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Dear Readers,

You have questions. We have answers.

What's on the horizon for business intelligence? IDC's Dan Vesset says market trends suggest two key developments in the BI market over the next 15 years. Find out what they are in our lead article below.

How can you become a customer-focused leader? Customer relationship management experts Peppers and Rogers explain the right things to do in leading a customer-centric organization.

And a question only you can answer: Are you ready for SAS Global Forum? The annual SAS Users Group Conference is April 16-19 in Orlando, so [register now!](#)

See you in Orlando!

A handwritten signature in black ink that reads 'Anne-Lindsay Beall'.

Anne-Lindsay Beall
Editor, *SAS Business Report*

The Next Wave of Business Intelligence

By Dan Vesset, Director for IDC's Analytics and Data Warehousing Software Service

What's on the horizon for business intelligence? More users at every level of the organization, a strong focus on decision-centric analysis and the capabilities to meet the information needs of many different types of users.

According to IDC research, the BI market moves in 15-year cycles. The first of these periods, from 1975 to 1990, was characterized by production reporting on mainframes and some statistical software. The second 15-year period, from 1990 to 2005, marked the "modern era" of BI and featured client/server-based BI tools that were easier to use. Eventually, query, reporting and OLAP technology migrated from client/server technology to Web-based architecture with the development of broad suites of BI platforms.

In hindsight, 2005 will be viewed as another turning point in the BI market – the beginning of a new wave of investment in BI by organizations across all industries. If the 15-year trend holds, this current market cycle should last until 2020. During this period, organizations will focus more on expanding the reach of BI to users inside and outside the organization, as well as moving BI from its traditional focus on reporting to decision-centric functionality.

Historical and current market trends suggest two key developments in the BI market over the next 15 years.

Bringing BI to the masses

The traditional BI market has focused primarily on the analysts or power users, who represent only a small subset of any typical organization. BI tools have complex report development, OLAP and advanced analytics solutions – not suited for the majority of decision makers.

However, the goal of any enterprisewide BI strategy should be to provide the right data to the right people at the right time to support decision-making processes at all levels of an organization. Surveys conducted by IDC show that only 15 percent of managers are confident their organizations are currently achieving this goal.

To address this challenge, BI solutions need to become more broadly accessible to a wide range of users, through more data visualization, better interactivity, the addition of content access and text mining functionality exposed through a familiar search interface, support for collaboration, and workflow or guided analytics. The general thrust in this BI solution approach is to morph the BI software interface into something resembling an online media site, such as My Yahoo!

Another parallel approach is to infuse more BI into operational applications – a concept IDC defines as intelligent process automation (IPA). IPA is the convergence of BI tools and business process automation (BPA) deployment software. IPA software automates repeatable, operational decisions within business process sets in response to events where analytics drive the workflow. Today, no single, prepackaged IPA software solution is available. Instead, organizations are beginning to combine BI, data warehousing, BPA and data integration components into IPA solutions. The goal of IPA is to create a seamless link between analytic and operational functionality of the software by matching and automating the user's natural workflow.

Decision-centric BI

The second key development in the BI market is the move from information delivery (i.e., reporting) to collaborative, decision-centric BI (DCBI). Most solutions in the BI market focus simply on reporting and OLAP-based analysis of historical data. Answering questions about the past is very important, but that falls short of providing true decision support, which should also include real-time business activity

monitoring and predictive analytics.

It's simply not enough to receive a report or an alert that identifies a noteworthy event. How do you know what action to take? Currently, a decision maker typically acts on a gut feeling, rather than relying on fact-based analytics.

How does the BI solution support the actual decision-making process that involves hypothesizing and modeling – a process where you identify a problem and pursue alternative solutions? Models can help predict the likely result of various solutions to a problem, and they can even explore or simulate the effects of variable factors on business results. This is the essence of the “what if” analysis that predictive analytics enable. Opportunities exist to provide additional automated decision support.

A key factor in enabling DCBI is to supplement traditional reporting and OLAP technologies with the ability to process large amounts of data, find patterns and insights, and deal with uncertainty by showing the likelihood of a desired outcome when a particular alternative is selected.

Laying the foundation for a successful long-term BI strategy

Bringing BI to the masses and focusing on decision-centric BI are complementary trends, and you must take that into account to address the needs of different user groups within and outside your organization. For example, executives might be looking for scorecard applications, while managers might need exception-based alerts sent to their mobile devices and the ability to drill into the details of their personalized dashboards. Analysts would require more sophisticated core and predictive analytics, while the front-line staff might be looking for a search-line interface or application-embedded guided analytics.

A robust foundation should be able to support the multiple analytic workloads and data integration, analysis and delivery needs of all these constituents. The key factor in all successful BI deployments is the combination of data integration, data quality, master data management and data warehousing to establish a scalable and flexible platform on which you can deploy various end-user tools and applications over time.

Competitive landscape of business analytics technology suppliers

In IDC's view of the market, BI represents a distinct set of software tools for query, reporting, OLAP, data mining and statistics. Therefore, BI is a segment within the broader business analytics market that comprises tools (BI and data warehousing) and applications (customer relationship management, supply chain management, financial management and workforce analytics) for tracking, analyzing, modeling and delivering data that support decision making and reporting processes.

In 2005, the worldwide business analytics market generated \$16.5 billion in software revenue. IDC expects this market to grow at a 10 percent compound annual growth rate over the next five years.

Given the breadth of the market, the competitive landscape includes two types of software suppliers:

- A few large vendors that provide broad solutions, including data integration, data quality, query and reporting, advanced analytics tools, as well as various prepackaged analytic applications.
- A sizable number of niche vendors that focus on one or just a few related segments of the market.

This balance between large and small vendors is unlikely to be upset during the new wave of BI. Each group brings to the market combinations of attractive features, functions and services that provide client organizations with the necessary tools to either launch or continue their ongoing performance management efforts.

Becoming a Customer-Focused Leader

Do you have what it takes?

By Don Peppers & Martha Rogers, Ph.D.

Increasingly, customer-centricity is seen as a path to differentiation and competitive advantage. Yet, many executives fall short of being effective customer-focused leaders.

They would do well to heed management guru Peter Drucker's words: "Leadership is doing the right things." So we ask, what are "the right things" an executive must do in order to lead a customer-centric organization?

Balance short- and long-term goals

First, the customer-centric leader balances short- and long-term goals by seeking new ways to serve existing customers while attracting new ones. Just a few years ago, Xerox was facing significant price competition in the office equipment market and struggling to find new growth areas. Under the leadership of CEO Anne Mulcahy, Xerox maintained its competitive position in its core business, while at the same time pushing ahead with new technologies such as custom communications to serve the needs of current as well as new customers.

To her credit, Mulcahy resisted slashing investment in R&D that was critical for Xerox's long-term growth. However, R&D needed to work smarter. And so the legendary research division, Xerox PARC, was spun off as an independent subsidiary that would license technology and conduct sponsored research. This approach allowed Xerox to retain its much-vaunted research arm and deliver a range of new products. Today, two-thirds of the company's revenues come from products and services that have been introduced in the past 24 months.

Use customer insight as a strategic asset

Many companies have become adept at collecting customer information. But a true leader will find ways to share insights derived from customer data across an organization to drive profitable growth. Bob Godfroid, a Product Design Manager at P&G, recently took one of the company's most innovative new product lines, Swiffer, into a new area. By studying how customers were actually cleaning their homes, and by enlisting various departments within P&G to collect and use this knowledge, Godfroid led the charge to create the portable CarpetFlick cleaning system. From idea to store delivery, the entire process took 20 months – lightning-quick in the consumer products industry.

CRM technologies have been widely used in contact centers as well as in e-mail and interactive online marketing for some time. But it is only recently that the intelligence gained from these disparate efforts has been shared across silos within organizations to create or improve customer strategies. Aberdeen Group's recent report on business intelligence found that 74 percent of best-in-class firms are focusing on automated marketing and its resulting data as a strategic initiative. And according to a recently released BusinessWeek Research/Knightbridge Solutions report, more than half of large and midsized organizations surveyed are using business intelligence and analytics to support at least six business functions ranging from customer service and sales to financial forecasting and budgeting.

With smart use of business intelligence and analytics, firms gain a deeper understanding of the drivers of customer behavior. As a result, each customer visit to a Web site could trigger a series of automated responses, such as follow-up e-mails or even a customized home page for the next visit.

Spend time on the front lines

Spending time with customers is a major priority of the customer-focused leader. It's well-known that JetBlue Airways' CEO David Neeleman regularly works a range of jobs on some flights, from baggage handling to serving snacks. Starbucks CEO Howard Schultz has said on several occasions that he visits

more than 25 non-Starbucks retail stores every week. At Pitney Bowes, CMO Arun Sinha oversees the Onsite/Insight program, which requires senior managers to spend time at the headquarters of its largest customers with all levels of employees. Being able to see things from a customer perspective can affect not just the way a firm communicates with customers but how products are designed and delivered.

As a matter of fact, customer-centric executives regard customers as major partners in innovation. The IBM Global CEO Study 2006 found that the majority of the 765 CEOs surveyed identified customers as a top source of innovation. Soren Lund, Director of LEGO's Mindstorms Division, took this approach to a new level when he enlisted 100 top Mindstorms users to collaborate on the design of Mindstorms NXT, the next version of its popular line of robot toolkits.

Institutionalize trust among customers and employees

To the customer-focused leader, building trust among employees and customers is the foundation for all other activities. One of the most trusted companies in the world is E-Loan. It has won accolades from Forrester Research, TRUSTe and the Ponemon Institute. You won't hear much about these awards from CMO Catherine Muriel. You will hear a lot about customer advocacy and how the company's compensation structure fosters customer trust. Loan agents are not rewarded for the revenue they generate from interest rates; they are compensated based on the total amount of the loan.

Leaders who want to make trust part of their employee culture understand the importance of treating employees like customers. A good example of such a leader is Wegmans CEO Danny Wegman. Before opening two new stores last year, the 69-store Wegmans supermarket chain chartered jets to fly all new full-timers to Rochester, New York, to be welcomed by the CEO himself. With 31,000 employees, Wegmans has just 8 percent turnover, while the industry norm runs as high as 84 percent, according to the Food Marketing Institute. The trusting relationship that results from treating employees like customers is definitely paying off for Wegmans.

CEOs like Danny Wegman understand what Drucker meant by "doing the right things." Customer-centric leaders believe that the critical first step on the path to competitive advantage is to treat customers and employees the way you treat yourself. Such a leader leverages technology and business intelligence to continuously improve the customer experience and drive long-term growth.

Accenture and SAS Enhance BI Services Capabilities

Accenture plans to expand its business intelligence services through increased collaboration with SAS.

The two companies plan to work together to enhance Accenture's SAS® capabilities and will also team to enhance SAS software and product development by leveraging Accenture's industry expertise.

This relationship will help Accenture deliver proven, repeatable solutions and create additional specialized capabilities to meet the increased demand for business intelligence services currently provided to clients through its Accenture Information Management Services (AIMS) organization. For SAS, the relationship will help accelerate growth of the company's global BI software revenue by leveraging Accenture's investment in sales, marketing, training, research and development, and expertise in industry and business processes.

"We are clearly seeing an increased demand for business intelligence services as organizations seek higher performance by collecting and analyzing internal and external data," says Royce Bell, Chief Executive Officer of Accenture Information Management Services. "By striking a closer relationship with a market-leading enterprise business intelligence software vendor, we will be able to provide our clients with even more skills and scale than previously possible."

"Business intelligence solutions and services are clearly the next growth area in information technology. By leveraging our mutual strengths in software, services and business expertise, we will be better able to take advantage of global strategic BI opportunities," says Jim Davis, Senior Vice President and Chief Marketing Officer of SAS. "The breadth of SAS' enterprise intelligence platform and industry focused solutions coupled with Accenture's ability to provide additional customization, implementation services and global delivery, will allow customers to address key business and technology pains associated with information management more quickly and effectively."

Accenture and SAS have successfully teamed together over the last 10 years to provide business intelligence solutions in the analytics area where companies are seeking to get more insight and value out of their data. This expanded relationship will help provide a foundation for Accenture and SAS to further develop, market, sell and deliver global industry solutions for businesses via a comprehensive and united approach and set of resources.

According to Henry Morris, Group VP for Integration, Development and Application Strategies at IDC, a leading analyst firm: "This is a positive move for both companies, each with a demonstrated record of success in the field of analytics. SAS' commitment to industry solutions and an intelligence platform is complemented by Accenture's capabilities to explain the benefits to senior executives in the language of their vertical industry and to provide the skilled personnel required for delivery. The agreement should benefit both firms and should advance the penetration of analytics across industries and across regions."

Accenture's information management practice currently has approximately 10,000 professionals with skills, experience and knowledge related to how information management can support an organization's strategic vision. Accenture professionals create and deliver complex solutions by drawing on functional and industry know-how, offerings and assets.

Accenture plans to expand its SAS business intelligence capabilities, specifically around the SAS Enterprise Intelligence Platform, which is the foundation for SAS' targeted business solutions that support enterprise intelligence, customer intelligence, financial intelligence, supply chain intelligence, as well as technology solutions for vertical markets, such as financial services, life sciences, health care, retail, manufacturing and others.

Effort to Create “Data Virtuosos” Gets Under Way

North Carolina State University is accepting applications through May 1 for the world’s first advanced degree in analytics.

In the CBS TV show “Numb3rs,” an FBI agent relies on his math whiz brother to help solve and prevent complex crimes. In one episode, they catch a serial killer after studying patterns and trends of his earlier crimes.

In the real world, where business data doubles every three years, there’s a growing shortage of trained professionals with the analytical skills to solve complicated problems involving massive amounts of data. North Carolina State University, in collaboration with SAS, is doing something about it.

NC State is accepting applicants for its new [Master of Science in Analytics](#) (MSA), an intensive 10-month professional degree program that focuses exclusively on the tools, methods and applications of data analytics. Applications are due Tuesday, May 1. Classes start Monday, July 2 at NC State’s Centennial Campus.

Analytics ‘boot camp’

The degree consists of an integrated curriculum created specifically for students in the program, beginning with a July “boot camp” that will expose students to the same advanced analytics software tools used in industry today. The program is offered through NC State’s Institute for Advanced Analytics, a new unit set to open its doors later this spring.

Program Director Dr. Michael Rappa aims to grow NC State’s MSA degree into the largest of its kind and make the institute the destination of choice for students around the world. “We seek to become a magnet for men and women who want to fashion themselves as ‘data virtuosos,’” Rappa says. “That means an individual who thoroughly understands data, who has a mastery of state-of-the-art analytical tools and techniques, and who is passionate about yielding accurate insight with data into the major challenges that face organizations today.”

The MSA degree is intended to be an immersive and rigorous educational experience. Students study full-time and will complete in 10 months what normally stretches over two years in conventional graduate degree programs. “We want to move each student as far along the learning curve as quickly as possible with a mixture of skill-building modules and, whenever possible, the practical application of techniques to real problems,” Rappa says.

SAS Accelerates Optimization, Delivers Power and Accessibility

Enhanced SAS/OR[®] software does the “heavy lifting” of data preparation and analysis to solve optimization problems.

Empowering decision makers to make the best use of limited resources, SAS has shipped enhanced [SAS/OR[®] software](#). Customers use this SAS operations research software to optimally operate within constraints and more fully achieve strategic objectives. SAS does the “heavy lifting,” including all of the data preparation and descriptive and predictive analysis steps needed to build and solve large, complex optimization problems.

[IMS Health](#), a leading pharmaceutical consulting provider, needed to optimize its portfolio planning solutions to schedule promotions at levels of detail beyond what Excel-based spreadsheets or current niche industry models could handle.

“We turned to SAS/OR due to its ability to store, manipulate and analyze vast quantities of data in a distributed computing environment,” says Chris Nickum, Global Practice Leader at IMS Health. “IMS operates in a highly competitive environment, and the SAS BI platform has given us an edge with clients by providing us the capability to constantly and consistently execute sales force effectiveness strategies for our clients in real time. With its power, we can truly leverage the insights of the world’s ninth-largest repository of healthcare information to add value to their business.”

The benefits of new enhancements to SAS/OR include:

- Faster solvers that generate quicker answers.
- Powerful new modeling syntax that enables greater expressiveness.
- Improved method of inputting data that increases flexibility and reusability.

With SAS/OR, modelers transform real-world scenarios into mathematical expressions. When tweaking models to produce the most accurate representation, they can compare one type of model with another – leveraging essential modeling, optimization and scheduling capabilities – from within the integrated, adaptable [SAS Enterprise Intelligence Platform](#). Thus, they avoid the hassles of dealing with multiple niche software packages.

Optimization is never performed in isolation; it is part of a continuum that begins with data integration, grows by informing decision makers with reports of descriptive and predictive analytics, and crunches through a myriad of alternatives before recommending the optimal choice. This information-fueled decision guidance promotes continual positive change by achieving successes never before possible.

The Silver Circle: SAS Celebrates Loyal Customers and Their Careers

As part of our 30-year anniversary, we honor customers with 25 years or more of SAS experience.

By Shelley Sessoms

At SAS, we take great pride in the relationships we've developed with our customers and the loyalty we engender from longtime SAS users. To celebrate the achievements of our long-term customers, SAS created the Silver Circle program in 2006.

Customers with 25 years or more of SAS experience were encouraged to take part in the program. They were asked about their current use of SAS and how it had made a difference in their careers. From the more than 60 entries, SAS selected eight for a Special Achievement Award.

"I am pleased to know that so many customers responded to this program," said Dr. Jim Goodnight, CEO of SAS. "These are the people who helped make the company what it is today."

A glimpse at the winners

There aren't many people who would tell you a software program made a huge difference in their lives. Frank Dilorio, President of CodeCrafters Inc., is one of the few.

Dilorio was a graduate student in city planning at the University of North Carolina at Chapel Hill in 1975 when he earned a fellowship that required computer expertise. All he knew at the time was a bit of the FORTRAN programming language. His employer handed him a copy of SAS and a batch of survey data.

"The whole document for the software fit into 250 pages," recalled Dilorio. He felt lucky that his employers were using software built just down the road – in nearby Cary, North Carolina. "If you were having a problem, you could just bring your plotter over, and they'd help you."

Twenty-six years later, Dilorio reflected on the impact SAS had on his life. "In a real sense, SAS has 'been' my career and has provided job, writing and other opportunities that were as unexpected as they were welcome," he commented. "Publishing, conferences and job opportunities may be taken for granted by the next generation of SAS programmers, but I will always be impressed with what a varied, fertile professional world I've been able to inhabit."

Tom Bradshaw, Senior Vice President at Bank of America, has worked with SAS for the past 27 years. He and his team use SAS to transform billions of pieces of data into meaningful information and analyses.

SAS has been a central feature of Bradshaw's working life. "SAS is my career. SAS opened a career path I'd never previously considered and has been my primary resource for analytic computing ever since. I fully expect to continue to use SAS until the day I retire," Bradshaw explained.

Jim Kissler, Senior Manager at a leading financial services company, came to SAS by accident more than 25 years ago. "I accidentally took on the support of a SAS job many years ago, was immediately hooked and became one of the first SAS developers at my company" he said. "SAS is, and will always be, the tool of choice for analytics and delivery with me."

Doug Samuelson, Senior Analyst for a public sector organization, first used SAS in 1978. In 1980, he participated in a hugely successful project that resulted in a \$2 billion win for his employer at the time. Since then, he's rarely been without the software, which he enjoys using every day.

Pat Cerrito, Professor of Mathematics at the University of Louisville, originally planned to make a career out of studying theoretical probability. But an introduction to statistics and SAS software sent her down a

different path, and today she is helping the University of Louisville's Medical School solve real-world health problems.

"Using SAS, I have helped college researchers study everything from drug interactions to physician decision making," she said. "I currently use SAS to investigate problems in healthcare, using SAS Enterprise Miner™ and SAS Text Miner to investigate the issues of cost and quality."

Two of the award winners began using SAS before it was officially a company. Donald McKinnie, Supervisory IT Specialist at a large government agency, was first introduced to SAS in the summer of 1974, when the entire SAS System was hand-delivered on a nine-track tape reel. He first used SAS in 1976.

"I have seen SAS grow from a basic statistical software package into a major integrated software company with solutions to just about every aspect of business and information technology," he noted.

Helen Carey, Analyst and Consultant, first saw a SAS software demonstration by Goodnight at North Carolina State University in 1973. She was visiting the campus from the University of Hawaii (UH), where she worked in computer services. Carey and UH began using SAS in 1974.

"I started using SAS to help faculty, staff and students as part of their research or statistics classes," Carey said. In addition to providing support in the classroom and to professors and staff, she designed and wrote the SAS programs for CAFE, a campuswide course and faculty evaluation system, 16 years ago.

Several years after Carey began using SAS, she introduced her sister, Ginger Carey, to the software. Ginger, who also works at UH, provides technical support for campus SAS users, writes in-house documents and teaches SAS workshops.

"Helping SAS users means that every day I am doing what I enjoy doing," Ginger noted. "SAS users are some of the nicest people I know. The SAS users I help are grateful, and they want to learn more about SAS."

And SAS is grateful to these users, and thousands of others, who helped shape the future of the company, as well as today's software industry. Thank you, Silver Circle Special Achievement Award winners!

SAS, The Cure for Growing Pains at MDwise

Business intelligence and data integration software from SAS help managed care provider deal with growth.

MDwise Inc., an Indianapolis-based not-for-profit managed care organization, had a growing problem. To provide the best care, MDwise needs to understand its patients while also sharing relevant information on them with state regulators and its network of healthcare providers. But a new contract with the state of Indiana meant that MDwise (pronounced “MED-wise”) was expanding from a regional to a statewide provider, with more patients, more providers in its network, and more diverse data sources to integrate, analyze and share.

MDwise turned to SAS to cure its growing data pains. Through a combination of SAS BI and data integration software, MDwise is solidly positioned for growth.

“SAS helps MDwise integrate sources that are not easily integrated. No matter the data format or the system, SAS helps us seamlessly bring together data, analyze it and turn it into intelligence which we can act upon and share with state regulators and our network of providers,” says Rush Daugette, Director of Information Services at MDwise. “Whether we’re submitting claims data to the state under our new Hoosier Healthwise contract or sharing enrollment files with our providers, MDwise has the power of SAS business intelligence and data integration behind it to easily do all that we need to do.”

Complete and accurate data

In 2006, MDwise was selected to provide statewide Medicaid services for the Indiana Family and Social Services Administration’s Hoosier Healthwise program, Indiana’s health coverage program for low-income families and children. Under the new contract, which started Jan. 1, 2007 and runs through 2010, MDwise serves more than 245,000 eligible Hoosier Healthwise Medicaid members. As a result, MDwise needed to expand its reach from an existing network of regional hospitals in central and northwest Indiana to a statewide network of health providers.

A challenge for MDwise and for its Information Services team has been to ensure that complete and accurate data – on the number of patients and the care provided them – could be gathered from its growing network of managed care providers and shared with the state of Indiana, which pays MDwise based on the number of patients served each month.

With [SAS Enterprise BI Server](#) software, MDwise’s Information Services team can react quickly to requests from its provider network, analyze Medicaid claims data and see that the state receives accurate information.

Through SAS BI and data integration technologies, MDwise can bring together its existing systems with those of new providers added to the care network as a result of statewide expansion. Daugette and his team can create a single, accurate picture of the people MDwise serves, and securely share data and intelligence with its provider network, its medical directors and its partners in the state government.

Daugette is looking to expand the reach of the SAS platform in 2007. “We want to move toward more Web-enabled displays to share the data in our SAS warehouse,” says Daugette. “And we’re looking to improve patient care through SAS. Our quality team has been developing quality measures with SAS software that will help us better track patient claim experience for specific groups, such as those with asthma. By sharing this data throughout our provider network, healthcare professionals can better understand this population and potentially uncover more effective treatment combinations.”

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