A Marketer’s Guide to Analytics

Using analytics to make smarter marketing decisions and maximize results
# Table of Contents

**Executive Summary** ................................................................. 1
**The World of Marketing Is Changing. Are You Being Left Behind?** ........ 1
  - The Data Explosion ............................................................. 2
  - The Power Shift to Consumers ......................................... 2
  - Implications for Marketers ................................................. 2
**Building an Analytical Framework for Marketing** ......................... 3
  - Analytically Driven Segmentation .................................... 3
  - Predictive Modeling .......................................................... 6
    - Applying Predictive Models to Your Marketing Strategy ...... 7
    - Treatment Strategy .......................................................... 8
    - Stepping Up to Advanced Predictive Models .................... 9
  - Marketing Optimization Technologies .............................. 9
**Getting Started** .................................................................. 10
**About SAS** ......................................................................... 10
Executive Summary

Everybody’s talking about customer analytics and how they can help companies market more effectively. But for many marketing professionals today, there’s a gap between theory and execution – and it’s getting wider every day.

This paper is designed to give managers and other marketing professionals an introduction to applying analytics to marketing so you can significantly improve outcomes. It explains not only why you need to make this shift to analytically driven marketing strategies and plans, but also how you get started and what kinds of tools you need to develop and execute plans. You’ll learn about building an analytical framework for marketing that will help you:

- Increase response rates, customer loyalty, and ultimately ROI, by contacting the right customers with highly relevant offers and messages.
- Reduce campaign costs by targeting customers most likely to respond.
- Decrease attrition by accurately predicting customers most likely to leave and developing the right proactive campaigns to retain them.
- Deliver the right message by segmenting customers more effectively and better understanding target populations.

The World of Marketing Is Changing. Are You Being Left Behind?

Two dominant trends are transforming the business of marketing today:

- The incredible explosion of data being created by governments, businesses and consumers.
- The shift in power from companies to consumers that’s been driven by advancements in technology.

Let’s take a closer look at how and why – and what these trends mean to your organization.
A MARKETER’S GUIDE TO ANALYTICS

The Data Explosion

The world contains an unimaginably massive amount of digital data today, and it’s increasing tenfold every 10 years. Not only are companies jumping on the data bandwagon – collecting, storing and linking massive amounts of data – but customers are generating massive amounts of new digital information through postings on Facebook and Twitter, data created as they click through Web pages, data collected by cookies, product reviews written by users and more. This kind of data is growing exponentially in both size and strategic value to marketers who need to engage in a 1-to-1 manner with these consumers, as this data can be turned into a gold mine of unique customer insight.

The Power Shift to Consumers

At the same time, there’s been a continuous power shift to consumers. For example, technology empowers them to easily find the lowest-cost vendors for goods, and by using DVRs and e-mail spam filters, they can avoid marketing communications from businesses that they don’t want to receive. Today’s customers can also influence tens of millions of people to buy from you – or not – by writing online reviews, tweeting and blogging.

Another manifestation of this power shift to consumers is the fact that they expect product and service information that’s personally relevant, timely and delivered via their preferred channels. Failing to do this will ultimately frustrate customers and turn them away, as your business will be perceived as out of touch – for instance, by blindly pushing products on customers rather than giving them timely access to helpful information at a time when they are open to offers and making purchasing decisions.

Implications for Marketers

To be effective in this new environment and maximize return on marketing investments, organizations need a marketing process and strategy that is customer-centered and powered by deep customer insight. Achieving marketing objectives and strategies will require a much more granular analysis of customers and prospects than ever before. Consider the following marketing objectives and today’s real-world implications on achieving them:

- **Revenue growth**: Untargeted, mass marketing just won’t cut it anymore. To attain marketing-driven growth, companies have to figure out how to have relevant conversations with their customers and prospects – when and how the customer prefers.

- **Customer retention**: Competition is fierce, so you need ways to predict and “get in front” of attrition risks – identifying customers most at risk of attrition and the factors that influence their decision, so you can generate proactive customer retention campaigns.

---

Customer profitability. The Pareto principle suggests that you receive 80 percent of your profit from 20 percent of your customers. Whether this is precisely true for your company doesn’t really matter. The point is that there are profitable customers, and there are customers who reduce profits. It is critical to understand which customers fall into each category.

Successfully achieving these objectives is a key factor in competitive advantage and long-term profitable growth in today’s data-driven, consumer-driven business environment.

### Building an Analytical Framework for Marketing

To achieve the core marketing objectives listed above, you need to build out an analytical framework that will enable you to deliver superior results from your marketing strategy. Analytics enhance the decisions you make as you execute on your strategies and plans so you can be more effective and achieve better results. Key enablers of this analytical framework include:

- **Analytically driven, granular segmentation** that enables you to identify how different customer segments are most likely to respond to specific campaigns or marketing actions.

- **Predictive modeling** capabilities that enable you to identify the specific target population likely to respond positively to a specific campaign or other marketing activity. You can also use it to understand and predict the behavior of targeted groups.

- **Optimization capabilities** that help you to maximize economic outcomes by making the most of each individual customer communication while considering your company’s resource and budget constraints, contact policies, the likelihood that customers will respond and more.

The foundation for this analytical framework is access to comprehensive, clean customer data that can be analyzed to create unique customer insight and effective segmentation. This data source should be continually updated as you interact with customers and prospects (for example, purchase transaction data, online data from your website users and direct marketing response data.)

### Analytically-Driven Segmentation

Customer segmentation is the process of dividing a customer base into groups of individuals who are similar in specific ways relevant to marketing. It enables companies to target groups effectively and allocate marketing resources appropriately. Two types of segmentation to consider are foundation segmentation and targeting segmentation.
• **Foundation segmentation** creates core segments that enable the company to deliver a consistent treatment and focus on long-term strategy. All customers must be included, and each customer can fall into only one segment. Segments can also be subdivided into natural clusters, such as geography or level of profitability. Key attributes of foundation segments include value, profit, attrition, risk, demographics, etc. With the introduction of a new product, where no targeting segmentation exists, foundation segmentation would be the primary method of segmenting for the initial marketing campaigns.

• **Targeting segmentation** identifies customers with specific needs and preferences. Not all customers may be included in targeting segments, and each customer may fall into many different segments. This segmentation is useful for specific marketing programs and campaigns; for example, identifying a targeting segment that is most likely to respond positively to a specific campaign or customers most likely to leave for a competitor. Attributes include behavior, time periods, account status, usage, etc. It is focused on short-term marketing activities, not on long-term relationship building.

Analytics enables you to go beyond foundation segmentation to targeting segmentation, allowing you to execute more effective, sophisticated campaigns with messages and offers that are highly relevant to recipients.

To better understand the importance of analytically driven, targeting segmentation, let’s look at how a telecommunications company can use it to improve outcomes. Marketing would first define the segments with high churn (attrition) and high customer value. For this case, we will define the primary target group as the top 20 percent of the most profitable customers with a high churn rate. Assume that this group has the additional characteristic of being high-usage customers. Next, marketing would subdivide the group into three distinctive clusters based on two different revenue dimensions: usage revenue and access revenue (see Figure 1). Usage revenue is the revenue gained from per minute charges, and access revenue is revenue gained from rate plans.

**High-Profit Segment Clusters** - three distinct clusters across two revenue dimensions

![Figure 1: A targeting segmentation example that provides for more analysis and better targeting of offers.](image)
By developing these clusters, marketing would now have three distinct customer groups that they could further analyze and then target with unique offers. In this example of the three clusters, the high-usage revenue cluster is shown to have the highest profit per user, the lowest number of subscribers per account and the middle churn rate. This information can be used to develop an offer in which this cluster of customers would be most interested. For example:

- The high-usage revenue cluster could receive an offer for a new phone if they renew their contract.
- The high-access revenue cluster could receive an offer for a 10 percent discount on their first month’s fee if they renew their contract.
- The cluster in the middle could receive an offer for 100 free minutes if they renew their contract.

Because these offers target the specific usage pattern for each cluster, they should be more attractive and generate higher response and revenue rates than those based on non-analytical segmentation strategies.

When done correctly, the benefits of analytically driven targeting segmentation are significant. For example, you can realize:

- More profitable marketing campaigns by focusing marketing efforts on the customers who will be most likely to buy your products or services, as well as identifying your most and least profitable customers. You can also use it to avoid markets that won’t be profitable and those markets where you can charge a higher price for your products and services.

- More loyal customers, which leads to higher customer value and increased profits. For example, you can build loyal relationships with customers by developing and offering the products and services they want through their preferred channels. You can also use this insight to find ways to improve customer service and enhance products to better meet customer needs.

- A higher level of competitiveness in today’s highly competitive marketplace – for example, by finding ways to get an edge in specific parts of the market and innovating new products to meet the needs of important customer segments.
Predictive Modeling

Predictive modeling is essential to the success of marketing strategies and plans in today’s environment. The goal is to use one or more predictive modeling techniques to identify the target population likely to respond positively to a specific campaign or other marketing activity, as well as to understand the behavior of targeted groups.

Consider what happens when a telecommunications company does a normal random marketing mailing versus a mailing based on predictive modeling, which enables more strategic targeting. In this example, the company uses predictive modeling to generate the graph in Figure 2, which analyzes the first decile of customers (the top 10 percent by revenue) and shows that 30 percent of these customers have a high likelihood of attrition – a key group of customers for any company to focus its retention efforts on. The graph also helps the marketing department focus its retention activities on key target segments (and save the money to spend elsewhere). Failing to target funds in this way leads to diminishing marginal returns – but getting it right means the telecommunications company benefits from:

- Increased response rate by contacting the right customers.
- Reduced campaign cost by selecting the customers most likely to respond.
- Stronger customer relationships by understanding the target population and conveying messages that are highly relevant to them.

Figure 2: Predictive modeling can show how many customers have a high likelihood of attrition to enable more strategic targeting.

Cabela’s Drives Its Growth Strategy Using Predictive Models

“Using SAS, we create predictive models to optimize customer selection for all customer contacts. Cabela’s will use these prediction scores to maximize marketing spend across channels and within each customer’s personal contact strategy. These efforts have allowed Cabela’s to continue its growth in a profitable manner,” says Corey Bergstrom, Director of Marketing Research and Analytics for Cabela’s. “We’re not talking single-digit growth. Over several years, it’s double-digit growth.”
Key Predictive Modeling Techniques

You can take advantage of a wide variety of predictive modeling techniques to meet your needs, including:

- **Decision tree modeling:** With a decision tree, a population is split into subgroups that tend to be more homogeneous than the original sample. Each of the subgroups continues to be split into even smaller subgroups until the model cannot be improved. Decision trees allow for nonlinear relationships, but they also clump probabilities and allow for less distribution.

- **Clustering:** With clustering, groups of individuals are identified based on their proximity to each other. The cluster procedure and discriminate analysis utilizes an effective method for finding initial clusters with a standard iterative algorithm that minimizes the sum of squared distances from the cluster means.

- **Logistic regression modeling:** A logistic regression is a generalized linear model for predicting probabilities. It calculates the probability of a particular record being a member of a target group based on the values of the predictor fields.

- **Neural networks:** With neural networks, data can be processed in parallel to quickly find complex relationships. Nodes in neural networks sum information from other nodes connected to it and pass information to the other nodes. This allows for more complex, nonlinear relationships, but they can make interpretation difficult.

- **Survival modeling:** A survival model is a method of statistical analysis used for determining time-to-event for one-time events. The model includes both the actual probability of events and the effects of covariates. It can be used to study survival trends by demographic area, channel, credit class, rate plan and type of churn, as well as to estimate remaining lifetimes for present customers.

Applying Predictive Models to Your Marketing Strategy

Predictive modeling helps you execute your marketing strategy – and ultimately achieve your broader marketing objectives. As you think about the objectives you are trying to achieve, consider the following questions, which will guide you toward selecting the predictive modeling techniques used to drive those marketing programs – and ultimately to the treatment strategy used to execute it:

- Why will my customer attrite?
- When will my customer attrite?
- Who is saveable?
- Who will buy? What will they buy?
- Which product will the customer buy next?
- When will the customer buy?
For example, when marketing asks the question, “When will customers attrite?” you could answer this question using a survival model that identifies customers who will likely leave to go to a competitor within three months, six months or even one year. With ample notice like this, you can take proactive steps to prevent attrition. Other types of predictive models can help you identify which customers can be convinced to stay, as well as:

- Determine how to maximize revenue – for example, by understanding which customers will buy which products and designing campaigns accordingly.
- Calculate a customer’s propensity to buy specific products – insight needed to develop highly targeted campaigns and offers.
- Identify the sequential order of purchases by performing a market basket analysis.
- Identify when a purchase will likely be made by customer segments or individual customers by using a survival model.

**Treatment Strategy**

After determining the appropriate modeling approach to meet your needs, the next step is to develop a treatment strategy. This involves using analytical models to determine customer value and define customer segments. When done correctly, you can create an individual view of the customer that – when combined with segmentation and customer value analytics – enables you to develop a specific treatment strategy that will optimize outcomes.

To understand how this works in practice, let’s consider an example. Taking another look at Figure 2, we see that within the top 30 percent of revenue-producing customers, 62 percent have a high likelihood of attrition. To reduce this expected attrition rate, marketers can use predictive modeling to create an offer specific to each group of customers – an offer with a high likelihood of compelling them to stay. Since the needs of the highest-revenue-producing customers are likely to be different than other groups, marketing must create separate offers for each customer segment. To select the best treatment strategy for each customer group and ultimately achieve the best results, the marketing department should use several different components to describe and understand their customers, including:

- Customer profile.
- Customer value.
- Attrition propensity.
- Other customer models.
- Market basket analysis.

When all of these components are combined, your marketing department has a multichannel, integrated view of the customer that provides the information and insight needed to make the best treatment decisions.
Stepping Up to Advanced Predictive Models

Once your company becomes proficient with a basic predictive modeling strategy, you can use more advanced models to realize even more performance improvements. Advanced models answer the same questions mentioned above, but with more precision or sophistication. For instance, you can determine the specific time horizon for the predicted attrition. And using an advanced survival model enables you to identify customers who will attrite or buy within certain windows of time (for instance, within three months). Using the analytic insight enabled by advanced predictive modeling, you gain an additional level of information to further improve returns on your marketing efforts.

Marketing Optimization Technologies

Segmentation, predictive modeling and testing are great for improving the effectiveness of individual customer interactions, but when used alone, they can’t help you deal with the full scope of realities that marketers face every day. Issues such as competing business goals across divisions, managing multiple marketing programs against constraints such as channel capacity, controlling budgets, and managing customer contact policies must be addressed. Internal political and turf battles can make the decision process difficult. For example, deciding which campaigns are sent to which customers can be a very volatile issue within a multi-product organization.

To maximize profit or ROI, enforce contact policies, and stay within budget when your company has multiple products offered in hundreds of campaigns to millions of customers, you need far more than just experience and human intuition. You need a technology-based solution – optimization.

Optimization technologies apply mathematical techniques that enable you to maximize economic outcomes by making the most of each individual customer communication while considering business variables such as your company’s resource and budget constraints, contact policies, the likelihood that customers will respond and more. For example, using what-if analysis delivered through marketing optimization software, you can increase the ROI of campaigns by analytically determining the best offers for individual customers and including analytical insight in the implications of business constraints. You can also target customers to maximize profitability, response rates, asset levels or any other parameter you choose – all while taking into account customer preferences, propensities, profitability, costs, contact policies and other business goals and objectives relevant to campaigns and communications.

The Importance of Measurement

Measurement is a critical part of the marketing environment – it’s all about accountability. So when you build a marketing campaign, you also need to identify specific measurements so you can determine which model outperforms another, or understand how outcomes may have been different if a campaign had been based on a different segmentation.

The good news is that analytics lends itself to measurement – so you can use it to see how you are doing, identify problems early and continuously improve. Different types of reporting can give you insight needed to create better campaigns and develop better modeling when developing future campaigns.
Scotiabank Gains Wallet Share Through Effective Marketing to Its Existing Client Base

Scotiabank mines through data from about 7 million customers in any given month to generate leads and create targeted marketing campaigns. In the past, the bank ran one-off customer campaigns for a total of five or six campaigns a year. Now, with SAS Marketing Optimization, the bank has increased exponentially the number of campaigns per year, which is helping generate more sales. “We’re now running between 30 and 60 campaigns per year; these go out to half a million customers every month and help us generate about 6 million leads over the course of a year,” said Vic Moschitto, Director and Head of Decision Support and Management for Canadian Banking at Scotiabank. “Finding those customers would have been a major hurdle under our old methodology, where every campaign was its own little island.”

Using SAS Marketing Optimization, Scotiabank is able to:

- Mine through the bank’s 7 million customers – and up to 18 months of data – to derive insights for more targeted customer campaigns.
- Maximize campaign outcomes by helping refine individual customer communications.
- Increase marketing ROI by determining the best offers for individual customers, while delivering analytic insight into the value of business constraints (such as channel capacity and contact policies).

“By using SAS, we’re getting an ROI in excess of 100 percent – a significant return for the cost of the solution,” says Moschitto. “The way we’re able to integrate the software within our overall campaign and customer contact strategy is giving us a significant edge over our competitors.”

Optimization solutions can also enhance your contact strategy so that you don’t oversaturate customers or violate corporate governance requirements. For example, you can eliminate uncoordinated and conflicting communications. Also, relevant relationship factors such as customer risk, advertising exposure and householding are incorporated into the optimization to ensure that valuable customers are receiving the best possible set of communications across every channel.

And finally, with optimization solutions, you can increase organizational efficiency. For example, you can use what-if analysis to quantify where changes in staffing and budget will really pay off, where you’re leaving money on the table or where you have unused capacity.
Getting Started

So are you ready to realize the benefits of an analytical framework for marketing? Given the rapid pace of change occurring in the world of marketing today, you likely can’t afford not to make strides toward employing analytically driven marketing strategies, plans and tactics.

SAS can help you get started quickly by providing an integrated framework for enterprise marketing management. SAS Customer Intelligence provides the most comprehensive suite of analytic marketing solutions, enabling marketing executives to make smarter decisions and solve more business challenges. Only SAS provides the complete set of capabilities needed for a customer-focused marketing process. And all SAS applications – whether they support segmentation, predictive modeling or optimization – run on a single, integrated framework that lets you get more insight from your customer data and drive better marketing performance.

“There’s garden-variety analytics, and then there’s the stuff that matters. And what we have chosen to do is to put our focus on the predictive analytics, because we think that’s where the value is. And the de facto standard, best guys on the planet have been, are today, and always will be SAS. And that’s why our alliance with them is so distinctive and important. ”

Bill Green, CEO, Accenture

To learn more about how SAS can help you achieve your marketing goals, visit www.sas.com/customerintelligence.

About SAS

SAS is the leader in business analytics software and services, and the largest independent vendor in the business intelligence market. Through innovative solutions delivered within an integrated framework, SAS helps customers at more than 45,000 sites improve performance and deliver value by making better decisions faster. Since 1976 SAS has been giving customers around the world THE POWER TO KNOW®.