# Data Mining is the Differentiator™

Some have labeled the current period, appropriately, as "**The Age of Analytics,**" a period in which the information age has led us to the application of analytics to derive insights from these incredible sources of data. At StatSoft, we have the opportunity to collaborate with, consult, and train colleagues in the areas of data analysis and predictive modeling in a variety of industries: automotive manufacturing, financial services, medical device manufacturing, pharmaceutical R&D and manufacturing, semiconductors, etc. What our experience has taught us is that, in a competitive economy, companies can focus on opportunities for utilizing advantages and streamlining. One category of opportunity is to leverage the data that your company has already collected and manages.

While some highly successful companies benefit significantly from leveraging their data and converting them into actionable information, most companies still appear to be "data rich but information poor." Our experience is that companies have a wealth of data at their disposal. Forward-looking companies have invested heavily over the years in new sensors and gages, automation technologies, and data management software platforms. Now is the time to transform these data into information on which knowledge workers can act.

The starting point is typically an iterative process from two vantage points:

1. **Start with Business Objectives**. "What are the primary business issues currently facing our company?" Based on those focus areas, the next steps would be: a) evaluating what data would be required to answer the questions or solve the issues, and b) brainstorming about what data would be relevant to these areas (noting gaps, if any, between the data required and the data your company has).

2. **Start with the Data**. Sometimes, the data assets of a company suggest potential business opportunities not otherwise considered. In other words, an evaluation of the information assets of a company may suggest business opportunities not currently in the key focus areas. In short, reviewing the scope of available data sources and elements may suggest opportunities for utilizing them more effectively.

After this initial assessment, and an agreement on business opportunities and priorities for the application of analytics, a next step is the course of action. There are several categories of actions for applying analytics:

1. **Predictive Modeling**. How do we apply predictive modeling to utilize our data to answer previously unanswerable questions? In other words, how can we use historical data to generate knowledge that will help us identify previously unknown opportunities and warn us about possible pitfalls?

2. **Monitoring and Control**. Once we utilize the data to answer one or more questions about relationships between variables or root causes, how do we implement these insights so they become an ongoing part of the way we do business? How do we keep these insights current as

the business landscape changes, as it will over time, and receive warnings if those changes - sometimes hard to notice with the naked eye - could render our previous patterns of thinking and predictions (models) obsolete?

3. **Distribution and Dissemination of Information**. How do we deliver Reports and Dashboard summaries to raise awareness of the critical drivers for each business area and its respective knowledge workers?

In summary, StatSoft has had the great opportunity to collaborate with colleagues in industry-leading companies. What we have observed is that the companies that have the culture, tools, and experience to apply data mining effectively to leverage their information assets will typically rise to the top in a highly competitive economy, regardless of the contending pressures. Questions have answers. And answers typically come from the data that your company already has, but - to use a data mining metaphor - these answers are like "nuggets of gold" that have to be "mined" from the large amounts of data that are not useful by themselves as long as they are not properly processed.

**What can you be doing now?**

To take advantage of these opportunities, your company can take initial organization steps. A start can be assessing the personnel resources available for analytics and data mining. This assessment can note any gaps in the management and operational expertise for applying analytics across the board: project management, data aggregation and cleaning, predictive modeling, change management, and information distribution and reporting. Once gaps are noted and remedied, either by training or augmenting internal resources with outside consultants, an organization can be put in place with the proper mandate and incentives to seek out and prioritize opportunities for data mining within the organization.

If these opportunities are relevant to your company and you wish to begin a dialogue with StatSoft resources about collaboration with our professional services teams of project managers, analysts, and trainers, please call one of our solution consultants at 918-749-1119 and select the option for Sales. We would welcome learning more about the potential to work together.