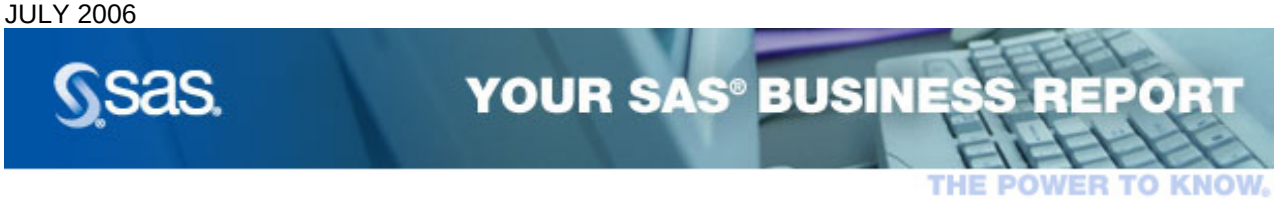
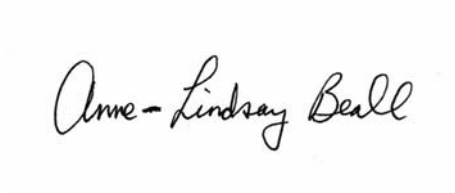


Dear Readers,

Innovation isn't just the business buzzword du jour – it's the only way any company can meet the relentless demand for growth in today's economy. In this issue, you'll learn how customer-driven innovation drives success. We're also taking you inside U.S. Bank, where they're using business intelligence to understand customer behavior and act on significant changes immediately – when intervention is likely to have the most impact.

Need to know the future? Then read on to find out how cutting edge technology is helping improve business forecasting.

We've got it all for you here. Happy reading!



Anne-Lindsay Beall
Editor, *Your SAS Business Report*

The Win-Win of Customer-Driven Innovation

> Innovation ...You could make a strong argument that innovation has been important to business since before the assembly line, yet it has just recently become one of the hottest buzzwords in the business world.
>
> *by Don Peppers & Martha Rogers, Ph.D.*

People are paying more attention to innovation these days for two basic reasons. First, today's hottest companies are innovative. There are, of course, the companies known for innovation, such as GE, Cisco, 3M and Intuit. Apple has gained headlines with its highly innovative iPod and iTunes product and service line. And innovation clearly drives Internet successes like Google and eBay. Second, it's now clear that innovation is the only way any company can meet the relentless demand for growth in today's information economy. But it's important to remember that you can no longer depend on growing your firm simply by fueling it with a steady stream of new customers. Customers are limited, and companies must look to innovate based on getting smart about the customers they already have. Only then can they begin to really reap the rewards of the customer asset in the form of higher Return on Customer.

Reality check

However, most companies still approach the task of new-product development from the product perspective rather than from the customer perspective, and this itself results in innovation that is inherently short-term in nature. When a firm focuses its innovation efforts around the problem of outselling its immediate competitors, its innovations are inevitably incremental, not breakthrough. Incremental, short-term product improvements are less costly and pose less risk than larger, more comprehensive ideas. They are easier to conceive, approve and produce, and they generate more immediate financial benefits. But they are also easier for competitors to duplicate, rarely creating any lasting competitive advantage.

Producing genuinely new products and services requires taking a customer perspective, but breakthrough innovations don't usually pay off immediately, even though they are likely to be more closely aligned to genuine customer needs. Interestingly, technology is a key driver of why companies must approach innovation from a customer perspective. Innovations in technology (e-mail, blogs, SMS, Web, etc.) have increased exponentially the number of "touches" that occur between a company and its customers. Along with this increase in touches comes a deluge of new information and data that can be used to gain insight into what valuable customers need. However, customers are well aware of the fact that companies are gathering this data, and they expect the companies to use it wisely and to protect it. The innovative company understands this dynamic. It uses data and insight to deliver ongoing benefits right back to the source: customers.

Getting out of your own way

Innovation doesn't have to be a miracle stumbled onto at an off-site meeting. Don't think of successful innovation as a one-time win at the lottery. Think of it instead as a steady, manageable process that regularly produces good value, and sometimes produces a gold mine. You can make innovation a routine by focusing on the various "process" elements involved – creating new ideas, testing and vetting them, bringing them successfully to market – and embedding them within your organization.

If innovation is a systematic process where customer data and insight play a significant role, then technology's job is to help facilitate and enable that process. Customer insight is tightly wound to data management and analytics capabilities, and it is up to companies to deploy technology and processes that are geared toward producing innovative – and often predictive – insights. These insights not only help a company to develop innovative products; they also lead to innovations in how, when and where companies interact with their customers across touch points.

Don't forget about culture

Even in a more mature firm, a customer-oriented culture is the kind of environment most suited to routine innovation. If your mission is to sell a defined set of products, and only those products, then your employees will have difficulty embracing change that involves other products or services, and the culture will cause them to shun innovative ideas. But if the culture encourages employees to look for ways to increase the value that can be delivered to customers, then employees will embrace innovative ideas designed to achieve that goal. Develop a corporate culture obsessed with taking the customer's perspective, rather than with making this quarter's numbers, and you'll have a business that is comfortable with innovation, and more likely to produce it.

Improving Customer Awareness

U.S. Bank knows when customers need to hear from a banker

In the competitive world of banking, the winners are those that play on the cutting edge. That's how Minneapolis-based U.S. Bank rose to become the nation's sixth-largest financial-services holding company.

"Long before CRM was a popular acronym, we were using behavioral insights and predictive analytics to drive relationship strategies that created real value for our customers and for the bank," Richard Martino, U.S. Bank's Senior Vice President of Market Information and Research, says of customer relationship management.

With more than 13 million consumer banking customers and 1 million business customers – not to mention more than 10,000 database variables and up to 16 million transactions a day – U.S. Bank needed to mine customer data efficiently and then deliver insights regularly across a variety of segments. To ensure success in those efforts, U.S. Bank chose SAS Customer Intelligence.

"Customers become loyal when we consistently offer them solutions that are truly relevant to them," Martino says. "That's what SAS helps us to do." Using the SAS Marketing Automation and SAS Interaction Management components of SAS Customer Intelligence, U.S. Bank has built a comprehensive system for managing a large number of diverse marketing campaigns as well as a system for tracking customer behavior to trigger timely customer contacts.

How does U.S. Bank use SAS?
With SAS, U.S. Bank defines contact strategies for customers with a consistent, personalized message across all touch points, including call centers, branch sales staff, service personnel and direct mail. SAS allows U.S. Bank to understand customer behavior over time so that its bankers can act on significant changes immediately – when intervention is likely to have the most impact, thus accelerating sales opportunities and salvaging at-risk relationships.

"A change in behavior can be like a customer raising her hand to say, 'Hey, I have a new need,'" says Martino. "That's when customers really need to hear from a banker."

For example, these banker alerts recently helped one determine that an important customer was moving funds to another bank to secure commercial financing. That knowledge gave the banker the opportunity to join forces with a commercial lender, ultimately winning the loan deal and additional financing.

"That's just one example of how an alert provided a banker with insight that we might not otherwise have had. That banker was able to convert that into value for both the customer and the bank," Martino says. "That would have been difficult to do without a tool like SAS Interaction Management."

Because U.S. Bank is using SAS 9.1, users at all experience levels have transparent access to their SAS CRM solutions. "SAS®9 integrates the technology across all these applications," explains Gerry Gaerlan, U.S. Bank's Marketing Analytics Manager. "It works for my most senior

power user and my most junior analyst. Regardless of your experience, you can work with the application."

What benefits has U.S. Bank seen?
"The investment we're making in expanding our customer insight platform will have a significant payback over the next five years," Martino says. "And the return to our shareholders will be impressive because the investment is very reasonable for an institution of our size and complexity."

Such is the power of a reliable database, says Jill Enabnit, U.S. Bank's Database Marketing Manager. "We have data coming in from so many different sources – whether from the account level to household information. We've worked hard to have a centralized data mart that allows us to have a holistic view of the customer," she says. "So, using SAS, we're able to go through, process and gain intelligence from those 16 million transactions that occur each day."

Making better, faster decisions gives U.S. Bank the edge to compete among the nation's largest banks. A bright and hard-working staff and great working relationships with channel managers get the credit for the bank's successes. Using SAS as an integral part of turning huge stores of data into intelligence just made it easier.

"SAS has been a great partner in helping us achieve our goals," Martino says. "But there's a big difference between putting software into production and being productive. And SAS is helping ensure that we achieve productivity."

The Future of Forecasting Software

With advanced technologies, companies are poised to benefit more than ever from a forecasting strategy.

by Michael Gilliland & Michael Leonard, SAS

Forecasting is a serious business, but not all parties to the history of forecasting can be taken seriously. In the past, prophets, oracles, astrologers and psychics provided us with guidance about the future – from when to plant crops to when to go to war. Today, we find no shortage of self-proclaimed "seers" and "futurists" who will gladly dispense guidance for a fee, but we also have access to terabytes of data, powerful computers, statistical software and elaborate acronymed processes. This article looks at where the forecasting software industry may take us in the future.

A lot of intelligent people have worked on the forecasting problem for many years and still have found no "magic formula." Simply put, no software or statistical method can guarantee our forecasts will be as accurate as we desire them to be, and it is implausible that forecasting software will ever be able to guarantee an arbitrary level of accuracy. However, significant progress is taking place in the areas of automation, scalability and the incorporation of structured judgment.

The following are some thoughts on trends in the business forecasting problem and the future direction of forecasting software:

- The range of business forecasting problems is increasing. Forecasting is not just for supply and demand planning anymore. Elements of forecasting are incorporated in a broad range of business problems, covering every industry. Automotive manufacturers and consumer products companies care about warranty claims and returns. Phone companies and credit card issuers care about the "churn" of their customer base. Lenders care about risk and bad debt provisioning. Airlines care about reservation center and flight crew staffing. Manufacturers care about predictive maintenance in their factories. Good forecasting allows all these kinds of organizations to operate more efficiently – better satisfying their customers, and increasing their profit.
- The scale of business forecasting problems is increasing. One example of this is in retail, where more rigorous forecasting and planning processes and statistical tools are starting to replace (or at least augment) the "art" of merchandising. Retailers wish to know what will sell at which price points, what promotions will be most effective and the best clearance strategy when a product is out of season. These questions all have a basis in forecasting. Add to these revenue optimization issues the more fundamental question of how retailers should stock and replenish their stores, and the challenge is huge. Large retailers have tens of thousands of items, sold in hundreds or thousands of stores. The need for millions of forecasts is not uncommon.
- It is crucial to distinguish the "high-value" forecasts for special attention while automating the "not-as-valuable" forecasts. No organization has the luxury of hiring hundreds, or even thousands, of analysts to individually model and forecast each series. It is important to distinguish the high-value forecasts (such as the $5,000 plasma TV at an electronics manufacturer) from the vast majority of items of lesser importance and apply the appropriate forecasting approach to each. Large-scale automation can be used to forecast the products

and locations of lesser importance, while analysts must still have access to sophisticated tools for high-value forecasts. Software must be able to handle both kinds of needs, delivering quality forecasts in an automated mode, while still meeting the requirements of the savvy statistical analyst.

- There is a need to handle the "continuously evolving product." With the proliferation of new products and shorter product life cycles, it may be impossible to obtain as much history as the forecast analyst needs for good model building. In personal computers and consumer electronics, for example, product life cycles are typically three to 18 months. Fashion apparel items will sell for just one season. Software should provide tools for the analyst to "string together" the history of current items with their predecessors to leverage the demand history for like items from the past.
- One-model forecasting is dead. Rather than rudimentary "pick best" selection from a handful of models prespecified by the analyst, forecasting software must be able to consider thousands of models from a variety of model families. Today's computational power permits this. For large-scale forecasting automation to succeed, the system must be able to consider the types of models most appropriate to the types of demand patterns that will be encountered.
- Quantity and quality of data will continue to increase. Perhaps more significant than improvements in statistical forecasting models will be an increase in the kind and amount of data available for use in forecasting. Retail point-of-sale (POS) data is now widely available, making product consumption directly visible to consumer product manufacturers. Web site traffic is another new data point, and several services now provide weather-related data, economic indicators and other types of information that forecasting models can readily use. Given all of the new data, however, it is still necessary for the software to automatically distinguish the useful variables from the extraneous ones.
- Use of structured judgment enhances collaboration. Elaborate forecasting processes, such as Collaborative Planning, Forecasting, and Replenishment (CPFR), have evolved over the past several years. CPFR facilitates the input of new participants – both internal (sales, marketing, finance, operations, etc.) and external (customers and suppliers). Today's software is much better at handling these multiple process inputs, and several vendors now offer special collaborative and sales-and-operations planning modules. However, fundamental questions remain: Do these additional participants add any value by making the forecast better? Or do they just let more bias and politics infiltrate what should be an objective and scientific process? Structured judgment techniques will enhance standard collaboration by providing feedback on process participants, identifying sources of chronic bias and allowing for bias corrections. Simply adding more opportunities for people to "touch" a forecast may make it worse more often than making it better. Forecasting software will need to incorporate the tracking of process steps and participants, identifying the "value added" by these efforts in terms of improved accuracy and reduced bias. The result will be a "lean" forecasting process that has been stripped of all wasted activities, providing a forecast that is as good as one can reasonably expect it to be, as efficiently as possible.

What it all means

While data, software and forecasting methods will continue to improve, what is less clear is how much forecast error will ultimately be reduced. Two contrary forces are evident right now: The tools to forecast are getting better, but the demand patterns to be forecast are frequently getting worse! Smooth, long-running and repeating patterns can be forecast quite well with simple techniques. Wild, erratic, highly volatile and short lifecycle patterns, with longer lead times, are

inherently difficult to forecast – even with the most powerful techniques. Unfortunately, the trend is for business forecasters to have to deal with more of the latter type of series. The "forecastability" of a demand pattern then becomes a more important consideration than the means we use to forecast it.

Demand will always have an essentially random component. Although our software may be able to extract the level, trend, seasonality and even a long-term cyclical component from historical demand, some element of "noise" (randomness) will always remain. Ultimately, it is the amount of noise in the demand that determines the upper limit of its forecastability.

In short, we have better data, computers, software and statistical methods than ever before, and these will continue to improve. These improvements let us take on even more difficult forecasting challenges, on a scale that would never have been considered without the advent of large-scale automated techniques. Perhaps the only sure way to eliminate forecast error is to eliminate the need to forecast – by perfecting the flexibility and responsiveness of our demand fulfillment capabilities. Until that happens, those of us in "the world's second oldest profession" should have a busy and exciting future.

Staples Selects SAS Marketing Automation for Comprehensive Database Campaign Management

Staples will automate marketing processes with SAS

Staples, Inc. (Nasdaq: SPLS), the world's largest office products company, has selected SAS Marketing Automation to provide comprehensive database marketing campaign management and advanced customer data analytics in one integrated, easy-to-use solution.

“When we decided we needed an integrated marketing solution, SAS was an obvious choice,” said Ivona Piper, Vice President of Database Marketing at Staples. “SAS Marketing Automation will support our corporate database marketing team to provide increased efficiency at every stage of the process. The strength of the embedded analytics in their campaign management processes will help us maximize ROI from our marketing communications.”

SAS' ability to support a global enterprise is one of the deciding factors that led Staples to select SAS Marketing Automation. Staples executives were encouraged by SAS' global marketing automation footprint and its ability to support new installations outside of the U.S. Staples is confident that SAS' continuous investment in R&D and its growing portfolio of Customer Intelligence products will be able to keep pace with their needs.

A Holistic Approach to Complete Banking Intelligence

Banks seek innovative ways to grow business organically

by Ellen Joyner

In simpler days, it was easy for consumers to select a financial institution. They chose the local bank, the one where their family had conducted business for years, the teller was their neighbor's sister-in-law and the branch manager knew them by name. All else being equal, customers chose an institution because it was convenient and personal.

Today, the model of the personal neighborhood bank is a quaint memory replaced by national and multinational service providers, cross-industry joint ventures, ATMs, Internet banking, automated call systems and a proliferation of product choices – unfettered by traditional ties of geography and familiarity.

Consumers have traded loyalty and a personal relationship for the ability to pick and choose from the latest deals of the day that appear, pre-approved, in the mailbox.

As a result, banks now find it difficult to show competitive differentiation and find it harder than ever to show profit. A typical bank has thousands of local, regional, national and global competitors. As the industry continues to fragment, most players hold a relatively small and unreliable market share.
This new order calls for a new mindset. Banks have to rethink strategies and devise new business models to respond to increasing customer sophistication and the growing scrutiny of shareholders and regulators.

Top questions from today's banking executives
In this world of dwindling customer loyalty and spiraling external pressures, executives are asking pressing questions. In most cases, however, their current operations and reporting mechanisms don't provide gratifying answers.

CEOs and their boards of directors are asking hard questions about overall performance and accountability:

- "Are we effectively identifying and capitalizing on opportunities for revenue growth?"
- "Are we sure of our compliance with regulatory requirements?"
- "What measures should we take to continually deserve the trust of investors and the public?"
- "How can we better align day-to-day operations with long-term strategic goals?"

CMOs and their teams have acknowledged that consumers have more power than ever, and are seeking new ways to court, cultivate and keep these relationships. They're asking:

- "How can we gain a unified view of the customer across the entire organization?"
- "How can we create an accurate understanding of customer behaviors and reach out to them at the most appropriate time with the most relevant offer?"
- "Who are our best customers, and how do we keep them?"
- "How can we maximize the profitability of each customer relationship?"

CROs and compliance managers are facing more regulatory control and investor scrutiny, even as the operations under their jurisdiction become more intangible and remote. They're asking:

- "How can I generate a comprehensive view of risk across the institution?"
- "How can we reduce the costs and burden of meeting regulatory requirements?"

CIOs and their IT teams are struggling to meet the technology requirements of the bank's ever-changing activities. They're asking:

- "How can we deliver unified applications on a patchwork infrastructure?"
- "How can my limited staff address the unique needs of so many business units?"
- "We were stretched thin before; how can we meet the new regulatory reporting deadlines?"
- "How do we prove our value and not just fight daily fires?"

The answers: A holistic approach

Answers to these questions aren't found in the megaspreadsheets that still proliferate in so many institutions. Spreadsheet programs simply cannot perform consolidations fast enough for larger organizations to meet the new, shorter reporting deadlines. They also do not provide the audit trail required for full transparency, or systematic ways to maintain version control and disseminate important information throughout the organization.

The right technology foundation integrates people, processes and information to arrive at a single, reliable view, based upon repeatable, searchable and auditable processes. As a result, many banks are now seeking one cohesive set of performance management applications from a single vendor. This unified approach provides the holistic view that is so desperately needed – while removing integration issues that hinder information sharing.

An effective framework from SAS can seamlessly integrate these fundamental components:

- A centralized data repository that synthesizes data from currently incompatible silos on any platform, in any format.
- Sophisticated data integration processes that maintain data quality, so you can have faith in the accuracy of plans, reports and analyses.
- Banking-specific business analytics that enable non-statisticians to uncover meaningful intelligence from vast amounts of information about customers, products and risks.
- Predictive analytics to deliver more accurate forecasts, optimization and resource allocation plans.
- Cohesive compliance management, including real-time consolidation/reporting, management of operational risk and compliance status, activity-based costing and an authenticated process-controls repository.
- Strategic performance management for institution-level guidance, accountability and integrity.
- Query and reporting tools that give users high-quality information, where and when needed, via multiple platforms and channels.

Delivering banking intelligence

The ideal solution provides all these essential ingredients – including banking-specific analytic and reporting models within a banking-specific data architecture – from a single vendor, along with enterprisewide balanced scorecarding with KPIs unique to the banking industry. SAS provides a comprehensive technology solution that includes industry-tailored components for any or all of the following areas:

Strategic performance management
A successful performance management solution provides industry-specific models and KPIs that let you effectively communicate your strategic plan throughout the organization, empowering employees to contribute to higher goals and anticipate events before they occur. The solution monitors which processes are successful and which ones need modification, so you can continuously improve efforts and boost profitability while managing risk.

Campaign management
A successful campaign management solution fully integrates customer analytics with campaign management technology to provide a better understanding of customer information, thereby increasing the efficiency and profitability of marketing campaigns. Such a solution seamlessly integrates modeling results from customer segmentation and profiling, cross-selling and up-selling, and customer retention models with campaign management activities.

Customer segmentation
The ideal customer segmentation solution identifies and categorizes the customer base into distinct groupings with similar characteristics. Demographic, geographic, attitudinal and behavioral data from across the enterprise, as well as from other analytic applications (such as cross-sell/up-sell and retention applications), can be incorporated into the analysis to develop highly accurate segments.

Cross-sell and up-sell
The best cross-sell and up-sell solutions show which products and services customers have bought and then use that knowledge to accurately predict which ones they are most likely to purchase in the future. Whether promoting installment loans, mortgages, credit cards, online banking services, retail investments or retirement plans, your chosen cross-sell and up-sell solution should help you quickly develop cross-sell or up-sell propensity models for specific products and lines of business.

Credit scoring
A successful credit scoring solution provides a better understanding of customers' creditworthiness by providing application and behavioral scoring to assess and control risk within existing consumer portfolios and to improve acquisition strategies. By applying predictive analysis to gathered data, you will better understand the specific risk characteristics and attributes that lead to delinquency, default and, ultimately, bad debt. And by accurately assessing risk within your existing customer base and providing a basis for scoring potential new customers, you can present appropriate product offerings while simultaneously managing business risk.

Customer retention
Customer retention solutions should accurately identify customers who may cancel products or leave the bank altogether, while providing a better understanding of their needs. The solution delivers prebuilt models that provide retention analytics for specific lines of business. This analysis incorporates historical data on products held by clients as well as details of customer demographics, current and future life-stage data, customer satisfaction, channel usage, etc. This knowledge enables you to create more appropriate offerings and targeted messages.

Risk management
When every department or line of business measures and reports risks differently – and accounting systems and risk management systems run separately – it can be difficult, even impossible, to gauge overall risk exposure. The right risk management solution helps you manage risk across the organization, giving you an open, flexible and extensible means of measuring and managing market, credit and operational risk. It also adjusts to your bank's individual needs, while meeting regulatory requirements such as Basel II.

New insights, increased profits and decreased risk
As the banking industry grows more competitive and volatile markets erode consumer confidence and loyalty, banks must better manage their information and find new ways to turn that information into reliable business intelligence if they are to succeed.

A holistic banking intelligence solution can deliver software and services tailored to the unique needs of the banking industry, all integrated through an enterprise data architecture designed specifically for banks. These solutions draw on the vast amounts of data generated by existing systems and apply banking-specific analytic models to transform that data into meaningful intelligence about strategic performance, customer relationships, credit decisions, risk management and regulatory compliance. As a result, you gain new insights into customer and business information, infuse intelligence into strategic business decisions, and increase your success in generating profits, managing risk and delivering rapid ROI.

SAS No. 6 on Computerworld's Best Places to Work in IT

SAS has been selected by IDG's Computerworld magazine, the "Voice of IT Management," as one of the top workplaces for information technology (IT) professionals.

Computerworld's comprehensive questionnaire covers company offerings in categories such as benefits, diversity, career development, training and retention. The magazine surveyed more than 27,000 IT workers.

According to Suzanne Gordon, Vice President and CIO of SAS, the corporate culture at SAS is the main reason for the company's sixth-place ranking. This honor is part of the weekly IT publication's 13th annual Best Places to Work in IT survey, which was published in the June 19 issue and online at Computerworld.com.

Award-winning corporate culture
"Our continued presence on the list and high ranking this year reinforces what I believe about working at SAS," says Gordon. "It's not just benefits and amenities that fulfill our IT staff. It's the culture of trust and respect, and the ability to contribute strategically to the company's success. Their hard work and innovation make it an honor to lead them."

SAS has received numerous accolades for its unique work environment. Throughout its 30-year history, SAS has reinvested about a quarter of its revenues in research and development, allowing its employees to work on the cutting edge of technology. At the same time, ongoing programs such as on-site childcare and healthcare, a fully equipped fitness center, wellness programs, robust benefit packages, convenient benefits and flexible work schedules facilitate a better work/life balance for employees.

"The recipients of this year's Best Places to Work represent a diversity of industries from technology to finance to pharmaceuticals," says Don Tennant, Editor in Chief, *Computerworld*. "Those represented in the 2006 Best Places to Work program have cultivated an environment that recognizes the value of IT workers within the organization."

Events:

What Insurers Need to Know about Service-Oriented Architecture
Aug. 1, Noon ET
Tune in to find out why SOA is getting so much attention and why it's critical in helping insurers gain a competitive edge.

SAS Education: New Analytics Lecture Series
Live Web, July – Oct.
Don't miss this 13-week analytics lecture series featuring analytical thought leaders exploring the latest trends and issues in the industry.

M2006 Data Mining Technology Conference
Las Vegas, Oct. 23-24
Join your colleagues and the most sought-after experts in data mining at M2006. Register online now!

Webcast: Business Performance Management Revealed
On-demand
Tune in to find out what other companies have learned through their experience with BPM implementation.

Web Seminar Series: Finding the Flaws in Forecasting
On-Demand
This three-part series will show you how to control the forecasting process, eliminate waste and get better results with less effort.