and services for The Data Warehousing Institute (TDWI).

Now, organizations are fast learning that operational BI is the next step in extending the value of the enterprise data warehouse (EDW), Eckerson says. “We’re interested in the past, but also what is happening right now,” he adds. “To use BI to manage operational processes, we might need warehouse updates in real time, or every hour, or a few times per day, depending

on the business requirements.” While financial information may be able to wait until the end of the quarter, the manager of a shipping operation, for example, might need to know every 15 minutes where his trucks are. “Different types of data need to be updated more frequently than others,” Eckerson adds.

Old batch-loaded data warehouses aren’t up to providing this sort of information, but new methods allow updates in almost real time. Mark Beyer, research director at Gartner, agrees. “Operational BI requires more frequent updating than once a day.” Without that capacity, he says, “my ability to do operational BI is severely limited.”

Given the challenges of loading more timely and fresh data, along with many more users



invoking additional queries, it’s imperative to have solutions that make these systems feasible. These can include mixed-workload management, quickly alerting managers to events outside the norm and scalable storage methods.

Fast-acting BI

In addition to incorporating BI into operational systems in a way that provides useful data to frontline users, the BI

OPERATIONAL BI IN ACTION

When a customer who recently bought a backpacking tent online returns to browse for small camp stoves, an intelligent system can provide links to other backpacking equipment. If the customer tends to surf away from the site before purchasing items, then additional information, such as weather conditions in nearby hiking areas, might keep her at the site longer. And while a high-value customer is browsing, it’s exactly the right moment to offer a coupon.

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infrastructure now must also incorporate new data and respond to queries quickly. For some situations, “quickly” may mean fractions of a second, while other queries can wait longer. Prioritizing these queries depending on their response requirements has been another challenge for operational BI implementers.

The challenge is not to provide all data in real time. Rather, the operational BI system needs to provide the right information to the right person at the right time. Although user inertia can slow adoption of operational BI, most users will jump at easy-to-use tools that allow them to make smarter decisions quickly.

Delivering this information when it’s needed to a customer (via a sales rep or an automated Web site) can lead to more sales and happier customers. Customer service representatives can use data that allows them to grasp “the sellable moment.” Many Web sites already provide some intelligence, tailoring their offerings based on the browsing and buying habits of customers.

The competitive edge that operational BI offers is the main driver for developing pan-enterprise BI systems, according to TDWI. In order to turn operational data into operational BI in the same system that provides strategic BI to executives, a data warehouse must be able to accept mixed loads and provide near-instant responses to the most time-sensitive queries, as well as handle a large number of

users. An active data warehouse supports right-time BI by accepting data in near real time and by acting as a data source for both strategic and operational applications. Also, business rules can be incorporated into the active data warehouse to allow it to act autonomously—by sending out alerts, for example—and speed the company’s reaction to events.

What’s next?

Eckerson and Beyer believe the implementation of operational BI will extend the value of the EDW. Furthermore, operational BI may be used to anticipate possible outcomes for “what-if” scenarios, says Beyer.

Future systems will generate more data than today’s, so the operational BI system must be scalable in updating, managing and supporting more data and users, as well as balancing the mixed workloads of business and operational users.

A fast food restaurant may know that traffic congestion on the nearby highway greatly increases on Friday afternoons in August, which results in more motorists dropping in to buy a meal and escape the traffic backup. Is there a way to use this data, with its many variables, to figure out when to start making more burgers? To answer this question, TDWI plans to release a report that addresses this very topic: “Best Practices in Predictive Analytics: Extending the Value of Your Data Warehouse.”

Additionally, Beyer muses that companies someday could use operational BI to anticipate the actions of other companies. “I would love to use BI to determine whether a competitor [will do] something unexpected,” he says. **T**

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DRIVEN BY DEMAND

Mark Beyer, research director at Gartner, offers this example of demand-driven operational business intelligence (BI): “If I have a warehouse that can’t accept more goods, and another shipment has been sent from my suppliers, then [the automated operational BI system] notifies me that I have to clear space in my warehouse. I might be able to do that by sending items to manufacturing. This has ripple effects. An automated system can send a message asking the production line to speed up. A manual or automated message from manufacturing might say it can’t. In that case, we have to slow down the other side.” The warehouse manager is alerted to the situation and given the information necessary to make a good decision.

Now consider the situation from a trucking company’s view. The truck driver has a list of deliveries. One customer’s delay will cost the driver’s company money by delaying arrival at subsequent stops. That cost is also passed onto the delaying customer as a penalty. If the company has an operational BI system that incorporates the truck’s location with a global positioning system (GPS), traffic information and the destinations of the truck’s cargo, then the shipping manager has the information necessary to calculate penalties for a delay of five, 15 or 30 minutes.

Such a system, explains Beyer, “allows the trucking company to tell the customer how much an unloading delay will cost—before the penalty is incurred. This is a huge competitive advantage.” —Y.C.

HIGHLIGHTS OF OPERATIONAL BI

- > Integrated with operational systems
- > Used for both long-term and short-term strategy
- > Includes line-of-business (LOB) and customer service
- > Access to past and present data
- > Provides information that is actionable

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