The Data Warehouse Dilemma
In the category of late bloomers, business intelligence (BI) and data warehousing can be added to the list. In use for more than 20 years, BI and data warehousing’s ability to provide substantive benefits remains elusive for many companies. While hard-and-fast statistics are difficult to get, widely reported failure rates for BI projects range from 50 percent to as high as 80 percent.

In a 2011 article, Computer Weekly stated, “Between 70 percent to 80 percent of corporate business intelligence projects fail, research by analyst firm Gartner claims.”

However, such failure rates have not stopped companies from continually trying to gain benefits from BI. The results of a survey released in January 2012 by Gartner found that among the top technology priorities for CIOs, number one was analytics and business intelligence.

BI’s Shortcomings

The desire to use BI is widespread. The potential benefits of BI are widely shared. The technology has been with us for more than two decades. So what’s the problem?

On that, there seems to be a consensus. Database Trends & Applications in 2010 reported, “With business intelligence tools more powerful than ever, today’s biggest BI bottleneck is the source of data itself. Typical BI projects must contend with huge volumes of diverse data spread across various organization, application and technology silos. Each source having its own access mechanisms, syntax, security, etc., few structured properly for consumption or reuse, many with incomplete or duplicate data and a mix of latency issues add further complexities.”

The article continues and explains that the problem is the shortcomings of a technology that has been around for a long time: “Some say the answer to all these issues is a well-functioning data warehouse. But even after years of data warehousing investments, significant BI source data remains outside the warehouse.”

The data warehouse seems like a perfect BI solution. It provides a central repository for storing all of an organization’s data that, in turn, gives reporting tools a single location where those tools can find and extract useful data that can then be analyzed and consumed.

The reality is different. Picture a conventional warehouse with inventory not just coming in and going out via the front doors, but through windows in the walls and holes in the ceiling. Plus, inventory has been stored outside the warehouse at various locations, and it’s constantly being turned over. Trying to get a handle on all of that inventory at any given time would be incredibly difficult and probably impossible.

In the typical data warehouse, a similar situation exists. Organizations evolve and as they do, so do their needs. The inventory (i.e., the data) is dynamic. The tech world has long talked about relational databases, but in a data warehouse, relating data is tough because the data comes from so many sources. Not only are the sources plentiful, but so are their protocols. As the Database Trends article noted, each source often has its own access mechanisms, syntax and security.

With both sources and their data changing constantly, it is no wonder that BI projects so frequently fail. Of course, users and vendors have sought solutions, though with limited success. Traditional BI vendors...
have even gone towards the leading edge by resorting to such solutions as iPad apps or cloud-based tools. But while these are the latest technologies, they are often no more effective because they, like previous technologies, require the use of a data warehouse whose shortcomings they cannot overcome.

Users have tried plenty of options as well. Extract, transform and load, or ETL, is an approach where a wide variety of data is accessed and transformed into standardized protocols that can be used by BI. Sounds good, but in practice, the inconsistencies in the data and the dynamics of the data make even this solution less than perfect. It is enormously time consuming to connect one app and the data warehouse, and most organizations will likely have a large number of apps. By the time the data is in the desired format, the organization's needs have moved on and the BI tools must struggle to catch up. In effect, change happens quicker than results.

What to Do

All is not lost. Rather than seeking the ideal—which is unattainable—effective BI users accommodate to their situation. Flexibility is essential. For instance, there will always be a particular sales channel that is outside the normal reporting model, or a rogue spreadsheet that contains valuable and ever-changing operational data.

Bottom line: acknowledge that your data warehouse will never be complete. Yes, never. The data warehouse is very valuable—it is an effective hub for major software systems—but it is important to recognize its limitations. Rather than trying to eliminate exceptions, you would do better by accommodating them. If you do not, you will always have incomplete data and therefore decisions based on incomplete information.

Needed are BI tools that easily (ease of use is the key) expand beyond the core data warehouse and allow end-users to integrate a myriad of data sources into the BI conversation without requiring timely ETL conversions and data mapping.

This shift happened with a national trucking company that, using leading-edge visualization technology, was able to take data from SAP, legacy and Microsoft systems and, according to an executive at the firm, “Combine it and show it in one picture.”

The payoff was significant. Rather than having the typical BI solution, which he described as a “next day problem solver,” the firm got “real-time problem solving.” He reported that productivity on his shipping docks improved 20 percent and on-time deliveries went from 97 percent to well over 99 percent. In addition, drivers were able to see how to improve their driving techniques, which boosted gas mileage by more than half a mile per gallon, resulting in projected fuel savings of between $12 million and $15 million a year.

Such results demonstrate the power of BI, when it is implemented effectively. You want to put real intelligence into the hands of the average business user. To do so, you need to allow the user to rope in data from spreadsheets, a custom database, a cloud-based application—wherever it sits—so that decisions are made from all the data you have.

Meet Domo

Those BI project failure rates, from 50 percent to as high as 80 percent, can be intimidating, but you do not have to be among those who fail. Talk to Domo. Its solution sits on top of your existing technology and pulls all your data together—no matter its location or format. Rather than trying to create a data warehouse that contains everything, Domo’s technology gives you the flexibility to take your existing silos of data, including the data warehouse, and provide insights and analysis across all of them. Domo gives you real-time, self-service access to all the information you need in one place. No more searching. No more asking. No more doubt. To learn more, please visit www.domo.com, follow @domotalk or call 1-800-899-1000.