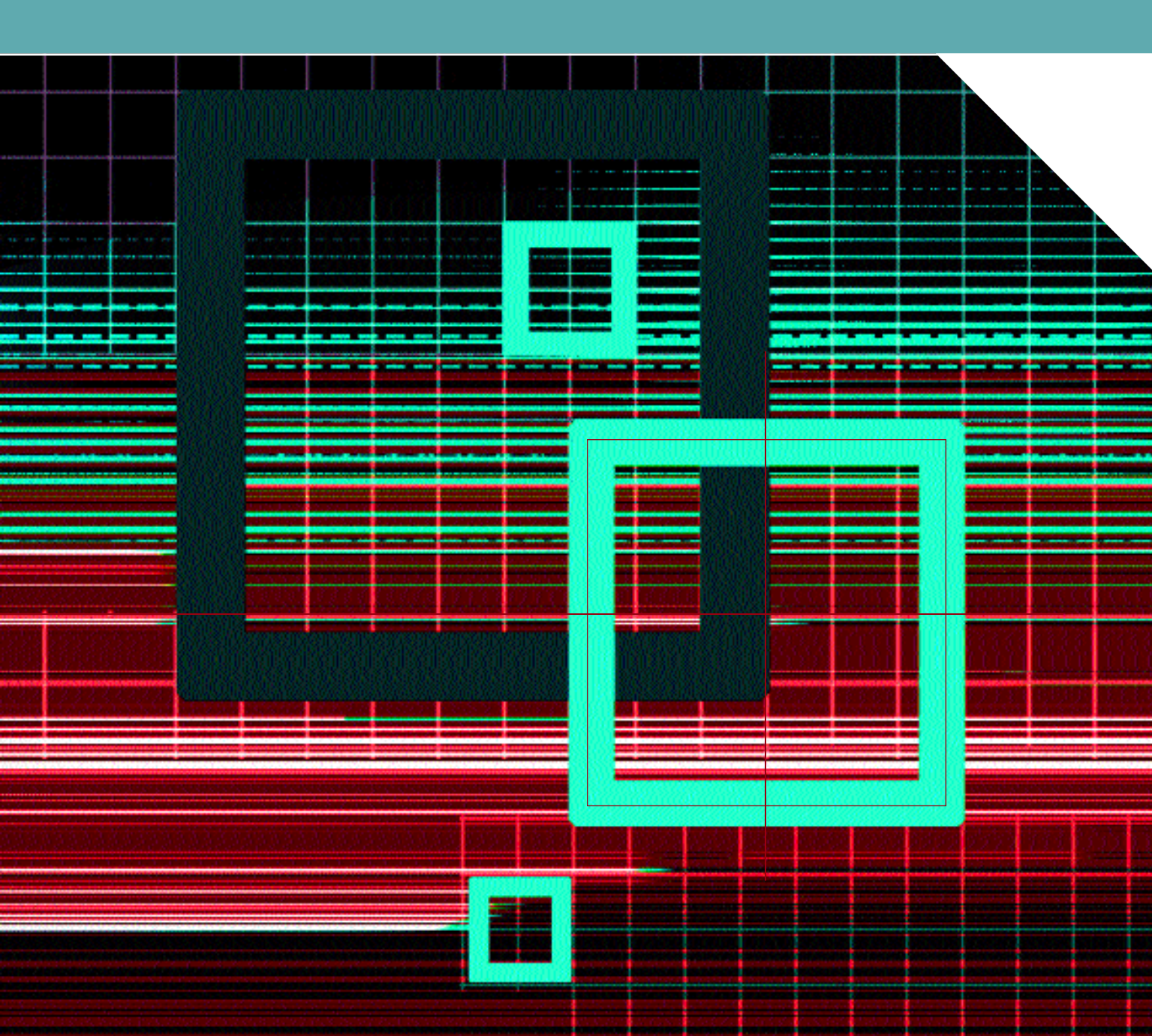


# PROFITING FROM CONSUMER BEHAVIOR

Data mining helps businesses make more money by predicting the spending habits of their customers  
*By Sonya A. Donaldson*

BULLOCK APPLIES THE TAGUCHI METHOD TO TRACK RESPONSES TO ONLINE ADVERTISING.



**RICHARD MOUSER WAS WATCHING HIS company go slowly down the drain. Mr. Waterfilter ([www.mrwaterfilter.com](http://www.mrwaterfilter.com)), his 1-year-old, Houston-based dot-com, would soon go bust unless he acted fast.**

"I was generating traffic and making sales, but my ratio of ad costs to sales was abysmal," says Mouser, the company president, who spent \$85 for every sale he made. He readily admits that although he is a techie with a computer science degree and was running one of the numerous software tools on the market to help improve Web sales results, he had only limited success with it.

Having opted for the do-it-yourself approach, and achieving lackluster results, Mouser was stuck. But at a technology conference in the spring of 2006, he happened to listen in on the tail end of a seminar that David Bullock ([www.davidbullock.com](http://www.davidbullock.com)) was teaching. Mouser says this chance encounter helped revolutionize his business.

Bullock is managing director of White Bullock Group in Carson City, Nevada, a consulting firm that specializes in a

range of business optimization tools and services, including data mining: a market response analysis that helps small companies and large corporations increase their revenues and reduce costs.

By analyzing the spending patterns of a company's existing customers, data miners like Bullock make predictions about consumer choices, thereby improving the efficiency and effectiveness of the way a company sells its products. A better understanding of consumer behavior gives company leaders the clear, actionable information they need to grow their business.

In his seminar, Bullock talked about a data mining technique called the Taguchi method, a testing process that analyzes a few key variables in the sales process that help to accurately pinpoint the best way to achieve a goal. Mouser approached Bullock and asked him for help with his online advertising problems.

Bullock trained Mouser on the Taguchi and multivariate testing applications, and Mouser ran his Website through its paces. He sent visitors to several test pages for the Mr. Water-



BERRY'S DATA MINING SERVICES REVEAL VALUABLE CONSUMER INFORMATION.

filter site and tracked their responses. He tested headers, sub-heads, site copy, and several other elements—and determined which landing page was most effective in attracting customers and, ultimately, in making a sale.

Seven months after using Bullock's consulting services, Mouser's ad costs per sale were an astounding 1/10th of what they had been. Now, instead of paying \$85 to make a sale, he spends just over \$8—and his pay-per-click costs continue to decrease. "My sales numbers have also gone up dramatically," he adds.

Bullock is part of a small but in-demand group of technologists using data mining. Using applications created by SAS, IBM, Oracle, Computer Associates, and Microsoft (which plans to unveil data mining add-ins to its Office 2007 suite of programs this year)—or by designing their own, as Bullock did—these number crunchers track and explain significant patterns, trends, facts, and exceptions that might otherwise go unnoticed.

Data mining, or knowledge discovery, an estimated \$1.85 billion industry, requires the computer-assisted process of digging through and analyzing enormous amounts of data and then extracting the meaning of that data. But for business owners, data mining can be a powerful tool to take their company from zero to profitability—in relatively short order.

Specific uses of data mining include:

- **Market segmentation**—identifying the common characteristics of customers. Market segmentation allows a company's marketing or sales arm to focus on prospects that are "most likely" to buy products.
- **Customer churn**—predicting the factors that cause customers to leave a business and go to a competitor. Understanding these factors helps companies take action to reduce their churn rate.
- **Fraud detection**—identifying which transactions are most likely to be fraudulent.

- **Direct marketing**—analyzing mailing lists to identify the best prospects in order to obtain the highest response rate.

- **Interactive marketing**—predicting what online buyers are most likely to respond to in order to optimize Website advertisements and increase conversion rates.

- **Trend analysis**—analyzing changes over a period of time to forecast future performance.

Bullock, who has been building Websites since 1993 and cut his teeth on the Taguchi method (a process of optimization used in manufacturing since the 1950s in post-war Japan but only lately imported to the West), says that by doing basic tracking, companies could see immense increases in their revenues.

While some data miners focus on the history of customer behaviors, or market basket data, Bullock's firm looks at what customers are doing in the present. "I work with online merchants to increase response rates of online marketing activity based on what the prospective buyer is responding to in real time. While the online customer is in a buying cycle, that's when real-time data mining is so important," he says. Bullock adds that by using such data, he can optimize a Website ad and increase its conversion rate by up to 400%, rather than the 20% to 30% with which most online retailers are happy.

So, is he blowing air? Not likely. Bullock, who has worked with consulting groups that have done projects for such firms as American Express, says that companies simply aren't tapping into their Websites' potential. Failing to do data mining is a crucial mistake that companies both small and large make—especially online. "Today, having a Website is a requirement for being in business," Bullock says. "Most companies don't realize that collecting online data that converts into leads, buyers, and profits is critical. Having a Website is not enough; you need to monitor and evaluate the customer's actions and monetize that traffic."

Data mining has come a long way from the days when it was simply used as a direct marketing tool for mailing lists, says Data Miners Principal Michael Berry. For the small-business owner who wants to plunge into data mining, the industry provides numerous options.

## MINING THE DATA STORE

**Google** (<http://services.google.com/websiteoptimizer>) is getting in on the act with its own Website Optimizer (in Beta at press time), which allows Website owners to test visitor satisfaction with their landing pages, among other things.

**Split Test Accelerator** (\$495; [www.splittestaccelerator.com](http://www.splittestaccelerator.com)) a Taguchi method tool that allows users to conduct split tests on different headlines, graphic elements, and prices in online ads. Choose the winner based on which has the highest click-through and conversion rates. Repeat the process with each winner to constantly improve.

**Vertster** ([www.vertster.com](http://www.vertster.com)) is another firm that provides testing applications, in the form of Split Testing Suite (starting at \$87.98 per month) and Taguchi Multivariate Testing Suite (contact Vertster for pricing).

**Offermatica** ([www.offermatica.com](http://www.offermatica.com)) provides real-time data analysis and reporting and customer segment targeting, giving its small-business clients access to the same online tools as the big guys.

**Unica Corp.** ([www.unica.com](http://www.unica.com)) offers consulting services as well as advanced solutions for marketers and statisticians in the form of Affinium Model, which monitors customer behavior patterns and integrates with the end user's technology infrastructure.

**Computer Associates** ([www.ca.com](http://www.ca.com)) provides a range of applications from the big enterprise level to the small business, including tools such as AllFusion.

For companies looking to maximize their online profits, there is also **Revenue Science** ([www.digimine.com](http://www.digimine.com)), which uses behavioral targeting methods to provide a range of marketing solutions to clients.

### DATA WORTH ITS WEIGHT IN GOLD

Who are you? What do you purchase and when do you purchase it? The details in the answers are a gold mine to Michael Berry, founding principal of Data Miners Inc. ([www.data-miners.com](http://www.data-miners.com)) in Boston. Berry's clients rely on his business intelligence and consulting firm to find out things like the type of cell phone you prefer or whether you use a debit or credit card. Sifting through these bits of consumer information provides only a glimpse into people's lives. But for Berry, applying data mining technology reveals not only hidden patterns about what people buy but about what they may buy tomorrow.

According to Berry, data mining is simply "the finding of patterns in data that are predictive." The co-author of several books on the topic and considered by many in the industry to be a pioneer in the field, Berry says if you have customers, you have customer data—and probably more information than you think—to create effective and profitable marketing plans.

Berry, whose firm made more than \$1 million in 2006, provides data mining services to small businesses as well as to corporations such as Bank of America, Capitol One, and Sprint/Nextel. Data Miners helps wireless carriers, for example, predict which of their customers would be more responsive to e-mail than a phone call; determine the best products to market to those customers; as well as look at which customers would be likely to can-

cel their service. The information gleaned, "gives you a sense of what the customer's future value is—what it is worth to try and retain them or to try and get another customer like them," he says.

Companies in a wide range of industries can benefit from data mining, says Berry. Retail, finance, manufacturing, and communication businesses are already using data mining tools and techniques to take advantage of historical data. An auto dealership, for example, could use the information in invaluable ways. "Car dealers typically know a lot about their customers—everything from the size of the loan they started with, to how frequently they service the vehicle," says Berry. "You may be able to take advantage of that information to try and predict when someone is going to trade in or to figure out the best time to reconnect with a former customer."

For some small businesses, a Microsoft Excel or Access database is sufficient for effective data mining, says Berry. "There is a real danger in [using] data mining software sold on the basis of 'just push a button and answers come out.' You could end up spending a lot of money and not getting a lot of results. It's easy to make mistakes if you don't know a lot about data analysis," Berry cautions. Additionally, for data mining to be truly profitable, he says, businesses "tend to need a lot of data" for the results to have any significance—something that small firms typically don't have. **BE**