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SAS® BUSINESS REPORT

Dear Readers,

In this issue, Don Peppers and Martha Rogers provide the “Missing Link in Customer Intelligence” along with “Seven Rules for Increasing Customer Value.”

And we’re talking about the BI market consolidation frenzy – is it over? Who’s next? And what does it mean for the organizations that invested their BI budgets in these companies? Read on to find out.

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

Anne-Lindsay Beall
Editor, *SAS Business Report*

SAS Improves Fraud Protection for HSBC

Real-time protection against card fraud launches to global banking community

SAS has launched [SAS Fraud Management](#) a new real-time, card fraud detection system based on its [enterprise intelligence platform](#). The system was developed together with HSBC and is currently implemented in the US, conducting fraud checks on HSBC's US credit card transactions in real time, improving protection for HSBC's customers. Designed from the outset to handle credit and debit cards on a global scale, SAS believes that it is the most complete fraud detection system available today.

Using SAS Fraud Management, HSBC has improved fraud detection, false positive rates and fraud case handling efficiencies. Customers benefit from improved fraud protection on every card transaction, while the software actively reduces losses that cost the industry \$4.84 billion last year. Customer service is improved through the reduction of contacts regarding potentially fraudulent transactions, whilst HSBC delivers improved fraud protection to its customers.

SAS Fraud Management enables HSBC to uncover fraudulent transactions more quickly and with greater accuracy. The system reviews HSBC's card transactions, alongside other changes in customer behaviour, and delivers a real-time decision to proceed with the transaction or seek customer clarification regarding its authenticity. By optimising the accuracy of decisions, HSBC improves operational efficiency and fraud protection for every customer.

Specific benefits achieved by HSBC in the first three months of implementation include:

- An 87 percent increase in the number of data items processed, including card transactions and customer information, with a corresponding reduction of 12 percent in the mainframe processing overhead. This has resulted in a 53 percent decrease in the mainframe processing cost per data item.
- A 30 percent decrease in the computing resource cost of processing card transactions flagged as potentially fraudulent.
- A 10 percent increase in efficiency by agents investigating potentially fraudulent cases when compared to the proprietary case management system.
- Reduced IT support costs following the elimination of three software applications.

SAS believes that fraud detection and prevention is an increasingly important objective across the financial services industry and, given the success of SAS Fraud Management within HSBC, SAS is today launching the solution to the wider financial community. In a consolidated industry-wide effort to tackle card fraud, SAS' aim is to create a consortium of financial institutions to unite and benefit from sharing their fraud knowledge and developing further applications using SAS Fraud Management. As demonstrated by HSBC, SAS Fraud Management enables organisations to actively combat fraud and will help change the face of card fraud management.

HSBC recognises the need for continually improving fraud prevention efforts to combat losses incurred in the card market. It chose SAS as its global development partner for an enterprise risk management platform with fraud detection and prevention at its core, because of its expertise, leading-edge technology, and the shared commitment to develop and deliver superior-quality applications. SAS has proven that it can support HSBC as a long-term global partner, and will work with HSBC to roll out SAS Fraud Management across the global bank.

Derek Wylde, Head of Group Fraud Risk, HSBC, said: "Our success with this partnership and with SAS Fraud Management shows that SAS understands and shares in HSBC's long-term goals and can work with us to deliver improved solutions. In a constantly changing fraud environment, SAS

technology helps us keep ahead of criminals. We believe the SAS solution takes us a significant way forward in our fight against fraud.”

“SAS is proud to have produced, alongside HSBC, a system that will truly change the landscape of transaction fraud detection across the financial services industry,” said Jim Goodnight, CEO of SAS. “SAS Fraud Management enables banks to continually adapt to the ever-changing fraud situation in order to improve the protection of banks, businesses, and customers. This system could revolutionise how the industry tackles fraud now and in the future.”

SAS Fraud Management, has been adopted as the exclusive transaction fraud solution across HSBC’s US credit card operations. Given its success it is now being implemented in the UK and Asia. Within the next few years, SAS Fraud Management will be used to assist HSBC in protecting transactions for more than 100 million credit or debit cards in more than 30 countries worldwide.

Available online only:

The Wave of Consolidation Continues

There's been a flurry of consolidation in the business intelligence market: Hyperion, Business Objects and now Cognos have all been acquired. Is it over? Who's next? Get an in-depth analysis from Gaurav Verma, Global Marketing Manager for BI at SAS, in this blog post.

<http://blogs.sas.com/sascom/index.php/?archives/134-The-wave-of-consolidation-continues.html>

The Four Stages of Data Maturity

Navigate the path to enterprise data governance, and improve the health of your organization's data

By Tony Fisher, President and General Manager of DataFlux, a SAS subsidiary.

As companies collect more and more information about their customers, products, suppliers, inventory and finances, it becomes increasingly difficult to accurately maintain that information in a usable, logical framework. This can severely complicate workflow because the information within applications and databases – data pertaining to customers, products, employees, suppliers and financial transactions – provides the foundation for improved customer relationships or an optimized supply chain.

The data management challenges facing today's businesses stem from the way that IT systems have evolved. Enterprise data is frequently held in disparate applications across multiple departments and regions. To address the spread of data and eliminate silos of corporate information, many companies implement enterprisewide data governance programs, which attempt to codify and enforce best practices for data management across the organization.

Data governance encompasses the people, processes and technology that are required to create a consistent enterprise view of a company's data. Companies are embracing data governance as a way to bring order to the chaos of their IT infrastructures. By concentrating on the health of the data, companies address the lifeblood of their enterprises, helping create better data to support any business initiative.

The road to data governance

Like many enterprise projects, data governance programs often start small before finding the sponsorship and support needed to transcend organizational boundaries. For most companies, data governance takes on a slow but steady evolution as the company matures in its management and control of enterprise data.

Through an established Enterprise Data Maturity Model, organizations can identify and quantify precisely where they are – and where they can go – to create an environment that delivers and sustains high-quality information. An organization's growth toward this ultimate goal invariably follows an understood and established path. There are four stages in the Enterprise Data Maturity Model:

1. Undisciplined
2. Reactive
3. Proactive
4. Governed

Within the model, each stage requires certain investments, both in terms of internal resources and third-party technologies.

Progressing through the Enterprise Data Maturity Model

The Enterprise Data Maturity Model examines the technology being used, along with the people and policies associated with the governance initiative, to ascertain the level of data governance sophistication within that enterprise. In the first stage, the Undisciplined phase, an organization has few defined rules and policies about data quality and data integration. The same data may exist in multiple applications, and redundant data is often found in different sources, formats and records.

The danger for Undisciplined companies is the real and constant threat that the underlying data will lead to bad business decisions that may, in turn, result in missed business opportunities and

decreased customer satisfaction. Often, it takes a cataclysmic failure to shake the organization out of complacency.

At the next stage, the Reactive phase, a company begins to organize a data governance program, either through grass-roots efforts or, more likely, through an executive-driven effort fueled by an earlier failure. At the Reactive stage, organizations try to reconcile the effects of inconsistent, inaccurate or unreliable data as bad records are identified. Here, the gains are often seen on a departmental or divisional level, but the company is starting to establish some best practices for data governance.

The move to the next stage, the Proactive phase, is not an easy one. After years of investing time and resources in complex enterprise applications (such as customer relationship management, or CRM, systems), a Proactive company understands that a more unified view is necessary if the organization wants to derive any real value from its information. Applications like CRM often become silos of data, and to progress to a unified view and workable format, the organization needs to extend the reach of that data through the checks and balances of the maturity model technology to clearly manage the data and achieve master data management (MDM).

At the Proactive stage, the data governance program becomes cross-functional and has explicit executive support. To build a single view of a customer, for example, every part of the organization – sales, marketing, shipping, finance – has to agree on what attributes make up a customer record.

The final stage, the Governed phase, is where data is unified across data sources according to business rules established by an enterprise data governance team. In this final phase of the model, a company has achieved a sophisticated data strategy and framework, and a major cultural shift has occurred. Instead of treating issues of data quality and data integration as a series of tactical projects, these companies have a comprehensive program that elevates the process of managing business-critical data.

Although individual applications are still in use by a Governed company, the data that users access comes from a single repository that is propagated across the IT infrastructure. This provides the ultimate in control for the enterprise because all reports and dashboards pull from the same pool of information.

Using the maturity model to ascertain a reasonable IT approach

The Enterprise Data Maturity Model helps organizations understand that they will not reach the highest levels of data management overnight. Rather, they should view the process as a journey, with a host of challenges and significant milestones along the way.

The technology associated with data governance typically encompasses the following capabilities:

- **Data profiling** – To inspect data for errors, inconsistencies, redundancies and incomplete information.
- **Data quality** – To correct, standardize and verify data.
- **Data integration** – To match, merge or link data from a variety of disparate sources.
- **Data enrichment** – To enhance the use of information from internal and external data sources.
- **Data monitoring** – To check and control data integrity over time.

With these applications in place, companies have the ability to improve the data throughout its life cycle. Through the data monitoring function, organizations can also encapsulate established business rules to flag data that does not meet pre-established criteria. For example, a healthcare company can set up a business rule that states if the gender field in a record reads “male,” then

another record about that patient cannot have the condition code for “pregnant.” Every organization has these business rules in place; data monitoring simply helps establish and automate them.

One customer that has embraced the Enterprise Data Maturity Model is a large nonprofit organization headquartered in the US. The organization wanted to build a more unified view of its donor network, which had data splintered in dozens of applications across the country. The IT department decided on an MDM program and began to seek technology vendors to support the effort.

The organization found that although its intentions were good, the people and processes were not ready for that move. Political battles broke out to determine who “owned” the data. No single group was responsible for determining what constituted a good record. The bare necessities of data governance were not in place, and initial trials were gridlocked.

Once the organization understood that it was an Undisciplined company according to the Enterprise Data Maturity Model, it developed a plan to progress to the next level. Business analysts within the company used data profiling technology to identify bad or incomplete data. The management team established a data stewardship group, which started to codify business rules for data quality and data integration efforts. Within months, the organization had attained the Reactive stage – and the goals of MDM were now within reach.

Conclusion

The path to data governance is not easy, but organizations can get there. More importantly, data governance is a necessary response to the dozens or hundreds of disparate data sources within most organizations. By understanding the continuum of data governance, organizations can progress toward the ultimate goal: a single, unified view of the enterprise.

This article was originally published in *DM Review* magazine.

The Missing Link in Customer Intelligence

Measure short-term and long-term customer value to satisfy the CFO and the CMO

By Don Peppers and Martha Rogers, PhD

Soothsayers are awfully tough to come by when you're trying to figure out your customer strategy. Yet that's what C-level executives get paid to be. We believe that when it comes to predicting customer value in the short and long term, executives need to mix customer data with creative, intuitive judgment about customer needs in order to concoct a marketing soothsayer's elixir of genuine customer understanding.

Predicting what customers will need six months or even a year down the road is tough. Predicting what we term Return on CustomerSM (ROC) or how much a group of customers will change in value is even tougher, but it has been achieved by many companies through a mix of art and science. Peet's Coffee, a San Francisco-based coffee supplier and retailer, has driven its business impressively by doing this. According to a presentation by General Manager Brian Platter, the company saw through sales data, e-mails, blogs and contact center feedback that its most valuable customers wanted special coffee blends, home delivery and even a negative-option loyalty program. It delivered by starting the Peetnik Loyalty Program, which rewards high-value customers who maintain a standing order for delivery of coffee or tea. These customers receive free samples of special blends and are able to order these items before they are available in stores.

Here's another example that relies a bit more on understanding the customer. According to an article in last October's *Harvard Business Review*, Nokia and Samsung have been able to predict different customer needs in the vast Indian mobile phone market and address them through innovations such as building in flashlights for drivers who need to navigate the poorly lit Indian highway system. That kind of insight results from good data and good customer understanding.

The demands we place on our customer intelligence have escalated. In the past, good customer intelligence could fill a spreadsheet with numbers. Now it's about listening to voices and trends and hints that could lead to changes in customers' most intrinsic values, such as the environment, social responsibility, peer-to-peer networking and designer tastes. Hard to detect as these hints often are, they nevertheless have the potential to revolutionize your business model right out from under you.

When *McKinsey Quarterly* asked more than 3,500 global executives the most important trend that will affect their businesses over the next five years, "changing consumer tastes" took 87 percent of the vote. In the Institute for the Study of Business Markets' "Trends Study" for 2007, No. 1 on the list is: "Gathering and acting upon intimate knowledge of customers and their business needs." But how can a company measure the kinds of changing consumer tastes evidenced by the current move toward the environment and social responsibility?

C-suite partnership

Maybe it's time for CMOs to open a dialogue with CFOs in order to help them both come to grips with their and of customer intelligence, as well as long-term/ short-term trade-off issues. Costs and revenue, customer data and intangible intelligence – these are issues that have more meaning when looked at in a big-picture way. Getting these two camps together is not always easy.

For the CFO, it's all about the bottom line, which the CEO tends to agree with. As a result, marketers are trying to curry favor with the finance department by becoming increasingly analytical. They'll measure just about anything they can to prove a campaign or strategy's success. But often finance and marketing still end up speaking different languages. According to a new study from analytics firm Marketing Measurement Analytics (MMA), only 7 percent of 150 financial executives surveyed are satisfied with their marketing department's ability to measure marketing ROI.

Costs and revenues, the atomic particles that make up a company's financial reporting, are hard numbers. It may be a rearview mirror approach, but the simple fact is that costs and revenues can be tabulated exactly, and this is what a CFO is looking for.

Marketing measurements, on the other hand, are metrics like open rates, ad clicks, ad awareness levels and brand preference figures. It's difficult to directly tie them to actual revenue numbers because customer actions are not linked to these measurements in a closed-loop fashion. Even metrics like campaign ROI and return on marketing investment (ROMI), while they have a suitably "financial" appearance, suffer at some point from the lack of a clear link between the interim measurements of spending and the actual sales lift or incremental revenues produced.

But there is an even deeper disconnect between finance and marketing, because marketing is an inherently future-oriented function, while finance spends most of its time documenting the past. Marketing measurements have gone from day-after-recall to more useful, future-oriented metrics like Net Promoter Score and customer lifetime value, but even these measurements are still just meaningless talk to the CFO.

The key is getting the CFO and the CMO to work together to balance short-term and long-term goals. Campaign ROI and customer value growth should carry equal weight. For example, some initiatives actually destroy company value in the long run even though they show a positive short-term ROI. A cross-functional approach is a good start to understand what's at stake for each individual organization.

Also, consider traditional marketing metrics as a baseline to start a conversation about ROC, a future-oriented metric incorporating both current-period and long-term customer value created. ROC doesn't necessarily close the loop between marketing actions and value created, but at least it closes the gap between customer behavior and genuine financial value.

CMO/CFO cooperation also opens up an opportunity to begin measuring ROC. Ultimately, executives will have a better understanding of the overall impact of their company on a customer. Do it right, and maybe you could become a marketing soothsayer yourself.

Seven rules for increasing customer value

1. Always remember that your customers are your scarcest resource.
2. Don't take actions in the short term that will destroy value in the long term.
3. Balance short- and long-term returns.
4. Develop trust by viewing your organization from the customers' perspective.
5. Treat different customers differently.
6. Build both current and future value.
7. Get buy-in from the CEO. Read the full article from Don Peppers and Martha Rogers:

Read the full article online at: www.sas.com/sascom-cvrules.

Getting a Real Return on Your ERP Investment

Manufacturers expect more business value from their IT investments

By Tonny Dierckx, Manufacturing Practice Manager for Belgium

Manufacturers have invested huge amounts of time and money in implementing ERP (enterprise resource planning) systems. They see it as a way to get all the data they need to drive and support day-to-day business processes. That's great, but there is a limit to how much manufacturers can benefit from knowing what happened in the past. The law of diminishing returns suggests that additional investments in ERP are likely to have an ever-decreasing impact on the bottom line.

As such, the best that can be said of these systems is that they make you as good as your best competitor. By definition, a system that standardizes everything is not going to make you better. To be a leader in business, you must be capable of doing some things differently from – and better than – the common herd.

Obsession with the minutiae of what happened in the past can in fact be a brake on innovation and creativity – which is perhaps more important in a competitive world than identifying opportunities for minor cost savings. One wonders how great inventors and innovators such as Benz, Marconi or Edison would have managed if their every decision were subjected to the intense scrutiny of accountants armed with ERP reports. A manufacturing R&D manager recently told me, “We are in danger of killing the goose that lays the golden egg in order to economize on corn feed.”

That's not to say that ERP is a bad thing. However, manufacturing executives are right to expect more business value from their IT investments than can be delivered by surfacing the cost and impact of individual transactions. Businesses and decision processes are much more complex and nuanced than that. Interrelationships, both inside and outside the organization, are more important than one-off transactions.

It is only when you get insights into the underlying drivers of costs and revenues that information becomes a competitive weapon. In our current economy, it is not enough to know how much you sold yesterday, what are the stock levels of your most profitable products, how much revenue your best customer generated, or who is the most unreliable supplier. ERP systems contain all this elementary data on the past, but innovative companies want to know what will happen in the future, how they can benefit from a newly discovered trend, how they can anticipate events and how they can become more agile. Innovative companies are forward-looking, not backward-looking.

To cope with these complex business challenges, companies need to be able to focus their creativity by applying advanced techniques such as constraint-based optimization, advanced forecasting, strategic planning, business simulation and modeling. The umbrella term for these techniques is “business analytics,” which combine the capabilities of business intelligence solutions with strong forward-looking analysis that is designed to support and improve decision making.

A complete business analytics solution must integrate all of the corporate data coming from ERP, legacy and specialized systems. In addition, it must offer collaborative tools so that managers and employees can make decisions rapidly and in harmony.

Collaboration

The never-ending changes in the economic, political and social environment make today's business decisions very complex – so much so that no single individual has all the knowledge necessary to make intelligent and fact-based decisions. That's why knowledge workers, whose skills and experience must combine with factual information, look to ERP systems containing the needed information in a common pool of knowledge. At SAS, we refer to the technology that makes

this possible as an “enterprise intelligence platform.” Such intelligence-based collaboration brings the collective knowledge of an entire organization together, enabling it to make decisions. Traditionally, collaboration has been characterized by meetings, committees and bureaucracy, whereas agile and smart companies want to make decisions quickly. Manufacturers, in particular, want to identify problems or new trends, analyze their impact, decide how to react and then disseminate this information to people who can act on it, all across the enterprise – and even outside the enterprise, with logistics or outsourcing partners. Subsequently, they want to monitor the impact of such decisions.

The overall speed of all these steps in the decision-making process determines your “time to intelligence,” which can make for a company’s success or failure.

Taking these realities into account, should we conclude that business analytics solutions compete with ERP systems? I don’t think so. They complement each other. One doesn’t make sense without the other. Their relationship is comparable to the interworkings of the human body. While ERP systems are the muscles and blood of your organization, business analytics are the brains and nerves. Any human being needs both, working together, to survive. Likewise, innovative companies invest in the best ERP software and the best business analytics. They have brains and brawn!

Total cost of ownership

However, there are important differences between analytics and ERP. Business analytics deliver sustainable return on investment because they support innovation and creativity, while ERP is a blunt instrument. With the latter, the return on investment diminishes rapidly.

Some companies have, in the past, been urged to add a new ERP system or to build additional layers on existing ERP systems. But knowing that ERP systems require major investments of time and money to modify them to do precisely what you want, these same companies have found that it makes sense to step back and think about alternatives.

A major American logistics company recently gave up a project to replace its core transportation systems with a new ERP deployment. The motive behind the project was to deliver better customer intelligence. But after a year of effort, the company realized that ERP was never going to deliver the quality of information it sought.

For me, this is no surprise – because ERP was never designed to deliver customer intelligence in the first place; it was designed to execute transactions efficiently. Realizing this, the CIO of the company convinced the board to retain the existing operational systems and use business intelligence software to provide answers to the questions it had been exploring, questions such as, “Who are our most and least profitable customers?” The business-intelligence approach laid the foundations for the company to transform itself into a market-driven, customer-centric organization.

Perhaps more surprisingly, business analytics software has a lower total cost of ownership (TCO) than ERP software. This was demonstrated by a recent study from the HEC International Business School in Paris, which compared the TCO of ERP-based, business intelligence-based and business analytics-based solutions. The business analytics solutions were by far the most cost-effective.

By adding smart brains to brawn, by adding sophistication to raw power through the integration of business return on investment out of its ERP systems. It does not even need to cost a great deal. Business analytics can make efficient organizations even more innovative and agile without straining resources. In short, this powerful synergy of efficiency and adaptability generates the high business value that business users and executives expect.

Global Retailers Build Profits with BI

Increase profit levels and exceed customer expectations with BI technologies

By Lori Schafer, Executive Advisor for Retail Solutions at SAS.

Many retailers have implemented the basic “plumbing” technology of ERP (enterprise resource planning) and transactional systems; now, it’s time to strategically use the data that those systems generate to make better business decisions and grow the top and bottom lines. All industries – including retail are laser-focused on BI and predictive analytics as the top technologies to enable growth. The process of analyzing data and making solid business decisions based on hard facts takes retailers out of the realm of guessing about possible outcomes and places them squarely in the world of knowing what’s going to happen.

BI technology has leapt from the back room of IT shops into the forefront of boardroom-level discussions because of the potential for positive impact on earnings and shareholder value. Every executive around the table is responsible for expanding corporate profits, and these technologies support executives in their efforts.

BI technology can be approached either as an integrated suite of solutions or as a point solution. Retailers, who are pressured to show high-impact results, may first choose the point solution for assortment planning, size optimization or markdown optimization. But selecting an integrated suite offers the best of both worlds: Begin with one element, gain a payback and then fund the next initiative.

One of the many ways BI technology has a swift and direct impact on a retailer’s bottom line is through price optimization. Price optimization technology allows retailers to maximize margin and inventory goals by establishing optimal initial pricing, promotional pricing and optimized markdowns.

Increase profits by optimizing pricing

Price is the most important profit lever a retailer has to work with. A 10 percent price increase can double profits – a far greater impact than increasing sales by 10 percent (resulting in only a 33 percent increase in profit) or reducing fixed expenses by 10 percent (which results in a 20 percent increase in profit). Understanding price elasticity and how to optimize pricing from the start is paramount in moving the profit needle for retailers in all categories.

Because of its power to improve the profit landscape, price optimization technology is often considered self-funding. It quickly pays for itself and puts savvy retailers in a position to adopt additional sophisticated technologies that create an impact further upstream in the business process. An example of this type of technology is advanced assortment planning, which allows tailored local-market assortments.

Price optimization technology has become more mainstream as it has evolved beyond first-generation software applications. Retailers using second-generation price optimization solutions gain many benefits from predictive analytics, such as robust forecasting across all merchandise types and enhanced scalability – and some solutions even enable optimization from zone-to-store-level pricing, an important factor for many retailers. Driving these second-generation systems are vast amounts of SKU-level pricing data, making data integration another important part of selection criteria.

Providing these solutions through hosted “software as a service” delivery systems means that smaller, emerging retailers can gain the same competitive advantages as larger organizations. In

today's fiercely competitive environment, that kind of edge gives up-and-coming retailers a much-needed boost.

A more sophisticated consumer, a more competitive landscape and higher shareholder expectations all mean that retail is more demanding than ever. Retailers must take advantage of the latest technologies to get ahead in today's global economy. BI and predictive analytics give retailers the edge they need to achieve their goals today – and tomorrow.

EVENTS

CMG '07 International Conference

Dec. 4-6, San Diego

<http://www.sas.com/events/ustradeshows/addinfo.html#cmg07>

National Retail Federation BIG Show

Jan 13-16, New York

<http://events.nrf.com/annual08/public/enter.aspx>

SAS Global Forum 2008

March 16-19, San Antonio

<http://support.sas.com/events/sasglobalforum/2008/index.html>