Predictive Analytics for Sales and Marketing

Transforming Big Data Into Customer Knowledge

A White Paper
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Sales and marketing professionals face immense pressure to land new customers, even though buyers have limited funds and are exercising greater discretion in how those funds are spent. They must also keep existing clients happy and loyal, even as competitors try to woo them away.

Many organizations are turning to predictive analytics to gain an edge. Unlike traditional reporting solutions, which offer only a view of past activities, predictive analytics provides the ability to look ahead by discovering patterns and trends in historical sales and marketing data to determine how potential and existing customers are likely to behave in the future.

Predictive analytics is an ideal way for sales and marketing professionals to make sense of their big data. Growing multi-channel marketing strategies have created massive volumes of information, gathered as campaigns are executed across multiple communication venues, including direct, online, and mobile. More data is also collected when clients call the contact center, meet with a sales rep, shop at a retail store, etc.

Each touch point represents a critical piece of knowledge about those who buy, or don’t buy, certain products or services. The ability to decipher patterns and trends in that big data can empower organizations to predict the likelihood of a customer’s participation in a promotion or sale, and the probability of future purchases.

Armed with this kind of forward-facing insight, companies can create and implement more successful sales and marketing strategies so they can:
- Determine the optimal mix of marketing programs
- Boost the effectiveness of campaigns and promotions
- Increase customer acquisition
- Maximize return on marketing investment
- Formulate more effective product development, enhancement, and pricing plans
- Generate more revenue
- Increase customer value and wallet share
- Optimize satisfaction, loyalty, and retention

In one study, organizations that applied predictive analytics to their sales and marketing efforts realized a 75 percent higher click-through rate and 73 percent higher sales than those that didn’t.1

This white paper will discuss how multi-channel marketing strategies are making it harder for companies to obtain the kind of customer knowledge needed to remain competitive. We’ll share how predictive analytics can help organizations overcome those hurdles by improving many facets of sales and marketing, and share some best practices for building and deploying predictive models in sales and marketing environments. We will also highlight WebFOCUS RStat, Information Builders’ cutting-edge predictive analytics solution, as well as a real-world success story at a leading discount retailer.

New marketing channels are giving companies more options for communicating with existing and potential customers. Social media has created higher levels of vendor-to-client and client-to-client interaction. Sites like Facebook and Twitter provide customers with a venue for expressing ideas and opinions, and organizations with a way to better understand and get closer to those customers.

The use of mobile marketing is also on the rise, which many experts attribute to its ability to deliver messages in a more personalized and convenient fashion. According to Forrester’s Julie Ask in her blog, “Mobile adds a new dimension, a new medium, and a new tool to allow brands to engage with their consumers.”

Multichannel marketing strategies that embrace these, and other venues have proven quite successful. “Multichannel customers have traditionally been more profitable for consumer product, service, and media companies,” Ask writes in the same article. “Consumers who shop both online and in-store spend more. Multichannel media consumers have higher levels of engagement than those present in only one channel. The more one watches TV, listens to the radio, spends time online, etc., the more advertising they consume.”

As more communication channels emerge, more data is generated – both structured and unstructured. One of the biggest problems is that the data from new channels isn’t being properly gathered and used. One report claims that only 19 percent of organizations are collecting data from mobile channels, while only 35 percent are collecting it from social media vehicles.

Big data ranks as one of the top three issues on the minds of chief marketing officers (CMOs), according to a survey conducted by the Corporate Executive Board (CEB). Perhaps CMOs realize what an untapped resource it truly is. They understand that it can deliver a wealth of vital knowledge, but only if the right tools are in place. With manual or traditional reporting methods, it becomes more difficult to uncover the most important nuggets of customer insight hidden in massive amounts of data.

It’s a cycle – the intelligence contained in the data collected through multichannel marketing efforts is needed to drive more successful multichannel initiatives in the future. But few sales and marketing teams know just how to get to it. In fact, the CEB study also shows that 60 percent of business users at large organizations lack the tools needed to tap into their corporate data to make decisions, and cite limited information attainability and usefulness, as well as low employee capability as the largest obstacles.

Predictive analytics can change all that. Companies that employ predictive tools will be able to dynamically mine their multi-channel marketing data, no matter how much of it there is, whether it’s in a structured or unstructured format, to find what really matters – who customers are, what they need or want, how they behave, and most importantly, what will compel them to make

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a purchase and keep coming back for more. This allows them to refine segmentation to drive targeting and personalization across channels in a way never before possible, so they can make smarter choices regarding which communication vehicles to use, or which promotions to offer for each person.

Marketing professionals can also tap into their big data for the purposes of marketing mix modeling, to determine the effectiveness of each communication channel as a whole. Based on historical results, they can easily assess what has been working, as well as what is most likely to work in the future. They can also uncover areas in need of improvement within each channel or campaign, assess the viability of new channels before a program launches, and forecast each channel’s potential impact on the sales pipeline.
In the past, predictive modeling tools were simply too complex for business users. Their sophisticated interfaces and advanced mathematical concepts relegated them to being used only by statisticians and analysts. Today, however, predictive analytics solutions are far more intuitive, allowing non-technical professionals – like sales and marketing staff – to fully reap the benefits, without reliance on experts.

There are an almost unlimited number of ways in which sales and marketing organizations can apply predictive analytics to enhance their operations. In addition to the previously mentioned advantages that can be realized through improved marketing mix modeling, some of the areas where the greatest benefits can be achieved include:

**Customer Retention**

Customer attrition rates range from 7 percent to 40 percent annually in various industries, according to the SmartData Collective. Slowing customer churn by as little as 1 percent can mean millions of dollars to a company’s bottom line. Yet few companies truly understand why attrition happens, leaving them virtually helpless to effectively implement the incentives and programs to stop it.

With predictive analytics, businesses can readily identify who is most likely to defect, when, and why. They can then use that knowledge to take a proactive approach to improving satisfaction and loyalty among those clients who are at risk. They can also further boost campaign return on investment (ROI) by discovering which customers are unlikely to defect, so that retention offers are not made unnecessarily.

**Customer Acquisition**

Although studies show that obtaining a new customer can cost three to five times more than retaining an existing one, companies must continuously expand their customer base to thrive. In a time when buyers have less money to spend, attracting new clients has become increasingly difficult.

Some will argue that an inability to properly target prospects is a key contributor to the high costs associated with customer acquisition. Organizations that use predictive analytics can more easily determine which prospects are most likely to respond to a certain campaign, accept a certain promotional offer, or purchase a specific product or service. The benefits are two-fold – it increases the number of new customers obtained, and minimizes related expenses by eliminating the waste associated with marketing and selling to unqualified prospects.

**Cross- and Up-Selling**

Many organizations are seeking faster, easier ways to boost revenues and profits, because even the most successful customer acquisition strategies consume large amounts of time and money. By selling additional products and services to existing customers, companies can expand wallet share and increase value, quickly tapping into new income sources within their existing client base.

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Effective up-sell and cross-sell programs require insight into what combinations of products customers typically own, or what offerings they may need or want based on characteristics, past purchases, and other factors. Predictive analytics provides that intelligence, allowing businesses to target offers and promotions to those customers who are most likely to accept. This boosts loyalty and wallet share, and can drive increased customer retention.

**Customer Lifetime Value**

Knowing which customers will prove to be most valuable over the long-term can empower companies to best focus their efforts on those clients that are likely to have the greatest impact on the bottom line. Predictive analytics allows companies to mine massive volumes of customer data, taking into account risk, chances of loyalty, and current profitability, to provide an accurate estimate of a client’s future revenues. This knowledge can then be leveraged for other initiatives, such as aligning the best product or service offer for various levels of customer value, and ensuring retention efforts are focused on the most profitable clients.

**Price Optimization**

CMOs and chief financial officers often rely on pricing to achieve their growth objectives. Establishing an effective pricing strategy, however, is a complex process driven by consumer demand, competitor dynamics, seasonality, financial goals, and many other factors. Set a price too high, and sales may be lost. Set it too low, and margins will diminish.

Predictive analytics allows sales and marketing organizations to take a proactive approach to price management to maximize sales volumes and profitability. Various pricing scenarios can be tested in advance, with the outcomes accurately forecasted. By simulating price changes by product, location, or other criteria, organizations can understand their potential impact on profit, volume, and revenue, and make smarter, more informed pricing decisions. They will be empowered to respond more rapidly to market shifts, instantly adjusting prices to reflect evolving competitive strategies or customer demands.
Marketing Mix Modeling

New marketing channels are emerging, such as digital and social media. As a result, finding the right mix of campaigns and promotions has become more challenging. To ensure maximum return on marketing investment, marketing professionals must know what has been working, and what is likely to work in the future.

With predictive analytics, marketing departments can analyze the success of past marketing campaigns to identify areas in need of improvement based on prior results. They can also assess the viability of new marketing venues, perform “what if” scenarios to evaluate potential changes to budget allocations or modifications to creative content, and measure each campaign’s likely impact on the sales pipeline.

Historic assessments of a brand or category, as well as past campaigns, improve planning and execution of future initiatives.
To get the most out of their predictive analytics implementation, sales and marketing departments should follow certain key steps:

**Understanding the Business Need**
It is crucial to identify the drivers behind the predictive analytics project in the early planning stages. Once an organization defines what new information it is trying to uncover, what new facts it wants to learn, or what business initiative it wants to enhance, it can build models and deploy results accordingly.

**Understanding the Data**
A thorough collection and exploration of the data should be performed to allow those building the application to get familiar with the information at hand, so they can identify any quality problems, glean initial insights, or detect relevant subsets that can be used to form hypotheses suggested by the experts for hidden information. This also ensures that the available data will address the business objective.

**Preparing the Data**
To get data ready, IT organizations must select tables, records, and attributes from various sales and marketing systems; transform, merge, aggregate, derive, sample, and weight, when required; and then cleanse and enhance the data to ensure optimum results precision. These steps may often need to be performed multiple times to make it truly ready for the modeling tool.

In sales and marketing scenarios, specifically, customer data integration is extremely important. The silos of customer information that exist in most organizations – customer relationship management (CRM) systems, accounting applications, help desk databases, etc. – must be unified and synchronized to eliminate inconsistencies and errors.

**Modeling**
Once the information has been prepared, various modeling techniques should be selected and applied, with parameters calibrated to optimal values. For example, application developers can choose regression, decision trees, or other modeling methods. Choosing a modeling technique should be done according to the underlying characteristics of the data, or the desired form of the model for scoring. In other words, some techniques may explain the underlying patterns in data better than others; therefore, the outcomes of various modeling methods must be compared. In addition, a decision tree would be used if it were deemed important to have a set of rules as the scoring model, which are very easy to interpret. Several techniques can be applied to the same scenario to produce results from multiple perspectives.
Evaluation

Thorough assessments should be conducted from two unique perspectives. A technical, data-based approach should be performed by statisticians, while a business approach gathers feedback from business issue owners and end users. These will often lead to changes in the model. But while the technical/data evaluation is important, it should not be so stringent that it significantly delays implementation and use of the model. The business value of the model should be the primary test.

Turning Results Into Action

Most importantly, companies must be able to transform the results of modeling efforts into actionable insight that sales and marketing professionals can apply to enhance planning and decision-making. The insight provided by predictive analysis initiatives must be shared with key stakeholders across the entire sales and marketing landscape – including any third-parties that may be involved, such as consultants and advertising agencies – to create an analytics-driven culture.

Delivering Predictions to Business Users

By incorporating models into dashboard and reporting environments, organizations can ensure that the results are readily accessible to not just marketing analysts, but all sales and marketing professionals, whenever they need them. To maximize usability and value, these results must be presented in an intuitive way, such as a list of target customers who are most likely to participate in certain cross-sell offers, or a list of high-value clients with a high likelihood of churn who require specialized attention to ensure loyalty.

Performing “What If” Analysis

Sales and marketing strategies must shift frequently to keep pace with rapidly changing customer and market demands. To deliver the most advantage to sales and marketing departments, predictive analytics applications must enable the analysis of “what if” scenarios. This will allow professionals to understand the potential impacts of price adjustments or discounts, alterations to product positioning or messaging, and other changes – before they are implemented.

Feeding Downstream Systems

Even further value can be derived from the results of predictive models when they are dynamically shared with other applications and systems. For example, the results of proposed content changes for an e-mail can be automatically fed to a campaign management system, while the estimated impact of discounts can be sent directly to pricing systems to enable automated adjustments.
WebFOCUS RStat is the market’s first fully integrated business intelligence (BI) and data mining environment, seamlessly bridging the gap between backward- and forward-facing views of sales and marketing operations.

With WebFOCUS RStat, sales and marketing professionals can effectively tap into data from across and beyond the enterprise, and use it to more intelligently create and implement campaigns, develop loyalty programs, set sales strategies, formulate product development and pricing plans, and more.

WebFOCUS RStat offers:

**A Single View of the Customer**

With WebFOCUS RStat, any information, in any format, and from any source, can be readily retrieved, consolidated, and leveraged for predictive analysis. This includes information entered into CRM systems; structured and unstructured data generated through mobile, social media, and other marketing channels; and information collected in call centers, kiosks, e-commerce sites, and retail stores.

**A Comprehensive Solution for Sales and Marketing Insight**

Part of the market-leading WebFOCUS BI platform, WebFOCUS RStat provides a single environment for reporting, data modeling, and scoring. This enables in-depth analysis and forecasting of any structured or unstructured data through one complete solution.

**A Simple, Intuitive Interface**

Unlike other predictive modeling tools, which are too complex for business users, WebFOCUS RStat is simple and user-friendly. Sales and marketing staff no longer have to rely on analysts or statisticians to generate forecasts. Instead, they can make their own accurate, validated future predictions, rather than rely on instinct alone. This intuitiveness accelerates time to value, optimizes resources, and increases return on investment.

**The Highest Level of Accuracy**

WebFOCUS RStat offers significantly increased accuracy. With the powerful and flexible R engine as its underlying analysis tool, sales and marketing professionals can rest assured that the results generated will always be consistent, complete, and correct.
A leading discount retailer – one of the fastest-growing in the country – wanted to tap into billions of rows of stored data, to help marketing and merchandising executives uncover hidden opportunities and make more informed decisions. By deploying an environment for high-speed, large-scale market basket analysis, the company was able to achieve significant financial gains.

Two years of raw point-of-sale (POS) data were consolidated into a single database, containing deep detail about each transaction, including SKU numbers, prices, number of items purchased, and whether coupons were used. Hundreds of users can now leverage that database to achieve complete market basket transparency. For example, marketing and merchandising professionals can understand pricing patterns, assess campaign results, and find demand relationships between products. Store operations staff can track conversions, and compare their sales levels to that of other stores. Supply-chain managers can monitor product availability, vendor performance, and inventory levels.

The benefits of this improved clarity have been easy to recognize. The ability to more accurately assess campaigns in progress makes merchandisers more agile, allowing them to adjust their efforts accordingly. A greater understanding of affinities in the basket – by day, time, and other factors – facilitates the smarter building of item and store clusters. Improved decision-making across multiple functions contributes to an increase in same-store sales and enhancements in overall company performance.
Multi-channel marketing strategies, combined with a growing number of sales and service interaction points, are creating a mountain of structured and unstructured data that holds valuable insight about customers and their behaviors. In a time when buyers have less money to spend, and brand loyalty is at an all-time low, instinct and guesswork are no longer enough to facilitate the development and execution of successful sales and marketing plans.

To succeed, sales and marketing professionals must be able to exploit big data, transforming it into accurate, actionable knowledge that can drive acquisition, retention, and value, while increasing productivity and cost-efficiency. With the right predictive analytics solution in place, organizations can collect and consolidate critical customer information from inside and outside the enterprise, discover vital patterns and trends that shed light on how customers behave and why, and use that insight to create more targeted and successful multi-channel sales and marketing strategies.

Unlike other predictive analytics tools, which are too expensive and complicated for non-technical sales and marketing professionals, WebFOCUS RStat provides a single, comprehensive, and intuitive platform that enables the generation of highly accurate forecasts and predictions. Sales and marketing teams can quickly and easily consolidate and analyze any structured or unstructured customer data, from any source, and leverage it to improve everything from segmentation, marketing mix modeling, and up-sell/cross-sell to product development and pricing. As a result, they can maximize return on marketing investment, and boost sales and profitability.