

How CIOs Can Reap the Benefits of BI Technology

Many companies are embracing business intelligence technology, but often with limited success, according to a recent survey of CIOs. Why? The successful ones share their best practices.

Today's companies, particularly large enterprises with global operations, have no problem collecting data. In fact, more data is being stored and shared by more users, in more formats, across more systems than ever before. The challenge is in consolidating multiple data sources and leveraging the data to gain perspective and insight so business leaders can make smarter, better-informed decisions that move the business forward.

Many companies have implemented business intelligence (BI) technology to help them leverage their data to analyze trends, make forecasts, anticipate problems and see around corners. Among other things, CIOs expect BI to deliver business benefits including corporate performance management, data drilling capabilities, improved operational efficiency, data integration and real-time performance analysis.

BI solutions have already been adopted in a significant way. According to new data by IDG Research Services:

- **65 percent of CIOs already have a BI solution in place**
- **6 percent plan to invest in BI within 3 months**
- **7 percent plan to invest in BI within 3-6 months**

That's the good news. The bad news is that only 27 percent of respondents who use a BI solution report being extremely successful or very successful with it. Forty-five percent report being only somewhat successful while 17 percent say they are not very or not at all successful.

Berlin Packaging, one of the largest packaging suppliers in North America, wanted to avoid being one of the unsuccessful companies. "BI is one of those things that we

talked about for years," says Steve Canter, Berlin's CIO.

"We had been running standard reports and stand-alone spreadsheets, manually compiling them together in Excel," he explains. "There are many problems with this two-dimensional reporting, and we finally said enough is enough. What finally pushed us over the edge to implement BI was a need to do a better job budgeting and forecasting, which is very important from a sales and gross-margin perspective."

Indeed, according to CIOs, managing corporate performance is one of the top three drivers for implementing BI, along with a need to increase efficiency and a desire to get better transparency into company data.

But despite the promise to help companies drill down into the terabytes of data at their disposal, BI has, too often, not lived up to expectations. This paper examines the common reasons for the lackluster performance and, based on interviews with CIOs who've been suc-

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successful, serves as a guide to illustrate how companies can turn their underachieving BI technology into real competitive advantage.

COMMON BUSINESS AND IT CHALLENGES

Data reveal many obstacles to a successful BI implementation. Understanding these challenges and the reasons why BI often fails is important because it can help those who are just starting down the path to BI avoid making the same mistakes.

According to CIOs who have implemented BI, some of the most common reasons why the technology falls short are:

- **lack of adoption by users**
- **technology doesn't support a global view**
- **multiple data sources require manual translation (costly and timely)**
- **limited functionality/hard to use**
- **lack of resources**
- **information architecture design not well thought-out**
- **big BI vision dissolves into fragmented, rather than unified, solution**

Many BI initiatives falter because the analytics capabilities, that are the core of the system aren't even used. Many users simply pull data from a data warehouse or data mart and dump it into a spreadsheet. The analytics capabilities are perceived as too complex.

Major barriers to BI implementation

Lack of resources	57%	Time frame	18%
Cost restrictions/budgetary concerns	52%	Supporting multiple tools for end users	17%
Staffing needs	36%	Managing upgrades	14%
Effort required by end users to understand and juggle available tools	34%	Functionality redundancies	11%
Time to build/maintain new interfaces	28%	Risk of implementation	10%
Impact on data quality due to interfaces	21%	Effort for troubleshooting	6%
Data redundancies	18%	Supplier relationship management	2%

Source: IDG Research, April 2009

A true BI implementation includes both reporting and analytics. CIOs indicate a much higher success rate with BI when users embrace both. For adoption to increase, it's necessary that the data warehouse be integrated with commonly used desktop applications familiar to users. The success of BI initiatives depends not only on how data and the data warehouse is architected (itself no small feat) but also how easy it is for users to access, slice and leverage the data for their own purposes.

This is borne out in the survey, in which nearly 80 percent of CIOs rate user friendliness as an extremely important or important factor in evaluating a BI solution.

To help drive a higher adoption rate and therefore ensure a higher degree of BI success, CIOs say it's imperative to involve your target audience throughout all stages of planning and implementation. Doing so means that users have a real voice in the design of the BI system, working with IT to ensure that the system produces data that is relevant to them.

Before deploying a BI solution, Greg Davidson, CIO of Active Aero, a transportation management company, held focus groups with potential users—in this case, the company's largest customers. Doing so enabled the IT department to deploy a system based on their direct feedback.

"We walked them through our early prototypes and they had some great ideas," says Davidson. "Our customers are looking to save money on shipping costs and they're looking for a causal analysis when the supply chain breaks. What within the supply chain is driving their costs? We now track that for them and provide analytics dashboards and drill-down tools."

Its BI initiative has been very well received by customers, so much so that Active Aero is considering offering its BI technology as a paid, premium service, and the company's accounting and finance staffers want the technology deployed internally.

Further, Davidson said he believes BI helps give the \$150 million company a competitive edge over like-sized rivals and compete on more equal footing with much larger competitors.

In terms of understanding and anticipating customer buying patterns, there is perhaps no better example of BI's payback than in retail. Consider the well-known case of Wal-Mart, a pioneer in data mining. In a 2004 article, the company described its use of proprietary data mining and BI technology to predict which products would sell best at certain stores just as a hurricane bore down on the Florida coast. Knowing the answer (strawberry Pop-Tarts and beer) enabled Wal-Mart to stock shelves accordingly. As an article at the time noted, for Wal-Mart, "knowledge is power and profit."

FIRST THINGS FIRST: GET DATA IN ORDER

CIOs say one of the major pain points of BI is the challenge in getting their data into a format that is ready for BI implementation. In fact, any BI effort is doomed without an ongoing, comprehensive data management strategy.

Think about it. As a company grows, it accumulates

more and more data, generated by more and more users (both internal and external), in more and more formats. What you end up with are isolated pockets of data that may or may not be accurate, with no way to integrate the data across disparate systems.

How can sound business decisions be made quickly if all of the relevant stakeholders don't have access to the same consistent data? The answer is that they can't.

Managing multiple data sources is a huge challenge, as evidenced in the CIO survey that shows that 33 percent of respondents cite consolidating data sources as a significant challenge as it relates to BI implementation. As part of any BI initiative, companies should work with technology experts to establish an ETL (extract, transform and load) framework for structuring and formatting data within a data warehouse. An enterprise ETL framework significantly reduces the time it takes to cleanse and transform the data and move it from one system to another.

Having a master version of data—a single, up-to-date record of sales, billing, service, customer and product information, for example—means that everyone has access to the same data at the same time. Decisions can therefore be made collectively based on the most accurate, current information.

CIOs who have been successful with their BI initiatives emphasize the importance of starting with clean data and, for end users, ease of use. Users do not interact with the database or data warehouse directly. The reporting and analytics applications and models must be presented in a way that's very familiar.

"Our primary front end is Excel," says Berlin Packaging's Canter. "The drivers for our BI program were accounting and finance people, and they live in Excel all day. We're presenting data in pivot tables, which they already know very well."

The reporting capabilities that are part of the BI system and are linked to the data warehouse must therefore be integrated with the user's desktop applications. Companies just starting down the path to BI should leverage experts with knowledge of database and data warehouse structure and ETL design. Further, expertise

Benefits users get—and expect—from BI

	Benefits Achieved	Benefits Expected	Do Not Expect to Achieve
Enable corporate performance management	22%	65%	6%
Enhanced data-drilling capabilities	22%	62%	9%
Improve operational efficiency	20%	63%	9%
Increase business agility	12%	70%	11%
Data integration	21%	59%	9%
Early detection of problems	12%	69%	12%
Real-time performance analysis	18%	56%	15%
Easy maintenance of data	10%	60%	18%
Identify new revenue growth opportunities	12%	55%	19%
Better manage compliance	14%	50%	13%
Reduced strain on resources	12%	52%	26%
Identify new business opportunities	12%	50%	25%
Maintain IT cost control	12%	35%	33%

Source: IDG Research, April 2009

in integrating server and desktop environments will help ensure success.

THE PAYBACK

Organizations implement BI for different reasons. Some leverage it to gain historical, current and future perspective to make better financial forecasts. Others may want to understand and capitalize on profit-margin fluctuations.

The benefits most often expected include corporate performance management, enhanced data drilling capabilities, improved operational efficiency, increased business agility, data integration and early detection of problems.

At Berlin Packaging, managers needed to report and forecast results with a level of detail that wasn't previously possible. They created a data mart for analysis of gross-margin performance.

"We're selling 20,000 stock keeping units a month so there's a lot to analyze," says Canter. "We're giving our accounting and finance people a tool to look at margin changes over time. There's no doubt the tools are giving us the insight to manage our margins, because we have visibility into what's going on, which enables us to react quickly, understanding why margins are changing and taking corrective action."

Berlin's accounting and finance people have begun evangelizing the benefits of BI, and Canter says he expects its use to spread to sales and operations.

At Active Aero, CIO Davidson's BI initiative has helped its customers identify breakdowns in their supply chain that add to their transportation costs. Taking corrective action reduces costs and can bolster profits. "We're giving our clients meaningful analysis, which is becoming a competitive differentiator for our company," he says.

Further, Active Aero's staff is freed up from manually digging through data and compiling these reports for customers.

ADVICE FOR CIOs

CIOs who have had success with their BI programs offer these suggestions for peers who may be starting down the BI path:

- **Build the right data model. Develop a master data management strategy to manage multiple data sources and develop a framework based on existing resources. Work with experts to develop a solid enterprise architecture, including database and data warehouse design. This can help ease the complexities of data integration and consolidation.**
- **Start with a small, well-defined scope in one or two departments. Clean and compile the data on a small scale, and involve users early. Once the needs of a small group of users are met, they'll evangelize BI and more projects will happen.**
- **If you don't have strong user support, don't attempt BI. Even the best tools won't be adopted if there's no support.**
- **Systems must be easy to use. Tie BI systems into everyday front-end applications to increase the rate of adoption.**
- **Develop flexible, low-maintenance systems to help drive user adoption.**

When all relevant stakeholders have access to the most consistent, accurate and up-to-date information, the best business decisions can be made. BI also helps alleviate, if not eliminate, the time-consuming task of manually searching for and assembling information. EMC Consulting's BI framework accelerates implementation of flexible, low-maintenance systems. Combined with a streamlined methodology for collecting, consolidating, and accessing information, the outcome is faster, more user-friendly BI implementation.

The upshot of better information is better decisions, which ultimately yields a better company.

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