

What is Data Mining?

By Stacy Cowley / August 2005

Every interaction your company has with a customer or supplier likely generates a data trail—and that data provides a wealth of information for marketers. Extracting that information and getting it into usable shape, however, requires sophisticated data mining tools. The same technology that police departments use to identify patterns in crime data and to deploy officers accordingly can help CMOs uncover customer trends and better focus their marketing resources.

How does data mining work?

Data mining is a subset of business intelligence, which covers a broad range of analytics technologies. Often used for predictive modeling, data mining tools can also help organizations better understand relationships among variables. One core software tool is online analytical processing (OLAP), which extracts, structures and stores warehoused data to enable quick, multidimensional analysis. A dimension can be any variable your company tracks: customer locations, sales volumes, product development costs and so on. An OLAP data set is made up of dimensions and measures, which can then be used for queries to elicit detailed data breakdowns and information on associations among variables. For example, a grill manufacturer could use an OLAP query to correlate grill sales with weather conditions across various locations, to determine how heat waves affect its business in different regions.

Who is likely to benefit from this tool?

Consumer-focused companies with sizable caches of information on current and potential customers, such as retailers, are ideal candidates for data mining technology. Wal-Mart, for example, is famed for its use of data mining to analyze "market baskets," the combinations of items consumers group together in one purchase. Pharmaceutical makers rely heavily on data mining technology to track their drugs' effects, while financial companies use it for identifying new customer opportunities.

What's in it for marketers?

Data mining tools can help target new markets and craft more attractive pitches to upsell current customers. For instance, outdoor gear retailer REI uses data mining software to parse the extensive customer data it collects through its website, direct mailings and 78 retail stores. When REI considers new store locations, it examines order data to find places with high concentrations of customers buying online and



through the company's catalogs, according to Alison Polenz, director of customer research.

The company also uses data mining tools to tailor its stores' product mixes to local market preferences and to uncover patterns that suggest future purchases by customers. "We know people are involved in lots of different activities, even though they might not have bought all the gear at REI," Polenz says. "So we'll send our cycling catalog to someone who might not have bought cycling equipment but who probably is interested in cycling, based on their other activities associated with cycling." Camping is one such tip-off, she says.

Who are some vendors of this software?

Major players include SAS, SPSS, IBM, Computer Associates and Fair Isaac, with dozens of smaller specialist companies also competing for new business. Enterprise applications companies are eager to crack the market as well. They figure that since they're already making the front-end systems their customers use for working with corporate data, they might as well capture the back-end market for tools to mine that data.

Can you get started without a huge investment?

Yes. Upstarts like Apollo Data Technologies and Marketics are carving out a niche delivering analytics as a service, working together with clients on specific marketing problems. Such an approach may be useful for test-driving data mining technology on a specific project and measuring how well the investment pays off. However, cleaning data so that mining tools can uncover useful information from it can be a complex and expensive endeavor. Still, what is the cost of cleaning data when compared against critical customer insight to make a new campaign or store location succeed? In a word: priceless.