



How to Put Data Mining to Work for Your Business

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Since we last wrote about big data over a year ago, the topic has been getting a lot of media attention. It seems like businesses of all sizes and in all industries are figuring out how to use data mining techniques to tap into big data and use it for a wide range of different business purposes. These techniques can be applied to both internal and external non-company sources of data.

Has your company looked into data mining as a way to learn more about your markets and customers in order to serve them better and boost your profits? If not, you could be neglecting a huge business opportunity and a way to gain a critical competitive edge in today's increasingly competitive marketplace.

What Exactly is Data Mining?

When they hear the term “data mining,” many people think of the vast and complex data gathering processes undertaken by the federal government that have been recently publicized (and also become somewhat controversial). But not all data mining operations are this complex, as a growing number of small and mid-sized business owners can attest. Here is one helpful definition of data mining:

“The process of analyzing data from different perspectives and summarizing it into useful information — information that can be used to increase revenue, cut costs or both.”¹

When viewed from this perspective, data mining doesn't seem so intimidating. In fact, it's really nothing more than the techniques used by most businesses to gather and analyze information for the purposes of improving processes, product quality, customer service, and every other aspect of the company's operations.

The growing power and sophistication of computers and software has played a big role in the evolution of data mining in recent years. New software tools enable businesses to gather critical data from all areas of the company and then categorize, analyze and summarize it. Data mining also enables companies to find correlations and patterns among different fields of data in large databases and make connections between seemingly unconnected pieces of information that can lead to new business insights.

One good example of data mining that we're all familiar with is supermarket loyalty clubs. When shoppers give supermarket cashiers their loyalty cards to scan at the checkout, they are enabling the supermarket to gather and analyze vast amounts of information about which products they buy, how many of these products they buy, when they buy them, etc. The supermarkets can then mine this data to uncover all kinds of helpful information about shopping behaviors and patterns that they use to increase sales and make targeted offers to customers.

Kinds of Data Being Mined

Among the different kinds of data gathered and analyzed by companies today are:

- **Operational and transactional data** — This includes information about sales forecasts, profit margins, inventory, costs, payroll, etc.

- **Non-operational data** — This is data related to industry trends and the macro economy.
- **Meta data** — This is the “data about the data,” including data dictionary definitions and information about database design.

By uncovering patterns, associations and relationships within this data, companies can glean valuable information that can then be converted into actionable knowledge. For example, using data mining, you can uncover hidden relationships between such internal factors as price, product positioning and cost of goods sold and external factors like customer demographics, competition and the overall economic environment. Going further, you can then gauge the impact of these factors on your sales volume, gross and net profit margins, and levels of customer satisfaction. There are four main types of relationships among data that data mining seeks to establish:

1. **Classes** of data stored in predetermined groups.
2. **Clusters** of data grouped according to logical relationships.
3. Data that's related by **associations**.
4. **Sequential patterns** of data.

An outsourced CFO services provider can assist you with your data mining initiative by helping prepare the analysis of what data elements are available and what you can do with which elements of the data. An outsourced CFO can also help you develop strategies for using the data you have obtained and analyzed to increase sales and revenue, improve internal processes, reduce costs and boost profitability.

Concluding Thoughts

Though often associated with the vast data gathering processes undertaken by the federal government, data mining is really nothing more than the techniques used by most businesses to gather and analyze information for the purpose of improving the company's operations. Using data mining, companies can find correlations and patterns between different fields of data and make connections between seemingly unconnected pieces of information. An outsourced CFO can provide valuable assistance in your company's data mining efforts.

*1 Data Mining: What is Data Mining?; Bill Palace; Anderson Graduate School of Management at UCLA
<http://www.anderson.ucla.edu/faculty/jason.frans/teacher/technologies/palace/datamining.htm>*

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