SPSS

Five Predictive Imperatives for Maximizing Customer Value

Applying Predictive Analytics to Enhance Customer Relationship Management

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Executive summary

Predictive analytics is emerging as critically important in driving customer value and maximizing returns from customer relationship management (CRM) systems. Currently, most CRM systems rely on historical analytics. However, these provide only a "rear-view mirror" of your customer relationships, offering little support for the decisions that shape the future. Meeting your customers' evolving needs requires forward-looking solutions that anticipate changes in customer attitudes, preferences, and actions. Only predictive analytics can provide this. This white paper describes how following a set of best practices—five predictive imperatives—can ensure that your company maximizes the value of your customer relationships and sustains higher levels of revenues and profits.

Customers rule the economy

Whether you call solving the business problems related to customer profitability "customer relationship management" or just good business, you know that strengthening customer relationships is imperative for business success for one simple reason: customers drive profits.

In today's increasingly global and competitive marketplace, customers have more options available to them than ever before. Many analysts and journalists, in fact, are calling this a "customer economy." Attracting customers cost effectively and meeting their expectations for selection, price, quality, and service are essential to a customer value strategy. It is equally important, however, to identify and retain profitable customers, and increase their value over time. This requires the ability to anticipate customer needs and present attractive offers in the right way, at the right time. The companies who can do this will be the companies that thrive in the customer economy.

"Businesses must 'buck the trend' of planning around products and services, and truly put the customer at the center of their business planning. You will need to drill into customer data and embrace analytics not only to remain competitive, but also to remain viable."

– *Gartner, Inc.*
"Consumers Will Reshape the Future of CRM Marketing"
December 4, 2003

Many CRM initiatives are failing to generate expected returns

Businesses in virtually every industry have implemented CRM strategies. Some have been massive initiatives, supported by significant investments in technology and designed to shift a company's orientation from products to customers. Many of these initiatives, however, are failing to generate the expected returns and deliver significant value. This is partly due to the difficulty of pushing change through established cultures or processes. But another factor is that although operational CRM systems such as sales force automation or call center systems provide the necessary foundation for better customer relationships, they don't do much to improve organizations' ability to maximize customer lifetime value.

The lifetime value of a customer is defined as the total profits generated during the time the customer does business with your company. The concept behind maximizing customer lifetime value is simple: Deliver value to customers cost effectively. When your organization delivers what customers need—what's valuable to them—customers are more likely to remain open to future marketing efforts, buy more of your products and services and, as a result, become more valuable. This is a win-win relationship for both you and your customer. However, to achieve and maintain this type of relationship requires support from both operational and analytical CRM systems.

Analytics drives CRM returns

Until recently, analytics didn't come up often in CRM conversations. Now, though, leading CRM experts are nearly unanimous, noting that analytics not only improves CRM efforts, but is essential to their success.

Companies typically start with historical analytics, using a combination of reporting tools, specialized data warehouses, and online analytical processing (OLAP) solutions. As mentioned above, these solutions focus on understanding and measuring the outcome of past decisions and results, and can be useful in narrowing the scope of further investigations. But on their own, they can't provide your organization with a clear picture of the future.

Industry leaders, however, are evolving their analytical capabilities by adding data mining and other predictive capabilities to their operational CRM systems. Data mining is the process of discovering meaningful and previously unknown correlations, patterns, and trends in large amounts of data. To make these discoveries, data mining relies on pattern recognition technologies, and statistical and mathematical techniques. Because it is forward-looking, data mining enables your organization to measure the potential of your customer relationships and develop plans to maximize that potential.

◼ Evolution of analytical CRM
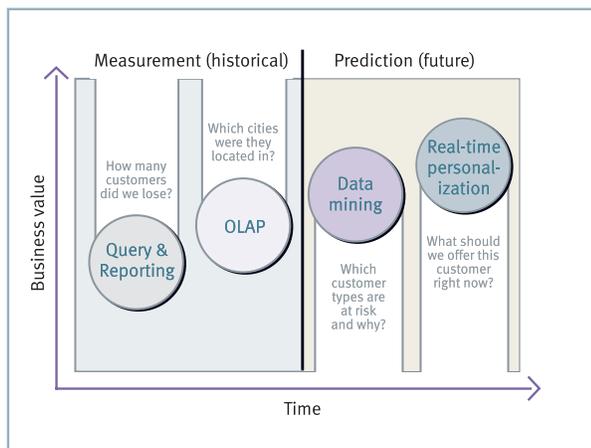
Every organization has data about its customers. Reporting and OLAP provide information about past customer interactions. Data mining and real-time personalization are forward-looking and can be used to guide future interactions. Over time, as companies move toward these predictive technologies, they increase the business value of their CRM information.

> "Operational and analytical CRM are highly complementary—you can't do one without the other."
>
> *– Steve Bonadio*
> *Vice President, Enterprise Application Strategies*
> *META Group, Inc.*

The most evolved analytical CRM solutions continuously apply predictive analytics technologies and deploy the results enterprise-wide, so that whether customers interact with your organization online, by phone, or face-to-face, they receive the kind of treatment that meets their present needs and anticipates new ones. This increases their tendency to remain loyal and make additional purchases, increasing their lifetime value—and your organization's profits.

Houston-based Continental Airlines, which had $8.4 billion in revenues in 2002, uses an array of information technologies to optimize revenue for each flight, improve service for its best customers, and increase customer loyalty. By using Clementine from SPSS for predictive modeling, as part of a solution that includes a data warehouse from Teradata® and business intelligence software from Hyperion,® Continental agents and flight staff are able to identify high-value customers and ensure that their needs are met efficiently. Increased customer satisfaction resulted in increased annual revenues—an average of $200 each for its "valuable" customers and $800 each for its "most profitable" customers. Total revenues for the year increased by $40 million. In addition, Continental saved $31 million in operational costs in 2002, with this system.

The five predictive imperatives

Based on more than 35 years of experience working with a wide range of organizations, SPSS has identified the following "predictive imperatives"—best practices used by leading organizations to maximize customer value with predictive analytics.

1. Base your customer strategy on predictive profiles
2. Predict the best way to win the right customers
3. Predict the best way to grow customer relationships
4. Predict the best way to keep the right customers longer
5. Use predictive intelligence at every customer touch-point

1: Base your customer strategy on predictive profiles

Detailed, accurate predictive profiles are the essential foundation of any customer strategy and CRM initiative. To understand your customers better, use analytical tools to create customer segments, and then create predictive profiles of each segment. These profiles, when deployed enterprise-wide, enable your entire organization to focus on activities that are most likely to generate the highest returns.

Identify key customer segments

You can define customer segments based on behavioral information drawn from operational systems and on attitudinal information obtained through market research. The two approaches complement each other, enabling you to gain a more accurate customer understanding and develop more effective strategies for each customer segment.

You can segment customers and prospective customers according to a number of different criteria. For example, you can analyze customers by the amount they spend with you, by their payment pattern, by the length of the relationship, and many other factors. You can split customer segments into smaller sub-segments, even reaching the ultimate one-to-one relationship, in which you understand each individual's needs and preferences. By understanding which customers are most likely to purchase certain products or services, you can focus your marketing programs to obtain the highest possible response on your marketing investment.

You can segment customers by value, behavior, demographics, and even by attitude.

- **Segmentation by value** builds an understanding of who your most valuable customers are
- **Segmentation by behavior** helps you know who is most likely to purchase your products or services, so you can use marketing funds more effectively
- **Segmentation by demographic** and other supplemental data provides additional information that can be used in predicting customer behavior
- **Segmentation by attitude** adds another dimension to your customer understanding. One of the best ways to understand customers' attitudes is to ask them through survey research.

Create predictive profiles of each segment

Once you've identified the segments of customers who use and value your products and services, the next step is to understand what products or services customers in each segment are likely to want next. Adding this predictive element makes your customer relationship significantly more productive and profitable.

Zurich-based Credit Suisse Group, one of the world's leading financial services companies, initiated a customer loyalty program in 1997. Credit Suisse used Clementine,® a data mining solution from SPSS, to analyze its data warehouse of 2.5 million customers according to 400 different attributes. By defining a number of different customer segments, Credit Suisse can focus its marketing campaigns on the one percent who are not only "extremely likely" to purchase a product or service, but also have the credit rating to do so. Credit Suisse recouped its investment in the project within two years.
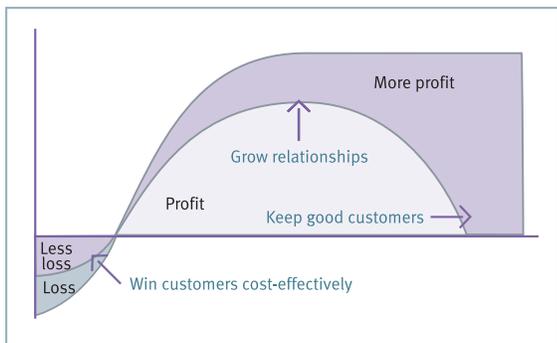
2: Predict the best way to win the right customers

Acquiring customers is costly but necessary. Paying too high a price to attract customers, however, or acquiring the wrong types of customers, can have a significant negative impact on your profits.

Using inefficient methods to attract customers will result in higher costs and profits that are lower than they should be. Attracting the wrong customers impacts profits, too. For example, if you attract customers who are likely to leave or "churn," you may incur the acquisition cost without ever seeing a profit from the customer relationship. Other customers may be loyal, but cost so much to serve that they are only marginally profitable.

With predictive analytics, your organization can minimize costs by directing programs toward the people most likely to respond. You can further boost profits by focusing on the types of prospects most likely to become profitable customers.

■ Customer Lifetime Value

More profit

Grow relationships

Profit

Keep good customers

Less loss

Loss

Win customers cost-effectively

Predictive analytics improves customer profitability from the very beginning by allowing companies to acquire customers more cost effectively, as this graphic shows. Then, throughout the customer life cycle, predictive analytics helps companies design more attractive offers and conduct more effective marketing campaigns, leading to increased sales. Predictive analytics also helps companies retain customers, increasing the revenues and profits they obtain from these relationships.

Create a prediction-based customer attraction strategy

Use predictive profiles to determine what types of customers you want to attract. Then create a cost-effective attraction strategy that includes separate plans for each customer segment.

Most companies will want to focus their attraction efforts on winning over prospects that fit the profile of their most profitable customers. But other, less-profitable customer segments may have more room to grow over the long term, or may be more cost-effective to attract—so marketing to these segments may be an attractive option when marketing budgets are tight.

"The demand for data mining within the bank is rising all the time, and the strategic component is becoming increasingly apparent."

– *Dr. Alex Nippe*
  Head of data analysis/data mining
  Credit Suisse Group

**Optimize your customer attraction strategy with response modeling**

Fine-tune your customer attraction plans by using response modeling to predict which marketing programs will generate the highest response. This benefits your organization in two ways: you attain the results you want, while avoiding the high costs associated with unproductive marketing efforts. In this way, you see higher profits for the money you invest.

Belgium-based insurer Corona Direct, with $25.8 million in revenues in 2002, sells auto, fire, and property insurance through multiple channels. The company's profit margin was narrowed and its growth strategy threatened because the cost of adding new customers exceeded revenues from first-year premiums by almost 50 percent. Using PredictiveMarketing from SPSS, Corona Direct first identifies groups most likely to respond to a campaign, and then performs a sophisticated profit-cost analysis. Using this information enabled Corona Direct to reduce its direct marketing costs by 30 percent, resulting in acquisition campaigns that are profitable in the first year. In addition, long-term customer profitability increased by 20 percent.

Improve conversion rates with prospect surveys

Market research can be used to improve customer acquisition both before and after your campaigns. Beforehand, surveys of groups identified as likely prospects can clarify their reasons for buying your products or services, enabling you to refine your campaign offers. Afterwards, by surveying prospects that did convert and those that did not, you can learn what worked, and what you need to change, to earn prospects' business in the future. By using this type of predictive intelligence to guide your customer attraction strategy, you can improve the conversion rate for your best prospects.

■ **Customer value analytical architecture**
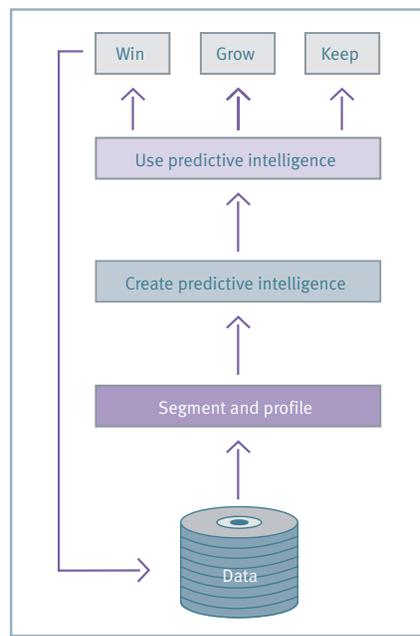
Build predictive analytics into your customer relationships and learn from the data generated by every interaction. Use your data to know customers better, create predictive intelligence on each customer segment, and use that intelligence to improve customer interactions and maximize customer lifetime value.

3: Predict the best way to grow customer relationships

To maximize customer growth and increase customer lifetime value, your organization needs to know not only what customers are most likely to want, but also when and how they will want it delivered. With predictive analytics, you can achieve this level of customer knowledge.

Create a prediction-based customer growth strategy

By using predictive profiles, product-affinity models, segment-migration models, response models, and even survey research, you can generate predictive intelligence about your customers. As a result, your customers will be more satisfied with your service, and reinforce their decision to buy from you again.

Models useful in analytical CRM

- Response models predict which customers are likely to respond to a new offer
- Product-affinity models predict which sets of products customers are likely to purchase together
- Segment-migration models predict which groups of customers are likely to become more or less valuable
- Attrition models predict which customers are likely to leave

Discover product affinities

Customers often purchase products and services together, or in certain sequences. By analyzing their "market baskets"—products and services purchased at the same time—you can offer customers appropriate additional products at just the right time. Understanding what products your customers buy together can lead to improved product placement in retail stores, attractive "bundling" of products in both direct marketing and online offers, and more timely offers. Not only does this increase revenues, it generally improves customer satisfaction and contributes to maximizing customer lifetime value.

Sofmap, a leading computer retailer in Japan, used Clementine from SPSS to build a recommendation engine that suggests products to visitors to its Web site. Recommendations are based on customer profiles and information about prior purchases contained in the company's database. The first year it was implemented, the recommendation engine resulted in a sales increase of 18 percent, and a profit increase of 200 percent.

Predict segment migration

Applying data mining techniques to your historical sales data shows you who buys what. By combining this information with other data, you can also make other kinds of predictions, such as which customer segments will become more valuable and which less valuable, and by what amount. Predictive segmentation modeling shows you which characteristics are linked to migration between customer value segments. Adding this kind of predictive intelligence to your customer growth strategy enables you to realistically plan growth for each segment.

Optimize your customer growth strategy with response modeling

Fine-tune your customer growth plans by using response modeling to predict which types of marketing programs will generate the highest response.

Center Parcs Europe, a leader in the field of short break holidays, operates 15 vacation parks that welcome more than three million visitors per year, generating revenue of more than $500 million. Customers can book online, through the company's call center, or through a travel agent. Center Parcs' growth strategy included improving its already high occupancy rate of 90 percent and cross-selling more sports and leisure activities to guests. Using PredictiveMarketing from SPSS, Center Parcs added smaller, targeted mailings to its marketing strategy. This reduced direct marketing costs by close to $1.5 million in a single year, while increasing revenues by $1.65 million.

Grow relationships by asking customers what they want

Using the data you already have to predict customer needs is a powerful way to improve interactions and lifetime value. But it is also important to systematically ask customers what they want. Surveying your customers and gaining a better understanding of their needs, and why they buy from you, enables your organization to improve your customer growth strategy and maximize customer lifetime value.

4: Predict the best way to keep the right customers longer

Studies have shown that customer acquisition can cost five to 12 times more than retention, and that improving its customer retention rate by just five percent can increase an organization's profitability by from 25 to 100 percent. Obviously, improving customer retention can have a big impact on profits.

Customer attrition is particularly challenging for online retailers and companies in financial services, telecommunications, and other industries where customers can change vendors relatively easily.

Create a prediction-based customer retention strategy

Keep your best customers longer by creating attrition models, and then use these models to determine which customers are at risk of defecting. You can enrich these models through survey research that adds valuable attitudinal information.

Create predictive attrition models

Understand which customers are most likely to leave for competitors and, more importantly, why. By applying data mining techniques to data about your customers, you can develop profiles of customers who are valuable and customers who have previously defected. Then you can develop strategies to keep your valuable customers from leaving.

Banco Espírito Santo (BES) fights customer attrition with data mining. Founded in 1880, BES serves more than one million customers in Portugal, Spain, and 12 other countries. Using Clementine from SPSS, BES identified key behaviors of customers likely to leave the bank, so it could do what was needed to keep them. By focusing retention efforts on their most valuable customers, BES reduced attrition by 15 to 20 percent and increased profits by 10 to 20 percent.

"SPSS empowered us to know ahead of time when a customer is at risk of leaving. Now we can take the appropriate action to keep them," says Jorge Portugal, Banco Espírito Santo's Strategic Marketing Director

A European telecommunications company also uses Clementine to identify customers likely to leave or "churn." By discovering what types of customers were likely to leave, the company was able to make targeted offers that reduced churn by 20 percent, compared to a similar group that did not receive the offer.

A U.S.-based telecommunications company combines SPSS' text mining technologies with Clementine to predict and prevent churn. It increased the effectiveness of its attrition model by 10 percent, saving hundreds of thousands of dollars and putting itself in a stronger competitive position in its industry.

Conduct and analyze satisfaction surveys

Satisfaction surveys are invaluable in determining not just whether customers are satisfied, but why, and in uncovering issues that may affect their future loyalty in time to take corrective action. Even customers that you aren't able to retain have potential value to your organization. By surveying customers that you failed to retain, you can better understand what you need to do to keep customers like them.

The Hospital of Walcheren, a general hospital located in Vissingen, Netherlands, serves nearly 120,000 patients annually. The hospital, already committed to quality healthcare, also needed to comply with the requirements of national quality legislation. In addition to monitoring mandated quality standards, the hospital also wanted to monitor patients' opinions and preferences. The Hospital of Walcheren chose components of the Dimensions™ survey research suite from SPSS, to collect and save information. This information is then analyzed using SPSS for Windows.® Survey results pointed to several areas in need of improvement— for instance, a majority of patients indicated they were insufficiently informed about where they could turn for emotional support. The hospital has made changes, as a result of its findings, and is extending its evaluation process to its nursing and outpatient departments.

> "SPSS has really helped us to identify areas where we can improve patient care, and has already contributed significantly to patient well-being and satisfaction."
>
> *– Peter Cijsouw*
> *Quality Manager*
> *Hospital of Walcheren*

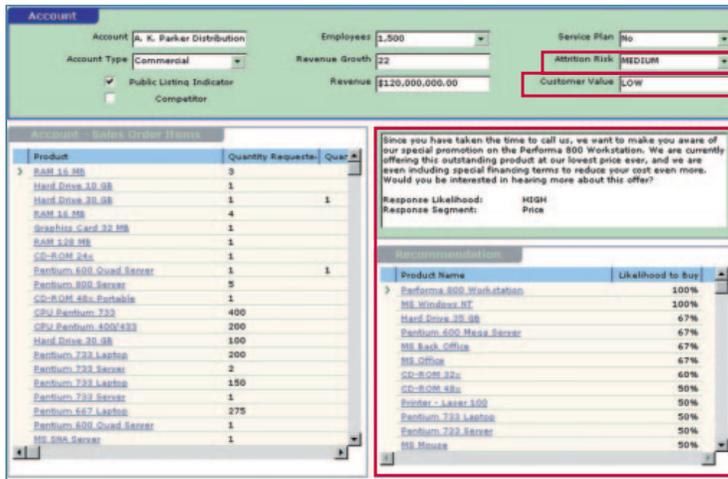## 5: Use predictive intelligence to drive customer interactions at every touch-point

Monitor and manage customer value

Management gurus tell us that we cannot manage what we do not measure. This is certainly true of customer relationship management. Profitable customer relationship management requires precise, timely measurement of the factors that affect customer success, and your bottom line. This effort requires a combination of historical and predictive technologies: predictive analytics, to identify customer targets for acquisition, up-selling, or cross-selling; and historical analysis, to monitor the results of marketing campaigns and sales programs.

Power CRM systems with prediction

By deploying the results of predictive analytics to every customer touch-point from your branch offices to your call center to your Web site, you can achieve greater effectiveness and profitability. Build predictive results into your Web site, and visitors will be automatically presented with the offer most likely to result in a sale. Or build predictive results into your call center, so that sales representatives know what products or offers are most likely to suit a particular customer's needs. Every bit of data you have coming in from these systems becomes fuel for driving future customer interactions and realizing higher returns.

Spaarbeleg is one of the Netherlands' larger financial services institutions, with 1.6 million customers and close to $5 billion in invested capital. It uses a multi-channel approach to interacting with customers—mass media, direct mail, franchises, the Internet, independent brokers, interactive voice response units, and call centers. Spaarbeleg's service call center receives one million calls per year. After implementing PredictiveCallCenter™ from SPSS to generate product recommendations for call center agents to present, the company achieved $30 million in additional sales, with minimal increase in the length of phone interactions. This transformed its call center into a profit center.

This is an example of predictive intelligence deployed to a call center application. The call center rep has information about the customer, including their lifetime value (1), risk of churning (2) and the recommendation most likely to satisfy them (3). That recommendation can even be refined in real time—while the rep is talking to the customer—by conducting a brief "needs assessment" survey. The survey results are fed into the call center application, which generates a new recommendation, based on the application's predictive model.

SPSS Inc. products and services for maximizing customer value

Interacting with customers profitably requires sophisticated analytical techniques and powerful deployment capabilities. SPSS Inc. offers such techniques and capabilities through a broad range of predictive analytics products and applications. These offerings provide your organization with the analytical capabilities needed to maximize customer lifetime value.

Predictive applications:

PredictiveMarketing™ — A campaign optimization and execution solution, PredictiveMarketing helps you reduce marketing costs and increase revenues by sending the right offers to the right customers at the right time, through the right channel.

PredictiveCallCenter™ — A real-time solution that enables you to turn your call center into a profit center by accurately predicting sales opportunities and retention risks. PredictiveCallCenter instantly determines which inbound callers are the best candidates for up-sell, cross-sell, or retention offers, and suggests which offers to make.

Data mining family:

AnswerTree® — Decision-tree software for data mining. Enables users to segment customers, create profiles, and predict response rates using the widest range of decision-tree algorithms available.

Clementine® — A scalable data mining workbench for quickly developing predictive models. Clementine offers an intuitive, graphical interface that enables users to incorporate valuable business expertise as they develop models. Models can then be deployed in several different ways to solve business problems.

LexiQuest™ — A linguistics-based text mining solution. LexiQuest enables your organization to uncover patterns and trends in vast amounts of textual data and include this information in predictive models.

Survey research family:

Dimensions™ — A full-service technology platform that supports the entire survey research process. Dimensions components enable organizations to create surveys in any language, for any collection format; then collect data through any medium, store data centrally for easy access, and create an information portal to provide results to colleagues and clients in real time.

SPSS Data Entry™ — Survey design and data collection software. SPSS Data Entry helps companies quickly and securely gather clean, complete data on paper, by phone, or over the Web.

Statistics family:
SPSS® — A proven, enterprise-strength statistical analysis solution. SPSS includes a broad range of statistical techniques to support predictive modeling and reporting. Additional modules offer other advanced capabilities.

SPSS WebApp Framework™ — A framework for building Web-based analytical applications. SPSS WebApp enables organizations to develop reporting and predictive applications that users can access through a Web browser.

Consulting and training services:
SPSS has more than 35 years' experience in delivering predictive analytics. Our expertise is available to extend your own in-house expertise and achieve the highest return on your investment. We also offer training, to transfer to your employees the knowledge and skills they need in order to use our analytical software most effectively for business problem solving.

About SPSS Inc.
SPSS Inc. [NASDAQ: SPSS] is the world's leading provider of predictive analytics software and solutions. The company's predictive analytics technology connects data to effective action by drawing reliable conclusions about current conditions and future events. More than 250,000 commercial, academic, and public sector organizations rely on SPSS technology to help increase revenue, reduce costs, improve processes, and detect and prevent fraud. Founded in 1968, SPSS is headquartered in Chicago, Illinois. To learn more, please visit **www.spss.com**. For SPSS office locations and telephone numbers, go to **www.spss.com/worldwide**.