

# Solve Your Toughest Challenges with Data Mining

*Use predictive intelligence to make good decisions faster*

A large, stylized graphic of the letters 'IBM' in a bold, sans-serif font. The letters are filled with a teal color and are split vertically down the middle by a white line. The overall effect is a modern, high-contrast representation of the IBM logo.

Imagine if you could lower your marketing costs by 30 percent, or reduce delinquent loan repayments by 20 percent, by anticipating your customers' behavior and taking action. Results like these are possible with data mining, which reveals hidden patterns in your data and enables you to predict business outcomes. This predictive intelligence can help your organization make accurate and profitable decisions quickly.

IBM SPSS Modeler is a powerful, versatile data mining workbench that helps you gain unprecedented insight from your data. Its breadth and depth of techniques allows you to build predictive models easily, efficiently and rapidly, whether you are an expert data miner or a business analyst.

With Modeler, you can use a broad range of data, including data stored in operational databases and files, as well as unstructured data such as call center notes, e-mails, Web 2.0 sources and survey responses. Its simple graphical interface quickly takes you through the entire data mining process – from data access and preparation, through modeling and model evaluation, to model deployment. Modeler's flexible deployment options – from a simple desktop tool to an advanced client server architecture - allow organizations of all sizes to integrate predictive analytics into their everyday business environments and processes.

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*Modeler's breadth and depth of techniques allows you to create powerful predictive models quickly, without programming.*

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Many FORTUNE® 500 corporations, academic institutions and national and local government agencies worldwide rely on Modeler to unlock the value of their enterprise data, improve business processes and make more informed decisions in areas such as:

- Customer intimacy/customer experience management
- Fraud and risk mitigation
- Human capital management/resource planning
- Inventory management
- Marketing effectiveness
- Operational excellence

Switzerland's largest cable network provider, for example, uses predictive analytics to reduce customer churn, a common issue in the highly competitive telecommunications market. Recognizing that it's much easier to retain a customer than to try to win one back, the company turned to Modeler to analyze customer feedback across various phases of the customer lifecycle. It now uses this insight to predict future behavior and adapt its activities to meet customer demands and cut churn – including employing more one-to-one customer contact to pre-emptively resolve complaints and increase satisfaction. Since deploying Modeler, churn rates have decreased from 19 percent to 2 percent.

### **Create powerful predictive models quickly and intuitively**

Your organization has likely invested heavily in databases, reporting, enterprise resource planning (ERP), business intelligence, online analytical processing (OLAP) and other technologies to help you manage your business. With Modeler, you can access the vast amounts of data stored in disparate operational systems directly, use it to create powerful, predictive models – and do so visually and intuitively in a graphical interface that doesn't require programming.

*“Digital + improved its customer satisfaction with customized offers, reduced churn and increased cross-sell in outbound campaigns. IBM SPSS Modeler is a key component of our solution and has been paramount to improving our customer satisfaction and loyalty, contributing to a significant increase in customer retention within only two months of deploying the software.”*

— Omar Rois  
Customer Intelligence Manager  
Digital+

Two versions of Modeler are available to support your analysis needs. Modeler Professional includes all of the tools needed to leverage your structured data – such as behaviors and interactions tracked in your CRM systems, demographics, purchasing behavior and sales data. Modeler Premium extends the functionality of Modeler Professional by including a powerful text mining workbench for extracting key concepts, sentiments and relationships from textual or “unstructured” data and converting them to a structured format that can be used to make predictive models more accurate.

For complete product information, please visit [www.spss.com/software/modeling/modeler](http://www.spss.com/software/modeling/modeler).

### **Accelerate the entire data mining process**

Modeler’s pioneering graphical interface makes it easy for business and professional analysts to focus on solving problems without spending time on programming tasks. As they work, interactive “streams” visually map the data mining process, allowing users to interact with information at any point and develop models quickly and confidently. By relieving analysts of non-productive technical tasks, Modeler enables them to concentrate on finding answers to business questions.

Modeler supports re-use of analytics through its ability to add documentation to each step in the data mining process. In addition, its ability to leverage deployment capabilities in a variety of ways ensures that data miners, analysts and other business users can collaborate on projects that will solve a wide range of challenges.

Through the graphical interface, data miners have access to a complete range of advanced analytical functions, including state-of-the-art algorithms, automated data preparation and rich, interactive visualization capabilities. These time-saving techniques lead to greater efficiency and accuracy and lower overhead costs.

Modeler provides explicit support for the Cross-Industry Standard Process for Data Mining (CRISP-DM), the industry standard methodology that ensures timely, reliable results with data mining. SPSS, an IBM Company was a founding member of the consortium that developed this methodology and continues to play a leading role in its evolution.

### **Get faster results through automation**

Automated modeling enables the software to identify the techniques that are best suited to solve your problems. This feature helps you to quickly create the best -performing model or models in a single step. You can choose a specific model or combine multiple predictive techniques to generate models that will predict outcomes accurately.

Using automated data preparation frees your analysts from having to spend countless hours validating and preparing data for analysis. Because almost 80 percent of data mining work is commonly spent on such time-consuming tasks, Modeler’s ability to automate this process enables analysts to focus their efforts where it counts – solving the business problem.

### **Use all of your data for maximum insight**

With Modeler, you produce deeper insight and more accurate predictions because you utilize all of your data assets to create a complete view of your customers or constituents. Modeler works with a wide range of databases, spreadsheets and flat files – including IBM® SPSS® Statistics, SAS® and Microsoft® Excel® files – and on a wide range of platforms, so you can leverage all of your data and obtain better outcomes. This greatly improves your organization’s ability to address complex business problems.

You can also extract key concepts, sentiments and relationships in multiple languages from textual or “unstructured” data. Modeler Premium, which delivers comprehensive data mining capabilities plus a fully integrated text analytics workbench, makes it easy to incorporate free text data from documents, e-mails, blogs, RSS feeds and other text sources into your analyses. This helps you see relationships between concepts, attitudes, people, organizations and events, and include these insights in your models.

Modeler is fully integrated with other IBM SPSS technologies, allowing organizations to leverage their investments and to realize additional value easily. The IBM® SPSS® Data Collection family of survey research products enables you to include attitudinal data in your predictive models, providing you with a rich source of insight into your customers. And Statistics interfaces are directly accessible from Modeler, so you can perform data preparation and manipulation, statistical testing and reporting without leaving the data mining workbench.

### **Integrate predictions across the enterprise**

Modeler enables you to easily deploy your predictions into business processes using a variety of standard programming interfaces that support both real-time and batch analytical processes. Additional services are available to help you manage model performance and automate analytical processes. These services can save you time and ensure that your models are always up to date and accurate.

Your predictive models can be transformed into enterprise information assets by adding the innovative analytics management, process automation and deployment capabilities available with IBM® SPSS® Collaboration and Deployment Services. This best-of-breed analytical platform provides a scalable, reliable infrastructure for delivering predictions and recommendations within your critical business processes.

### **Achieve outstanding scalability and openness**

Modeler’s open architecture enables you to access data and deploy models, predictions and insight to decision makers and automated operational systems, including:

- Call center staff, helping them to offer additional products or services that customers are likely to accept—increasing revenues without significantly increasing costs
- Other customer-facing staff, so they can up-sell and cross-sell to current customers and retain those likely to churn – increasing the profitability of your customer base
- Web sites, making it easier for customers to find and purchase the products they want and increasing this channel’s profitability

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*Modeler gives you the ability to understand people in more subtle and useful ways and predict their behavior more accurately than you can with any other method.*

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Modeler makes the best use of your IT infrastructure, so you can leverage data mining algorithms provided within existing databases and score many records in minutes without additional hardware.

Small to mid-sized organizations will find that Modeler can efficiently analyze the amounts of data they generate. In organizations with complex or high-volume data mining requirements, IBM SPSS Modeler Server can be leveraged to enable multiple data miners to work simultaneously on large-scale operational warehouses without straining computing resources.

### **Solve business problems quickly and easily**

Businesses of all types have found that they can attract customers, strengthen their loyalty, reduce customer attrition or “churn” more cost effectively and reduce risk with Modeler. Public sector organizations have benefitted from using Modeler to predict workforce capacity, proactively respond to public safety issues, manage the student lifecycle, improve classroom performance and address many other operational challenges.

### **Build more profitable customer relationships**

With Modeler, you are able to identify the kinds of customers or constituents you have, look for similarities or differences in their behavior and ensure that your product or service strategy and customer processes are based on actual behavior and not guesswork. For example:

- One of the oldest banks in Portugal fights the spread of an eroding customer base by using predictive analytics to identify customers likely to leave the bank. Focusing retention efforts on its most valuable customers enabled the bank to reduce attrition by 15 to 20 percent and increase profits by 10 to 20 percent.
- A community college in California serving almost 15,000 undergraduates relies on Modeler to predict which students are less likely to return to school. This helps faculty and administrators improve retention by providing appropriate counseling, financial aid packages and curriculum offerings. Partly due to these programs, the college ranks third among the state’s community colleges for the percentage of students successfully transferring to the University of California system.
- A Dutch insurance firm achieved a 448 percent return on investment in just under three months using Modeler to help plan and optimize its outbound marketing campaigns across product groups and channels. This approach resulted in a 40 percent increase in outbound conversions and a 35 percent decrease in mailing costs.

### **Control risk, combat fraud**

Modeler helps your organization efficiently and reliably analyze many variables related to risk. Using a flexible, comprehensive set of techniques, including risk scoring and anomaly detection, you can detect suspicious circumstances and react quickly to lessen the impact of risk. For example:

- A U.K. energy utility uses Modeler to analyze five million customer records so that it can improve sales and customer service while minimizing write-offs due to nonpayment. The company also uses data mining to improve the efficiency of its payment-handling processes.
- A U.S. state tax agency developed predictive scores enabling it to focus on the organizations most likely to have underpaid their taxes, so it could devote investigative resources to those cases. This enabled the agency to increase revenues without increasing staff costs.

If fraud or improper payments are your primary concern, Modeler helps you focus investigative resources on the transactions that are most likely to be fraudulent – enabling both commercial organizations and government agencies to increase their success rates and reduce costs. A U.S. healthcare services organization uses Modeler to flag suspicious medical claims. The previous process required two weeks. Now, it takes only ten minutes and has detected 200 times more fraudulent claims than the old process.

Modeler streamlines the process of anomaly detection, enabling analysts to identify instances of unusual behavior more quickly. And because its predictive models can be updated easily, your organization can continue to detect unusual situations, even when fraudsters change their tactics.

Agencies involved in intelligence work use Modeler to uncover patterns in relationships or behavior. State and local law enforcement agencies use it to solve “cold cases” and anticipate future criminal behavior. One software company combined its mapping capabilities with Modeler’s pattern recognition technologies to show where violent crimes were most likely to occur in a particular city – a good example of Modeler’s flexibility and interoperability with other solutions.

### **Count on a high ROI**

Every transaction, event, customer contact, survey response, blog entry and Web site hit provides valuable information about your customers or operations. Your databases, call center software, e-mail archives and other systems are full of these useful insights, which can drive your organization’s success.

Modeler is an ideal choice for data-rich organizations because it allows you to conduct data mining easily, efficiently and rapidly. Organizations that use the prediction and insight gained through Modeler to increase their understanding of the attitudes and behavior of the people they serve will see significant, quantifiable results.

### **About SPSS, an IBM Company**

SPSS, an IBM Company, is a leading global provider of predictive analytics software and solutions. The company’s complete portfolio of products - data collection, statistics, modeling and deployment - captures people’s attitudes and opinions, predicts outcomes of future customer interactions, and then acts on these insights by embedding analytics into business processes. IBM SPSS solutions address interconnected business objectives across an entire organization by focusing on the convergence of analytics, IT architecture and business process. Commercial, government and academic customers worldwide rely on IBM SPSS technology as a competitive advantage in attracting, retaining and growing customers, while reducing fraud and mitigating risk. SPSS was acquired by IBM in October 2009. For further information, or to reach a representative, visit [www.spss.com](http://www.spss.com).



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