



# DRIVING THE TOP LINE

## Predictive Analytics for Effective Marketing

### THE BUSINESS NEED

Today's digital economy almost mandates that businesses know their customers intimately. The clichéd phrase 'serving a market of one' is truer now than ever. It used to be acceptable that companies do broad-brush segmentation of their customers based on age, gender, income etc., and each such segment was millions of buyers, and building the right offer for a segment was sub-optimal at best. Today, we have tools and technologies in place for businesses to cater to each individual customer as if they were a segment of one. Except for one issue: these techniques are computationally intense, require iterations to get right, and often take up an unacceptable amount of time.

This is where Fuzzy Logix steps in. We differ from the pack in three main areas:

- (A) An extensive library of complex algorithms (over 800 of them), that we've fine-tuned over eight years of helping real companies solve real world problems
- (B) An order of magnitude better performance, so the data scientists can ask questions that simply weren't possible before to get real time responses for
- (C) Experience from having done multiple engagements in the retail segment, so we can bring to bear the best practices in data manipulation and analysis.

By leveraging Fuzzy Logix's in-database analytics to run advanced analytics completely within the data warehouse, our customers have eliminated the need to move the data to separate analytic platforms, and as a result have achieved enormous processing efficiencies. In most cases, our customers have achieved throughput that is 10 to 100 times faster at a cost which is 60 to 70 per cent lower than other technologies.

Bottom line: We make high performance data analytics easy, approachable and pervasive.

In the next few sections, let's explore a few case studies where Fuzzy Logix has helped solve real world problems through its DB Lytix in-database analytics suite:

- (A) Reducing cost of new customer acquisition
- (B) Improving cross-sell and up-sell efficacy
- (C) Improving customer retention
- (D) Predicting what drives customer behavior

### (A) REDUCING CUSTOMER ACQUISITION COSTS

#### Predictive Campaign Management

Enterprises face stiff competition and need to continuously campaign in order to increase or maintain their market share. Marketing executives have to effectively manage these campaigns and are constantly looking for tools that can help increase their effectiveness and ROI on the campaign spending. When done correctly, the benefits are powerful.

One of the best ways to manage campaigns is to use predictive analytics and target only those users who have a higher than random chance of responding to a campaign. This type of predictive modeling can be performed using a combination of techniques. Binary choice modeling, where the outcome is either 1 – positive response or 0 – no response, is used to understand how several hundred demographic factors, such as age, income, household size, home value, household location, etc. can be used to predict the likelihood of response. Marketers then use these predictive models to isolate the customers that have a probability of responding higher than a threshold; say 5 percent or 10 percent. Using a predictive campaign management solution from Fuzzy Logix not only optimizes the cost of acquisition but ensures that the prediction is fast and is scalable to a large number of factors.



Trident Marketing presents a great example of the benefits of using predictive campaign management. In 2007, CEO Steve Baldelli made what he calls a “revolutionary” change in how he approached his business and grew from a \$5 million company to a \$53 million company in four years. How did this change happen? Fuzzy Logix and Trident deployed analytics that helped them:



**TRIDENT MARKETING**

- Optimize marketing and reduce their cost of sale by 50%
- Boost CPC performance which raised the volume of sales by 10%
- Optimize sales processes resulting in a 10% increase in revenue per call
- Increase revenue & profitability by 1,000% in 4 years

**(B) CROSS SELLING AND UP SELLING**

*By Recommending Appropriate Products*

A recommendation engine is a common tool used for offering additional products and services (and even media) to a consumer that has just engaged in a transaction. As an example in the media industry, after a viewer finishes watching a piece of content, the provider recommends additional items based on the similarities of viewing behavior and analysis of characteristics like the preferences of similar viewers, genre, parental rating, etc. The better the recommendation engine, the better the chances of viewers subscribing to additional content based on the suggestions of the engine.

Our initial research was based on the data that was publicly made available by Netflix a few years ago. The engine uses statistical methods to infer the movies that should be recommended to a viewer based on their behavior and the behavior of others like them. With this data, we demonstrated that recommendations can be made instantaneously even when analyzing 20,000 movies and the associated feedback from 2 million viewers. We’ve since improved the model so that it can be used to provide recommendations for many types of products and services.

Once the next likely purchase information is available it can be used to suggest products and services that the customer would not only be interested in learning about, but also which have a high likelihood of being purchased. Our customers use this information with direct mail and email programs and to deliver dynamic offers on the Internet. Sales teams can also use this information to more accurately recommend products and services to their customers and prospects.

**(C) IMPROVING CUSTOMER RETENTION**

A well known fact in the industry is that the cost of a new customer acquisition can sometimes exceed three times the cost of retaining an existing customer. It is therefore not only effective use of resources, but a high priority for any business to constantly nurture their existing customer base. Customer churn is expensive, and a new customer can often take months to deliver a positive financial impact. If

customers choose to defect early, or decide against future purchases, the resultant ‘negative customer lifetime value’ poses another major challenge.

The answer to managing customer churn lies in predictive modeling. Using historical information such as payments, interactions and behavior, viewing and usage patterns, quality of service and demographic data, our solutions can predict the likelihood (and reason) a specific customer will defect in the near term.

With this information, companies can pre-emptively intervene and offer appropriate incentives for retaining their customer. Because offering retention incentives has financial impact, they cannot be offered to all customers. Offering these incentives based on predictive modeling serves two purposes – reducing potential churn and optimizing the cost of retention.

For one project, we reduced churn by 10 percent resulting in a material uplift in annual revenue. For a large cable company we analyzed over 400 variables to understand the key drivers of churn and predicted that we can reduce churn by 6.9 percent. Both projects were completed in less than eight weeks.

**(D) CUSTOMER BEHAVIOR ANALYSIS FOR TARGETED MARKETING**

The amount of data generated by systems that track consumer behavior is huge. Combining purchase history, demographics, and Internet and social media data provides a rich, but enormous amount of data. One of the challenges is determining the demographic characteristics of customers and prospects. By collecting demographic information from a small sample of customers through tools like loyalty programs and surveys, we can use statistical techniques to project the viewing and surfing behavior of the known sample, and find the nearest neighbors of those customers in the total population. We can then assign the most likely demographic features to each customer based on the fact that people who have similar Internet, social media and buying behavior will have similar demographic characteristics.

Since advertisers are constantly working to target the right audience, knowing the demographic characteristics of viewers will provide additional targeting guidance. Positioning advertisements in the appropriate slot so that the appropriate audience (age, income, urban/rural, etc.) is targeted for the underlying product or service will yield improved results.

A related approach to targeting is behavioral segmentation. Our programs use pattern recognition to cluster segments based on the behavior of buyers.

Traditional segmentation methods involve picking some number of categories (age, income, etc.) and running regression analysis to test the validity of the suggested category. We do the opposite. Our algorithms review your data and create segments based on customer behavioral patterns. Once the segments are identified we calculate the key characteristics that drive differing behavior. The results are free of presupposition and represent true distinction and behavior amongst customer groups.

Fuzzy Logix has extensive experience in predictive modeling to achieve multiple business objectives. Our clients have recognized material improvements in response rates and costs, resulting in more effective use of marketing time, money and talent. Visit us at [www.fuzzylogix.com](http://www.fuzzylogix.com) for more information or send us a note at [sales@fuzzyl.com](mailto:sales@fuzzyl.com) to have one of our data scientists engage with you.